

# PRODUCT GUIDE 2023-2024





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#### Fluke 1770 Series **Power Quality Analyzers**

#### The faster, easier way to perform power quality studies.

- Measures power quality parameters (harmonics, dips, swells, unbalance, inrush etc.)
- At-a-glance "Advanced Power Quality Health" summary screen with graphical representation
- Transient capture optimized for the capture of high-speed transients found in electrical systems
- Create custom reporting templates with Energy Analyze Plus software

For more on the Fluke 1770 Series Power Quality Analyzers, see page 101



#### Fluke FEV300 Adapter Kit for **Electric Vehicle Charging Stations**

#### Test the functionality and safety of electrical vehicle charging stations (EVSE), easily and reliably.

- properly with the PE pre-test feature.
- within safety standards.

For more on the Fluke FEV300 Adapter Kit, see page 81



#### Fluke 831 Laser Shaft Alignment Tool

#### Precision laser alignment made easy.

- Fast, easy, and precise alignment that adapts to your needs
- Rugged build and the highest-in-class IP rating
- · Single-laser technology for the fastest, most accurate laser alignment
- Cloud connection enables real-time collaboration
- Supports up to 8 measurement points to achieve precision alignment on vertical machines

For more on the Fluke 381 Laser Shaft Alignment Tool, see page 148



#### Fluke Networks LinkIQ<sup>®</sup> Cable+Network Tester

#### Cable Testing you Trust. Network Testing you Need.

- advertised data rates).

For more on the LinkIQ, see page 191



#### Fluke SMFT-1000 Solar Multifunction Tester

#### **Multifunction PV Tester and Performance Analyzer,** I-V Curve Tracer. An all-in-one test solution.

- Full sequence safety testing—IEC 62446-1, Category 1
- ROI and system performance testing-IEC 62446-1, Category 2
- Precise I-V curve measurements
- Fluke's "Keep the Leads" system
- TruTest<sup>™</sup> Solar Software

For more on the Fluke SMFT-1000, see page 79



#### Fluke MDA-550 Series III Motor Drive Analyzer

#### Simplify complex motor-drive troubleshooting.

- Measure key motor drive parameters
- voltage and current connection diagrams
- Create reports quickly and easily

For more on the Fluke MDA-550 Series III, see page 110

· Check that an EVSE including protective earth is correctly wired and functioning

· Perform GFCI troubleshooting of an EVSE and verify if it is operating

Test different charging states of an EVSE with CP state simulation.

Verify charging voltage and maximum available current using a digital multimeter.

• Cable Performance testing up to 10GBASE-T

• Network features include: ping, switch diagnostics (name, port / VLAN number, and

• Ethernet Alliance certified PoE Verification of PoE class (1-8) and power,

• Displays cable length, wire map, and distance to open or short

• Manage results and print reports from LinkWare<sup>™</sup> PC

• Provides guided measurements for motor-drive input with graphical step-by-step

• Measure additional electrical parameters with full 500 MHz oscilloscope



## Fluke Connect<sup>™</sup>

30

Take advantage of the benefits of Fluke Connect<sup>™</sup> by seamlessly gathering and sharing inspection results instantly. Using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.



## SEE IT. SAVE IT. SHARE IT.

All the facts, right in the field.

#### **Troubleshoot faster**

Instantly trend and monitor intermittent problems with TrendIt<sup>™</sup> graphs so you can easily identify trends and stop problems before they happen. Seeing is believing – trend data over time and prove your point.



#### **Save Time Reporting**

Make better decisions faster than before. Organize your measurements by asset in one location with EquipmentLog<sup>™</sup> history. Measure once, and cut out the paper with AutoRecord<sup>™</sup> measurements.

When your measurements are associated with equipment, there is no need to record in the field and then transcribe into an office computer. Make decisions quicker than before by viewing temperature, mechanical, electrical and vibration measurements from one location.



Fluke Connect<sup>®</sup>





#### Get the FREE Fluke Connect<sup>™</sup> App!

By using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



#### Share from anywhere

Stay on the same page even when you and your team are in different places and on different devices. With the ShareLive<sup>™</sup> video call feature, securely connect and collaborate with others, so they can see what you see in real time. Get approvals without leaving the field.





Fluke Connect®

#### Fluke Connect<sup>™</sup> Selection Guide

The Fluke Connect<sup>™</sup> App displays readings from up to ten modules on the iPhone and six modules on an Android device. A vast range of Fluke Infrared Cameras display their own measurements plus readings from up to five wireless modules. The 3000 FC Wireless Digital Multimeter displays its own readings plus measurements from up to three wireless modules. The 173X Power Loggers and 174X Power Quality Loggers display their own measurements plus readings from up to two wireless modules.

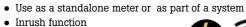
Fluke Connect™ tools	Fluke Connect <sup>™</sup> App – iOS and Android <sup>™</sup>	TiX580 Infrared Camera	Ti480 PRO Infrared Camera	PTi120/TiSxx Series Infrared Cameras	<b>3000 FC Digital Multimeter</b>	902 FC True-rms HVAC Clamp Module	378/377/376/375/374/393 FC Clamp Meters	a3000/a3001 FC AC Current Clamp Modules	a3002 FC AC/DC Current Clamp Module	a3003/a3004 FC DC Current Clamp Modules	v3000 FC AC Voltage Module	v3001 FC DC Voltage Module	t3000 FC Temperature Module	<b>1555/1550C Insulation Resistance Testers</b>	1742/1746/1748 Power Quality Loggers	1732/1734/1736/1738 Electrical Loggers	<b>729 FC Automatic Pressure Calibrator</b>	7878/789 ProcessMeter <sup>1#</sup>	<b>1587 FC Insulation Multimeter</b>	<b>1664 FC Multifunction Installation Tester</b>	<b>805 FC Vibration Tester</b>	125B/124B/123B ScopeMeters®	<b>279 FC Digital Thermal Multimeter</b>	1630-2 FC Earth Ground Clamp	368/369 FC Leakage Current Clamps
Fluke Connect™ App – iOS and Android	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TiX580 Infrared Camera	•				•	•	•	•	•	•	•	•	•												
Ti480PRO Infrared Camera	•				•	•	•	•	•	•	•	•	•												
PTi120/TiSxx Series Infrared Cameras	•				•	•	•	•	•	•	•	•	•												
3000 FC Digital Multimeter	•	•	•					•	•	•	•	•	•		•	•									
a3000/a3001 FC AC Current Clamp Modules	•	•	•	•	•										•	•									
902 FC True-RMS HVAC Clamp Meter	•	•	•	•	•										•	•									
378/377/376/375/374/393 FC True-rms Clamp Meters	•	•	•	•	•										•	•									
a3002 FC AC/DC Current Clamp Module	•	•	•	•	•										•	•									
a3003/a3004 FC DC Current Clamp Modules	•	•	•	•	•										•	•									
v3000 FC AC Voltage Module	•	•	•	•	•										•	•									
v3001 FC DC Voltage Module	•	•	•	•	•										•	•									
t3000 FC Temperature Module	•	•	•	•	•										•	•									
1555/1550C Insulation Resistance Testers	•																								
1742/1746/1748 Power Quality Loggers	•				•	•	•	•	•	•	•	•	•												
1732/1734/1736/1738 Electrical Loggers	•				•	•	•	•	•	•	•	•	•												
787B/789 ProcessMeter™	•																								
1587 FC Insulation Multimeter	•																								
1664 FC Installation Tester	•																								
805 FC Vibration Tester	•																								
125B/124B/123B ScopeMeters®	•																								
279 FC Thermal Multimeter	•																								
1630-2 FC Earth Ground Clamp	•																								
368/369 FC Leakage Current Clamps	•																								
ir3000 FC Wireless Connector	•						(	Conne	ect ad	lapte	r to: I	luke	7871	3, 789	9, 28	9, 28	7, 15	50C,	155	5					

#### Fluke a3000 FC, a3001 FC, a3002 FC **Wireless Current Clamp Modules**

#### a3000 FC Wireless AC Current Clamp Module

A true RMS Current Clamp Meter that wirelessly relays measurements to other Fluke Connect<sup>™</sup> enabled master units.

- Measure up to 400 A AC
- Logging function: record and save up to 65000 readings



- Weight: 0.22 kg (7.76 oz)
- Three-year warranty

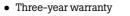


An iFlex<sup>™</sup> AC Current Module that wirelessly relays measurements to other Fluke Connect<sup>™</sup> enabled master-units. It allows you to measure around awkward sized conductors and access wires more easily in tight spaces.

- Measure up to 2500 A AC
- Logging function: record and save up to 65000 readings
- Use as a standalone meter or as part of a system



• Weight: 0.22 kg (7.76 oz)



#### a3002 FC Wireless AC/DC Current Module

For use with the i410 or i1010 AC/DC current clamps (sold separately). Wirelessly relay measurements from the i410 or i1010 clamp accessory to other Fluke Connect<sup>™</sup> enabled master units.

- Measure up to 400 A AC or 400 A DC with i410
- Measure up to 600 A AC or 1000 A DC with i1010
  - Use as a meter alone or as part of a system
  - Record and save up to 65 000 readings • Weight: 0.25 kg (8.81 oz)
  - Three-year warranty

a3000 FC



a3001 FC

Range	0.5 A to 400.0 A AC	0.5 A to 2500 A AC	(1
Resolution		0.1 A	
Accuracy	400.0 A: 2 % ±5 digits (10 Hz to 100 Hz), 2.5 % ±5 digits (100 Hz to 500 Hz)	3 % ±5 digits (5 Hz to 500 Hz)	
Inrush	Max	displayed reading: 999.9 A	
Crest Factor (50Hz/60Hz)	3 at 500 A, 2.5 at 600 A, 1.42 at 1000 A, add 2% for C.F. > 2	3.0 at 1100 Å, 2.5 at 1400 C.	) A, .F. >
LCD w/backlight	3½ digits		3
Log rate/interval	1 sec mini	mum/adjustable by PC or FC	Ap
Battery type/life	2 AA, N	EDA 15 A, IEC LR6 / 400 hou	ırs
RF communications		2.4 GHZ ISM Band	
RF communication range	Open air, unobstructed: Up to 20 Obstructed, concrete wall	m (65 ft). Obstructed, sheetro or steel electrical enclosure:	
Operating & Storage temp	-10° C to 50° C / -40°	C to 60° C (14° F to 122° F /	-40
Temperature coefficient	Add 0.1 × (specified accu	uracy)/° C (<18° C or >28° C	(<6
Operating humidity	0% to 75%	% (0° C to 35° C (32° F to 95 (35° C to 40° C (95° F to 10 (40° C to 50° C (104° F to 12	4° F
EMC		EN 61326-1:2006	
Safety compliance	IEC 61010-1, 600 V CAT III, Pollution Degree 2	IEC 61010-1, 600 Pollutio	
Safety rating	CAT III 600 V	CAT IV 600	V, CI
Certifications	CSA, CE,	FCC: T68-FBLE IC: 6627A-F	BLE
Ingress Protection rating	IP30	1	IP42
Jaw Opening	64 mm (2.5 in)	25.4 cr	n (1
Size (H×W×D)	16.5 × 6.35 × 3.56 cm (6.5 × 2.5 × 1.4 in)	16.5 × 6.35 × 1.4 cm (6.5 × 2.5 × 0.5 in)	
Save and record		Up to 65000 readings	

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

6



Fluke a3002 FC

4000

Fluke a3000 FC

Fluke a3001 FC

945

55



Fluke Connect<sup>®</sup>





#### a3001 FC Wireless iFlex<sup>™</sup> AC Current Module





#### a3002 FC up to 600 A AC and 1000 A DC (with 11010 Current Clamp)

AC: 1.0 % + 3 DC: 0.5 % + 3 (45 Hz to 1000 Hz)

1.42 at 2500 Å, add 2% for

31/2 digits, 6000 counts, 4/ sec update rate

k wall: Up to 6.5 m (21 ft). p to 3.5 m (11.5 ft) 40° F to 140° F) :64° F or >82° F))

°F))

AT IV/1000 V CAT III, Degree 2 CAT III 1000 V

(1 in) coil 16.0 × 6.6 × 3.8 cm (6.3 × 2.6 × 1.5 in)



Fluke Wireless a3001 FC iFlex™ AC **Current Kit** 

#### Included Accessories

iFlex<sup>™</sup> i2500 Flexible Current Probe (a3001FC), Magnetic Hanging Strap (a3002FC).

#### **Ordering Information**

FLK-a3001 FC	Wireless iFlex™ AC Current Module
FLK-a3002 FC	Wireless AC/DC Current Module
FLK-A3000 FC KIT	Wireless AC Current Clamp Kit
FLK-A3001 FC KIT	Wireless iFlex™ AC Current Kit



#### Fluke a3003 FC and a3004 FC Wireless Current Clamp Modules



Fluke a3004 FC

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#### a3003 FC Wireless 2000 A DC **Current Clamp Module**

The a3003 is the tool of choice for high current DC ammeter applications that require measurements up to 2000 A DC.

The extra-wide jaw easily clamps around large conductors, typically found in mining, utility, marine, rail or other heavy manufacturing industries where large DC currents or large current carrying cables are found.

The a3003's unique jaw construction allows for a wide measurement range meaning that you can accurately make measurements from 10 A DC to 2000 A DC.

- Measures from 10 A to 2000 A DC
- Large jaw size (64mm (2.5 in)) for measuring large, high current conductors
- Logging function: record and save up to 65000 readings • Weight: 0.65 kg (1.43 lb)
- Three-year warranty

#### a3004 FC Wireless 4-20 mA DC Clamp Module

A fully functional current clamp module, the a3004 tests or troubleshoots 4-20 mA control loops used with drive systems, PLC's, or building energy management systems. Now you can troubleshoot and repair 4-20 mA loops without breaking the loop or bringing down the system and save time.

- Send data to your laptop and go from logging to analysis and diagnosis.
- Use the Fluke Connect<sup>™</sup> wireless USB adapter to collect logged data from remote modules by walking past a working module and downloading logged data
- Logging function: record and save up to 65000 readings
- Perform for analysis with your PC and share the results using Fluke Cloud<sup>™</sup> storage and ShareLive<sup>™</sup> video call
- Weight: 0.3 kg (10.58 oz)
- Three-year warranty

Specifications	a3003 FC	a3004 FC	
Range	1.0 A to 999.9 A DC 1000 A to 2000 A DC	0.05 mA to 20.99 mA DC 21.0 mA to 99.9 mA DC	
Resolution	0.1 A 1 A	0.01 mA 0.1 mA	
Accuracy	$2\% \pm 5$ digits 2.5% $\pm 5$ digits	0.2% ±5 digits 1.0% ±5 digits	
LCD w/backlight	3½	ligits	
Log rate/interval	1 sec minimum/adjusta	ble by PC or front panel	
Battery type	2 AA, NEDA	15A, IEC LR6	
Battery life	120 hours	45 hours	
Memory	Record up to 6	5000 readings	
RF communications	2.4 GHz I	ISM Band	
RF communication range	6.5 m (21 ft). Obstructed, concrete wall	5 ft). Obstructed, sheetrock wall: Up to or steel electrical enclosure: Up to 3.5 m 5 ft)	
Operating Temperature	-10° C to 50° C	(14° F to 122° F)	
Storage Temperature	-40° C to 60° C (	-40° F to 140° F)	
Temperature coefficient	Add 0.1 × (specified accuracy) /° C (<	< 18° C or > 28° C (<64° F or >82° F))	
Operating humidity	90% at 35° C (95° F), 75% at 40° C (104° F), 45% at 50° C (122° F)		
Altitude	Operating 2000 m (6561 ft),	Storage 12000 m (39,370 ft)	
EMC	IEC 61	326-1	
Safety compliance	IEC 61010-1, CAT IV 600 V, CAT III 1000 V		
Safety rating	CAT IV 600 V, CAT III 1000 V		
Certifications	cCSAus, CE, FCC: T68-	-FBLE IC: 6627A-FBLE	
Ingress Protection rating	IP	42	
Jaw Opening	64 mm (2.5 in)	4.5 mm (0.18 in)	
Size (H×W×D)	$16.5 \times 6.35 \times 3.56$ cm (6.5 × 2.5 × 1.4 in)	16.5 × 6.35 × 1.4 cm (6.5 × 2.5 × 0.5 in)	

**Recommended Accessories** PC Adapter Fluke Con

Wireless PC Adapter



#### **Get the FREE Fluke** Connect<sup>™</sup> App!

By using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.





Current Clamp Module
Wireless DC 4-20 mA Current Module

Contact your local distributor for price and availability. fluke.com/findus

#### Fluke v3000 FC AC and v3001 FC **DC Wireless Voltage Modules**

#### v3000 FC Wireless True-RMS AC Voltage Module

A fully functional true-RMS Voltage Module that wirelessly relays AC voltage measurements to other Fluke Connect<sup>™</sup> enabled master units.

- True-RMS AC Voltage Module
- Measure up to 1000 V
- Use as a standalone meter or as part of the system
- Record and save up to 65 000 readings
- Weight: 0.22 kg (7.76 oz)

945

Fluke v3000 FC

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945

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Fluke v3001 FC Î

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• Three-year warranty

	AC	Voltage
Range <sup>1</sup>	Resolution	Accu
nange	Resolution	45 Hz to 500 Hz
6.00 V	0.001 V	
60.00 V	0.01 V	1.0% + 3
600.0 V	0.1 V	1.0% + 3
1000 V	1 V	

1 All AC voltage ranges are specified from 1% of range to 100% of range. 2 Crest factor of  $\leq$  3 at full scale up to 500 V, decreasing linearly to crest factor  $\leq$  1.5 at 1000 V. 3 For nonsinusoidal waveforms, add -(2% of reading + 2% full scale) typical, for crest factor up to 3. 4 Do not exceed 106 V-Hz.

#### v3001 FC Wireless DC Voltage Module

A fully functional DC Voltage Module that wirelessly relays DC voltage measurements to other Fluke Connect<sup>™</sup> enabled master units.

- Measure up to 1000 V DC
- Use as a standalone meter or as part of the system
- Record and save up to 65000 readings
- Weight: 0.26 kg (9.17 oz)
- Three-year warranty

	D	C Voltage	
Function	Range	Resolution	Accuracy
mV DC	600.0 mV	0.1 mV	0.09% +3
	6.00V	0.001 V	
V DC	60.00 V	0.01 V	0.09% +3
V DC	600.0 V	0.1 V	
	1000 V	1 V	0.15% + 2

Specifications	v3000 FC / v3001 FC
LCD w/backlight	31/2 digits, 6000 counts, updates 4/
Battery type	2 AA, NEDA 15A, IEC LR6
Log rate/Interval	Adjustable by PC from 1 sec to 1 hr, defa
Battery life	400 hours
Memory	Record up to 65000 readings
RF communications	2.4 GHz ISM Band
RF communication range	Open air, unobstructed: Up to 20 m (65 ft). Obstruc Up to 6.5 m (21 ft). Obstructed, concrete wall or stee Up to 3.5 m (11.5 ft)
Operating temperature	-10° C to +50° C (14° F to 122° F
Storage temperature	-40° C to +60° C (-40° F to 140°
Temperature coefficient	0.1 × (specified accuracy)/° C (< 18° C or > 28° C
Operating humidity	90% at 35° C (95° F), 75% at 40° C (104° F), 45%
Altitude	Operating 2000 m (6561 ft), Storage 12000
EMC	EN 61326-1
Safety compliance	IEC 61010-1, IEC 61010-2-030
Safety rating	CAT IV 600 V, CAT III 1000 V
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-1
Ingress Protection (IP) rating	IP42
Pollution Degree	2
Size (H×W×D)	16.5 × 6.35 × 1.4 cm (6.5 × 2.5 × 0

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.



AC87

Fluke Wireless v3000 FC

Fluke Wireless v3001 FC

AC Voltage Kit

DC Voltage Kit



500 Hz to 1 kHz

racy<sup>2,3,4</sup>

/sec

ault 1 min

cted, sheetrock wall: el electrical enclosure:

F)

'F) C (<64° F or >82° F)) % at 50° C (122° F) ) m (39,370 ft)

-FRLE

0.5 in)

#### Included Accessories

v3000 FC: TL224 Test Leads, AC285 Alligator Clips, Magnetic Hanging Strap. v3001 FC: TL222 Test Leads, AC220

Fluke Wireless v3003 FC AC-DC **Voltage Measurement Kit** 

Alligator Clips, Magnetic Hanging Strap

#### **Ordering Information**

FLK-v3000FC	Wireless AC Voltage Module
FLK-v3001FC	Wireless DC Voltage Module
FLK-V3000 FC KIT	Wireless AC Voltage Kit
FLK-V3001 FC KIT	Wireless DC Voltage Kit
FLK-V3003 FC	Wireless AC- DC Voltage

Measurement Kit



#### Fluke t3000 FC Wireless K-Type **Temperature Module**



#### member of a family of wireless test tools that let you share test data using the Fluke Connect<sup>™</sup> app with ShareLive<sup>™</sup> video call. Fluke Connect<sup>™</sup> Wireless Test Tools put tools, not your body, near live electrical panels. It's simple. Connect the t3000 FC wireless temperature module, or any of the other Fluke Connect™ remote modules, and read the results at a safe distance on the

The Fluke t3000 FC Wireless K-Type Temperature Module is one

Fluke Connect<sup>™</sup> Wireless Multimeter or a portable PC. Better still, Fluke Connect<sup>™</sup> test tools can send measurement data to your smartphone, so you can save and share measurements from the field with your team anytime, from anywhere.

#### Using t3000 FC temperature modules, you can:

- Spot temperature differences between three-phases in 1/3 the time of previous methods.
- Send data to your laptop and go from logging to analysis and diagnosis • Record over time to monitor circuit load changes for an hour, a
- shift or a week
- Use the Fluke Connect<sup>™</sup> wireless USB adapter to collect logged data from remote modules by walking past a working module and downloading logged data
- Perform analysis on your PC and share the results using Fluke Cloud<sup>™</sup> storage and ShareLive<sup>™</sup> video call. View data or graphs to get input from team members
- Logging function: record up to 65000 readings
- Three-year warranty

Specifications	t3000 FC
Range	K-type: -200° C to 1000° C (Temperature probe dependent)
Resolution	0.1° C (0.2° C)
Accuracy	±[0.5 % + 0.3° C (0.54° F) counts]
Input terminals	Thermocouple, K-type mini
LCD w/backlight	3 ½ digits
Log rate/interval	1 sec minimum/adjustable by PC and FC app on smart phone
Battery type	2 AA, NEDA 15A, IEC LR6
Battery life	400 hours
Memory	Record up to 65000 readings
RF communications	2.4 GHz ISM Band
RF communication range	Open air, unobstructed: Up to 20 m (65 ft). Obstructed, sheetrock wall: Up to 6.5 m (21 ft). Obstructed, concrete wall or steel electrical enclosure: Up to 3.5 m (11.5 ft)
Operating temperature	-10° C to 50° C (14° F to 122° F)
Storage temperature	-40° C to 60° C (-40° F to 140° F)
Temperature coefficient	0.01% of reading +0.03° C per ° C (+0.54° F per °F)
Temperature scale	ITS-90
Operating humidity	90% at 35° C (95° F), 75% at 40° C (104° F), 45% at 50° C (122° F)
Altitude	Operating 2000 m (6561 ft), Storage 12000 m (39,370 ft)
EMC	IEC 61326-1
Safety compliance	IEC 61010-1, 30 V , Pollution Degree 2
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE
Ingress Protection rating	IP42
Size (H×W×D) and Weight	16.5 × 6.35 × 1.4 cm (6.5 × 2.5 × 0.5 in); 0.22 kg (7.76 oz)







**Get the FREE Fluke** Connect<sup>™</sup> App!

By using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



#### **Included Accessories** 80PK-1 K-Type Bead Thermocouple Magnetic Hanging Strap. **Ordering Information** FLK-t3000FC Wireless K-Type Temperature Module

FLK-T3000 FC Wireless FC Temperature Kit KIT

Contact your local distributor for price and availability. fluke.com/findus

#### Fluke Connect<sup>™</sup> Accessories

#### Fluke Connect<sup>™</sup> ir3000 FC Connector

Connect your Fluke test tool with the ir3000 FC Connector and get all the benefits of the Fluke Connect<sup>™</sup> mobile app. If you already have a Fluke 287/289 Digital Multimeter or Fluke 789 Process Tool or are considering purchasing one, add the ir3000 FC Connector so those tools can communicate with the Fluke Connect<sup>™</sup> app.

- Fluke Connect<sup>™</sup> ir3000 FC Connector allows you to wirelessly transfer data from Fluke 287, 289 Digital Multimeters, Fluke 789 ProcessMeters<sup>™</sup> and Fluke 1550C/1555 Insulation Resistance Testers to your smart phone
- Fits over the IR port of the Fluke tools listed above
- Immediately enables you to graph, save, and share the tool's readings with your team from your smart phone
- Efficiently and safely capture real-time readings of the primary display from the field
- Share results instantly with your team
- Upgradeable by USB
- Three-year warranty

#### Supported Fluke Tools:

IKE AGOO FC

Fluke Connect™

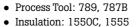
ir3000FC Connector

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• DMMs: 287, 289



#### Supported Smart Phones:

 Android 5.0 & above iOS 13 & above

Specifications

RF communications

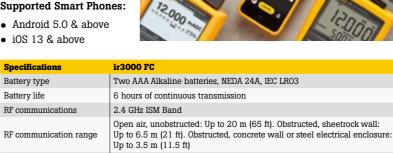
Battery type Battery life

Fluke Connect™

PC Adapter

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Operating: -10° C to 50° C (14° F to 122° F) Storage: -20° C to 60° C (-4° F to 140° F)
CE, FCC: T68-IRFBLE , IC: 6627A-IRFBLE
3.2 × 7.6 × 6.4 cm (1.25 × 3 × 2.5 in)
Fluke 287, 289, 789, 1550C, 1555

\* At time of catalog print, Fluke's ir3000 FC Connector is currently compatible with the tools listed above. For updates or Fluke Connect™ test tool compatibility, go to connect.fluke.con

#### Fluke Connect<sup>™</sup> Wireless PC Adapter

Fluke 3000 FC Wireless Test Tools show real-time measurements from remote modules up to 20 meters away on your PC. Fluke FC wireless test tools work together to help you troubleshoot faster.

The PC3000 FC Adapter and Software help you understand the information you measure. When you need to get information back to a PC, the PC3000 FC Adapter and software wirelessly collect up to 65000 sets of time stamped MIN/MAX/AVG readings from FC remote modules. the software can display live readings from up to six modules simultaneously. Allows custom logging intervals and custom names for modules.

Includes Windows SW3000 software.

Fluke Connect<sup>®</sup>





· Identify and diagnose problems quickly and confidently





#### Get the FREE Fluke Connect<sup>™</sup> App!

By using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



**Ordering Information** FLUKE-IR3000

FC FLK-PC3000 FC Fluke Connect™ ir3000 Connector

Fluke Connect™ Wireless PC Adapter

FLK-FC-SD CARD Fluke Connect™ Wireless SD Card





## Digital Multimeters

Fluke Digital Multimeters (DMMs) are on more tool belts, finding more problems, than any other comparable test tools. Each industrial meter is tested to the extreme: drop, shock, humidity, you name it. Every Fluke Digital Multimeter gives you what you need: accurate measurements; consistent, reliable performance; attention to safety; and the strongest warranty available.

S MIRIO, CALIFORNIA, USA

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PHILLIPS U.S.A

#### **Digital Multimeter Selection Guide**

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matrix         matrix<	Basic reatures Counts	20000	20000	50000	50000	6000	6000	6000	6000	6000	-						⊢					20000	6000
matrix         matrix<	True-RMS readings	ac	ac	ac+dc	ac+dc	ac	ac	AC	_		-		-		-	-	-	-	_	-	-	ac	ac
metric         order         order <t< td=""><td>Basic dc accuracy</td><td>0.05 %</td><td>0.05 %</td><td>0.02 %</td><td>0.02 %</td><td>0.25 %</td><td>% 60.0</td><td>0.15 %</td><td>-</td><td>_</td><td>-</td><td>-</td><td>-</td><td>_</td><td>-</td><td></td><td>-</td><td>-</td><td>_</td><td>-</td><td>-</td><td>-</td><td>% 60.0</td></t<>	Basic dc accuracy	0.05 %	0.05 %	0.02 %	0.02 %	0.25 %	% 60.0	0.15 %	-	_	-	-	-	_	-		-	-	_	-	-	-	% 60.0
Interfactor	AC bandwidth	20 kHz	20 kHz	100 kHz	100 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	-	-	-	-	_		-	-	-	-	-	20kHz	500 Hz
Matrix         Matrix<	Class 1 Zone 1 AEx ia IIC T4 Class 1 Division 1 Groups ABCD				-		-	-		2	-	-	-		-			-				•	
0000         0000 <th< td=""><td>Measurements</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Measurements																						
0.00         0.01 <th< td=""><td>Voltage AC/DC</td><td>1000 V</td><td>1 000 V</td><td>1000 V</td><td>1000 V</td><td>1000 V</td><td>1000 V</td><td>1000 V</td><td>1000 V</td><td>1000 V</td><td></td><td></td><td>_</td><td></td><td></td><td>-</td><td></td><td>_</td><td></td><td>_</td><td>1000 V</td><td></td><td>1000 V</td></th<>	Voltage AC/DC	1000 V	1 000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V			_			-		_		_	1000 V		1000 V
0         0	Current AC/DC	10 A	10 A	10 A	10 A	10 A	400 mA	10 A	10 A	10 A			1								10 A		500 A AC v/iFlex <sup>™I</sup>
$ \  \  \  \  \  \  \  \  \  \  \  \  \ $	Resistance	50 M.0	50 MU	500 MΩ	500 MΩ	40 MΩ	50 MΩ	50 M.0	50 M.0	-	_	-	-	-	-	_	_	-	_	-	-	-	50 MD
	Frequency	200 kHz	200 kHz	1 MHz	1 MHz	50 kHz	100 kHz	100 kHz	_	-	-	-	-	-	-	-	-	-		-	-	00 kHz	100 kHz
Image: black	Capacitance	9999 µF	9999 μF	1 pF to 100 mF	1 pF to 100 mF	9999 µF	9999 µF	9999 µF		9999 µF	0	999 µF	66				9 µF	366					зц ееее
0000         0000 <th< td=""><td>Temperature</td><td>1090° C (1994° F)</td><td></td><td>+1350° C (+2462° F)</td><td>_</td><td>400° C (752° F)</td><td></td><td></td><td></td><td>400° C (752° F)</td><td></td><td>-</td><td>-</td><td>40</td><td>0° C 2° F)</td><td>_</td><td>-</td><td>(93 (93</td><td>0° C 32° F)</td><td>ŦŦ</td><td></td><td>090° C 994° F)</td><td></td></th<>	Temperature	1090° C (1994° F)		+1350° C (+2462° F)	_	400° C (752° F)				400° C (752° F)		-	-	40	0° C 2° F)	_	-	(93 (93	0° C 32° F)	ŦŦ		090° C 994° F)	
mean         916         0.05         916         0.05         0	dB			60 dB	60 dB																		
0.4.0.4.0.         0.4.1	Conductance	50  nS	60 nS	50  nS	50  nS											60	nS		Ű	_	60 nS	60 nS	
And Manustana         · · · · · · · · · · · · · · · · · · ·	Duty cycle/pulse width	-/•	-/•	•/•	•/•											•	•			-/-	-/•	-/•	
An observation       · · · · · · · · · · · · · · · · · · ·	Continuity/diode test	•	•	•	•	•	•	•	•	•	•	•	•			+	+					•	•
international 	Motor Drive (ASD) Measurements	•	•		•					Ī		+	+	-			-		•		•	•	•
	voltAlert", non-contact voltage detection												-	-	_		-	+					
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Inductor naturations         · · · · · · · · · · · · · · · · · · ·	Insulation Test			,	•							-	-	-		-	-					,	ľ
contained diging         contained diging <thcontained diging<="" th=""> <thcontained diging<="" t<="" td=""><td>Number of insulation test ranges</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td><td>5</td><td></td><td></td><td></td><td></td></thcontained></thcontained>	Number of insulation test ranges																	2	5				
	Display Removable wireless display					ŀ				ľ		ŀ											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Dot matrix display			•	•		•					-	-		-	_	-	ŀ	-		r		
	Dual display			•	•		•									_		_		_		_	
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···         ····         ····         ···         ··· </td <td>Backlight Graphical trend display</td> <td>Two level</td> <td>Two level</td> <td>Two level</td> <td>Two level</td> <td>•</td> <td>•</td> <td></td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td></td> <td>-</td> <td>_</td> <td>•</td> <td></td> <td>_</td> <td>_</td> <td>vo level</td> <td>•</td>	Backlight Graphical trend display	Two level	Two level	Two level	Two level	•	•		•	•	•	•	•	•		-	_	•		_	_	vo level	•
	Diagnostics and data																						
	Min/Max recording with time	-1-	-/•	•/•	•/•	-/•	-/•	-/•	-/-	-/-	-/•	-/-					1	-		-/-	-/-	-!•	-/•
···         ····         ···         ···         ··· <td>Fast Min/Max</td> <td>250 µs</td> <td>250 µs</td> <td>250 µs</td> <td>250 µs</td> <td></td> <td>250</td> <td>sti (</td> <td></td> <td></td> <td></td> <td>-</td> <td>250 µs</td> <td></td>	Fast Min/Max	250 µs	250 µs	250 µs	250 µs											250	sti (				-	250 µs	
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Trend Capture			•	•		(with app)												-				with app)
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••       •• <td< td=""><td>Automatic selection, AC/DC volts</td><td></td><td></td><td>,</td><td>•</td><td></td><td></td><td></td><td></td><td>Ī</td><td></td><td>•</td><td></td><td></td><td>ŀ</td><td></td><td>-</td><td>ŀ</td><td>ŀ</td><td>r</td><td>ľ</td><td>ľ</td><td>ľ</td></td<>	Automatic selection, AC/DC volts			,	•					Ī		•			ŀ		-	ŀ	ŀ	r	ľ	ľ	ľ
•/-       ·/-       ·	Closed case calibration	•	•	•	•	•	•	•	•	•	•	•		•					•	•	•	•	•
-120°C, 55°C       -20°C, 55°C       -20°C, 55°C       -20°C, 55°C       -10°C, 50°C (14°F, 12° F)       -40°C, 55°C       -10°C, 55°C       -1			;	•;•	•/•	•	•	•/•	•;•	•	•	•	•		-			+	•	•	•	÷	•
•         •		-120° C, 55° C (-4° F, 131° F)	-40° C, 55° C (-40° F, 131° F)	-20° C (-4° F,	, 55° C 131° F)					-10° C, 50	1° C (14° F, 12	22° F)								-40° C, 55 (-40° F, 131	°C I°F)	-15° C, 5 (5° F, 122	0° C !° F)
μ <sup>2</sup> -00         μ <sup>2</sup> -01         μ <sup>2</sup> -1         μ <sup>2</sup> -1 <thμ<sup>2-1         <thμ<sup>2-1         <thμ<sup>2-1&lt;</thμ<sup></thμ<sup></thμ<sup>	warranty and electrical satery Input alert	•	•		•		1										_	-			•	•	OF E
	LP Rating Safety rating (JEC 61010) CAT III	1000V	1000 V	1000 V	10001	1000 V	1000 V	_	_	_		-	-	-				-		-	-		1000 V
	Safety rating (IEC 61010) CAT IV	600 V	600 V	600 V	600 V	600 V	600 V	_	_		-	-	-	-	-	-		-	_	-	-	600 V	600 V

## **Digital Multimeters**



#### Fluke 279 FC True-RMS Thermal Multimeter



True

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of U.S. and non U.S.

#### Find. Repair. Validate. Report.

The industry first Fluke 279 FC is a full-featured digital multimeter with integrated thermal imaging and is designed to increase your productivity and confidence. The thermal multimeter helps you find, repair, validate, and report many electrical issues quickly so that you are confident problems are solved.

- Full-featured multimeter with built-in thermal imager
- 15 measurement functions including: AC voltage with low-pass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex<sup>™</sup>), Frequency
- Thermal imaging reveals many electrical issues quickly and safely, eliminating the need for time-consuming testing and validation
- Two-in-one tool is designed to increase productivity-no need to go back to the truck or office to retrieve a shared camera or wait for the thermographer. Do more in less time
- iFlex<sup>™</sup> expands your measurement capabilities get into tight, hard to reach spaces for current measurement (up to 2500 A AC)
- Save measurements and images while communicating wirelessly with a smart phone up to 6.1 meters away (no obstructions)
- Rechargeable lithium ion battery allows for a full work day (10+ hours) under normal conditions
- Image resolution: 80 × 60
- 8.89 cm (3.5 in) color LCD screen
- CAT III 1000 V, CAT IV 600 V measurement category
- Three-year warranty



Fluke 279FC I/B TRMS Combo Kit

Bandwidth         1% 45 Hz to 65 Hz, full time low past filter           Voltage         AC/DC 1000 V           Current AC         iFlex™ Flexxble Current Probe (included with the 279 FC/Flex*")           Resistance         S0 MQ           Prequency         100 kHz           Capacitance         9999 µF           Continuity with beeper         Yes           Diode test         9999 µF           Diode test         9999 µF           Infrared resolution         Yes           Infrared resolution         80 × 60           Infrared resolution         80 × 60           Infrared resolution         80 × 60           Infrared resolution         81/2           Field of View         40 × 51 to 14 microns           Center point         999 µF           NETD         <200 mK           Infrared resolution         90 × 60           Resistance         90 × 60           Infrared resolution         81/2           NETD         0 < 5200 mK           Infrared resolution         90 × 60           Infrared resolution         90 × 60           Resolution         90 × 60           Infrared resolution         90 × 60           Resolutin frequency	Basic dc accuracy	0.09%
Current AC         iFlex"* Flexible Current Probe (included with the 279 FC/iFlex")           Resistance         50 M0           Frequency         100 kHz           Capacitance         9999 µF           Continuity with beeper         Yes           Diode test         Yes           Min/Max recording         Yes           Display Hold         Yes           Infrared resolution         80 × 60           Image capture frequency         8 Hz           Field of View         36° (w) × 27° (h)           NETD         200 mK           Infrared spectral band         7.5 to 14 microns           Center point         Yes (bcurrent Prob           Field of View         -10° C to 200° C (14° F to 392′ F) Accuracy: ±5° C (±5° F) or (±5% as tested)           Emissity         0.95 fixed           Background compensation         200 mK           Memory storage         Approximately 100 images (internal)           File format         Non-radiometric is2           Oter         200 mK           Battery type         Rechargeable lithium-ion battery (charge time: 4.5 hours)           Operating temperature         -10° C to 50° C (14° F to 122° F)           Storage temperature         -20°C to 60°C (14° F to 122° F)           O	Bandwidth	1% 45 Hz to 65 Hz, full time low pass filter
Resistance         Difference           Resistance         SO MQ           Prequency         100 kHz           Capacitance         9999 µF           Continuity with beeper         Yes           Diode test         Yes           Min/Max recording         Yes           Display Hold         Yes           Infrared Camera         100 kHz           Infrared resolution         80 × 60           Image capture frequency         8 Hz           Field of View         36° (w) × 27° (h)           NETD         S200 mK           Infrared spectral band         7.5 to 14 microns           Center point         S200 mK           Feed focus         Fixed focus           Temperature Range         -10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)           Emissivity         0.95 fixed           Background compensation         20° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)           Emissivity         0.95 fixed           Background compensation         20° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)           File format         -10° C to 50° C (14° F to 122° F)           Storage temperature         -10° C to 50° C (14° F to 122° F)           Storage tempe	Voltage	AC/DC 1000 V
Trequency         Internet           Capacitance         9999 µF           Continuity with beeper         Yes           Diode test         Yes           Min/Max recording         Yes           Display Hold         Yes           Infrared Camera            Infrared resolution         80 × 60           Image capture frequency         8 Hz           Field of View         36° (w) × 27° (h)           NETD         <200 mK	Current AC	iFlex™ Flexible Current Probe (included with the 279 FC/iFlex™)
Capacitance9999 µFContinuity with beeperYesDiode testYesDiode testYesMin/Max recordingYesDisplay HoldYesInfrared resolution80 × 60Image capture frequency8 HzField of View36° (w) × 27° (h)NETD≤200 mKInfrared resolutionYes (with center point temp)Focus mechanismFixed focusCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric is2Other20° C fixed 5° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Attitude20°C to 60° C (4° F to 140° F)Obje to 50% (0° C to 50° C) (14° F to 122° F)Attitude2000 meters (6,561 Teet)Relative humidity0% to 75% (35° C to 40° C) (55° F to 104° F)Obje to 50% (0° C to 50° C) (14° F to 122° F)Attitude2000 meters (C,561 Teet)Relative humidityCertificationsCE, CSA, FCC IB: T68-FBLESafety complianceEEC 61010-1: Pollution degree 2; EC 61010-2:03: CAT III 1000 V/CAT IV 600 VEMCEEC 6126-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)<	Resistance	50 MΩ
Continuity with beeperYesDiode testYesDisplay HoldYesInfrared resolution80 × 60Image capture frequency8 HzField of View36° (w) × 27° (h)NETD≤200 mKInfrared resolution7.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.48 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric is2Other-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20° C to 50° C (14° F to 122° F)Altitude2000 meters (6,561 feet)Relative humidity0% to 75% (35° C to 30° C) (53° T to 14° T) 0% to 75% (35° C to 3° C) (124° T to 122° T)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F) Ingress ProtectionEEC 61010-1: Pollution degree 2; EEC 61010-2:03: CAT III 1000 V/CAT IV 600 VEMCEEC 61010-2:03: CAT III 1000 V/CAT IV 600 VEMCEEC 6126-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Frequency	100 kHz
Diode testYesMin/Max recordingYesDisplay HoldYesInfrared Camera80 × 60Infrared resolution80 × 60Image capture frequency8 HzField of View36° (w) × 27° (h)NETD\$200 mKInfrared spectral band7.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric is2Other-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Storage temperature-0°6 to 50° C (14° F to 122° F)Altitude2000 meters (6,561 feet)Relative humidity0% to 50% (55° C to 40° C) (95° F) (104° F)Offse storage temperature2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEC 61010-1: Pollution degree 2;Safety complianceEC 61010-1: Pollution degree 2;EC 61010-1: Col 33° C CI 1000 VCAT IV 600 VEMCEC 61010-203: CAT III 1000 VCAT IV 600 V	Capacitance	9999 µF
Intervention         Intervention           Min/Max recording         Yes           Display Hold         Yes           Infrared resolution         80 × 60           Image capture frequency         8 Hz           Field of View         36° (w) × 27° (b)           NETD         5200 mK           Infrared spectral band         7.5 to 14 microns           Center point         Yes (with center point temp)           Focus mechanism         Fixed focus           Temperature Range         -10° C to 200° C (14° P to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)           Emissivity         0.95 fixed           Background compensation         20° C fixed           Memory storage         Approximately 100 images (internal)           File format         Non-radiometric.is2           Other         20° C to 50° C (14° P to 122° P)           Storage temperature         -10° C to 50° C (14° P to 122° P)           Storage temperature         -10° C to 50° C (14° P to 122° P)           Altitude         2000 meters (6.551 feet)           Temperature coefficient         Add 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)           Infrared ve bunidity         0% to 50% (5 ° C to 40° C) (95 F Tho 14° F)           Off to 0% to 50% (20 C os 3° C) (32 ° F t	Continuity with beeper	Yes
Display Hold         Yes           Infrared Camera         80 × 60           Indge capture frequency         8 Hz           Field of View         36° (w) × 27° (h)           NETD         5200 mK           Infrared spectral band         7.5 to 14 microns           Center point         Yes (with center point temp)           Focus mechanism         Fixed focus           Temperature Range         -10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)           Emissivity         0.95 fixed           Background compensation         20° C fixed           Memory storage         Approximately 100 images (internal)           File format         Non-radiometric is2           Other         10° C to 50° C (14° F to 122° F)           Storage temperature         -20° C to 60° C (4° F to 122° F)           Storage temperature         -20° C to 60° C (14° F to 122° F)           Storage temperature         2000 meters (6,561 feet)           Relative humidity         0% to 69% (0 ° C to 35° C) (104 ° Th 122° F)           Attitude         2000 meters (6,561 feet)           Temperature coefficient         Add 0.1 × specified accuracy for each° C above 28° C (62° F) or below 18° C (64° F)           Ingress Protection         EC 61010-1: Pollution degree 2; IEC 61010-2-033: CRT111 1000 V/CRT1V	Diode test	Yes
Infrared CameraInfrared resolution80 × 60Image capture frequency8 HzField of View36° (w) × 27° (h)NETD5200 mKInfrared spectral band7.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric .is2Other10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60° C (-4° F to 140° F)Object to 40°C (14° F to 122° F)0% to 90% (0°C to 35°C) (32° C to 40°C) (95° T to 10° F)Relative humidity0% to 90% (0°C to 35°C) (14° F to 122° F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEEC 61010-1: 768-PBLESafety complianceEEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 61126-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Min/Max recording	Yes
Infrared resolution80 × 60Image capture frequency8 HzField of View36° (w) × 27° (h)NETD≤200 mKInfrared spectral band7.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Background compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric. is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Relative humidity0% to 90% (0° C to 35° C) (32° T to 95° T)O% to 90% (0° C to 50° C) (104° F to 122° F)Altitude2000 meters (6.561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEEC 6010-2-033: CAT III 1000 V/CAT IV 600 VEMCIEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 6110-1: Pollution degree 2: IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V	Display Hold	Yes
Image capture frequency8 HzField of View36° (w) × 27° (h)NETD≤200 mKInfrared spectral band7.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric.is2Other-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60° C (-4° F to 140° F)Relative humidity0% to 25% (35° C to 40° C) (35° T to 104° F)O% to 95% (35° C to 40° C) (10° F)2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEC 60529: IP40CertificationsCE, CSA, FCC ID: T68-FBLESafety complianceIEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMC215.9 x 93.9 x 57.1 nm (8.5 x 3.7 x 2.25 in)	Infrared Camera	
Field of View $36^{\circ}$ (w) × 27° (h)Pield of View $36^{\circ}$ (w) × 27° (h)NETD $\leq 200 \text{ mK}$ Infrared spectral band7.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range $-10^{\circ}$ C to $200^{\circ}$ C (14° F to $392^{\circ}$ F) Accuracy: $\pm 5^{\circ}$ C ( $\pm 9^{\circ}$ F) or ( $\pm 59^{\circ}$ as tested)Emissivity0.95 fixedBackground compensation $20^{\circ}$ C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric. is2OtherOtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature $-10^{\circ}$ C to $50^{\circ}$ C ( $14^{\circ}$ F to $122^{\circ}$ F)Storage temperature $-20^{\circ}$ C to $60^{\circ}$ C ( $-4^{\circ}$ F to $140^{\circ}$ F)Relative humidity $096$ to $7596$ ( $35^{\circ}$ C to $40^{\circ}$ C) ( $95^{\circ}$ F to $95^{\circ}$ F)Relative numidity $096$ to $4596$ ( $40^{\circ}$ C to $53^{\circ}$ C) ( $104^{\circ}$ F to $122^{\circ}$ F)Altitude $2000$ meters ( $6,561$ feet)Temperature coefficientAdd $0.1 \times$ specified accuracy for each° C above $28^{\circ}$ C ( $82^{\circ}$ F) or below $18^{\circ}$ C ( $64^{\circ}$ F)Ingress ProtectionEC 61010- 1: Pollution degree 2;Safety complianceEC 61010- 2: 033: CAT III 1000 V/CAT IV 600 VEMCEEC 61010- 2: 93.9 x 57.1 mm ( $8.5 \times 3.7 x 2.25$ in)	Infrared resolution	80 × 60
InstructionSolutionNETD\$200 mKInfrared spectral band7.5 to 14 micronsCenter pointFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric .is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20° C to 60° C (-4° F to 140° F)Relative humidity0% to 75% (35° C to 40° C) (95° F to 104° F)O% to 75% (35° C to 40° C) (95° F to 104° F)O% to 45% (40° C to 55° C) (104° F to 122° F)Altitude2000 meters (6.561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEC 61010-1: Pollution degree 2;Safety complianceEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 61326-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Image capture frequency	8 Hz
Infrared spectral bandT.5 to 14 micronsCenter pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric .is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 75% (35°C to 40°C) (95°F to 104°F)O%to to 45% (40°C to 55°C) (104°F to 122°F)Altitude2000 meters (6.561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEE C 61010-1: Pollution degree 2; EE C 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCIEC G 1526-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Field of View	36° (w) × 27° (h)
Center pointYes (with center point temp)Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric .is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20° C to 60° C (-4° F to 140° F)Relative humidity0% to 75% (35° C to 40° C) (95° F to 104° F)O% to 45% (40° C to 55° C) (104° F to 122° F)Altitude2000 meters (6.561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEE C 61010- 1: Pollution degree 2;Safety complianceEE C 61010- 1: Pollution degree 2;EXE1EC 61010- 2: O33: CAT III 1000 V/CAT IV 600 VEMCEEC 6110- 2: Distion 45° -111Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	NETD	≤200 mK
Focus mechanismFixed focusTemperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric .is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-10° C to 35° C (14° F to 122° F)Relative humidity0% to 75% (35° C to 40° C) (95° F to 104° F)O% to 45% (40° C to 55° C) (104° F to 122° F)Altitude2000 meters (6.561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEE G 60529: EP40CertificationsCE, CSA, FCC ID: T68-FBLESafety complianceIEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCIEC 61326-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Infrared spectral band	7.5 to 14 microns
Temperature Range-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0°C to 35° C) (32° F to 95° F) 0% to 75% (35° C to 40° C) (95° T to 104° F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEC 6 1010- 1: Pollution degree 2; EC 6 1010- 2: O33: CAT III 1000 V/CAT IV 600 VEMCEEC 6 1010- 2: 55.7.1 mm (8.5 x 3.7 x 2.25 in)	Center point	Yes (with center point temp)
Emissivity0.95 fixedBackground compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric .is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0°C to 35° C) (32 °F to 95 °F)O% to 75% (35° C to 40° C) (95° T to 104 °F)O% to 45% (40° C to 50° C) (104 °F to 122° F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionIEC 61010-1: Pollution degree 2;Safety complianceIEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCIEC 61326-1Size215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Focus mechanism	Fixed focus
Background compensation20° C fixedMemory storageApproximately 100 images (internal)File formatNon-radiometric is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0°C to 35° C) (32 °F to 95 °F)O% to 90% (0°C to 55° C) (104 °F) to 122 °F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionEC 61010-1: Pollution degree 2;Safety complianceEC 61010-1: Pollution degree 2;ENCEEC 61010-2-033: CAT III 1000 V/CAT IV 600 VENC215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Temperature Range	-10° C to 200° C (14° F to 392° F) Accuracy: ±5° C (±9° F) or (±5% as tested)
Memory storageApproximately 100 images (internal)Memory storageApproximately 100 images (internal)File formatNon-radiometric .is2OtherBattery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0°C to 35°C) (32° F to 95°F) 0% to 75% (35°C to 40°C) (95°T to 104°F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionIEC 61010- 1: Pollution degree 2; IEC 61010- 2: O33: CAT III 1000 V/CAT IV 600 VEMCIEC 61010- 2: 53.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Emissivity	0.95 fixed
File formatNon-radiometric.is2OtherRechargeable lithium-ion battery (charge time: 4.5 hours)Derating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0°C to 35°C) (32 °F to 95 °F) 0% to 75% (35°C to 40°C) (95 °F to 104 °F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionIEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEEC 6110-2-033: CAT III 1000 V/CAT IV 600 VEMC215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Background compensation	20° C fixed
Other           Battery type         Rechargeable lithium-ion battery (charge time: 4.5 hours)           Operating temperature         -10° C to 50° C (14° F to 122° F)           Storage temperature         -20°C to 60°C (-4° F to 140° F)           Relative humidity         0% to 90% (0°C to 35°C) (32 °F to 95 °F)           0% to 75% (35 °C to 40°C) (95 °T to 104 °F)         0% to 45% (40 °C to 50°C) (104 °F to 122 °F)           Altitude         2000 meters (6,561 feet)           Temperature coefficient         Add 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)           Ingress Protection         IEC 60529: IP40           Certifications         CE, CSA, FCC ID: T68-FBLE           Safety compliance         IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V           EMC         IEC 61326-1           Size         215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Memory storage	Approximately 100 images (internal)
Battery typeRechargeable lithium-ion battery (charge time: 4.5 hours)Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0° C to 35° C) (32° F to 95°F)Relative humidity0% to 75% (35°C to 40°C) (95°F to 104°F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionIEC 60529: IP40CertificationsCE, CSA, FCC ID: T68-FBLESafety complianceIEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMC215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	File format	Non-radiometric .is2
Operating temperature-10° C to 50° C (14° F to 122° F)Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0° C to 35°C) (32° F to 95°F) 0% to 75% (35°C to 40°C) (95°F to 104°F) 0% to 75% (35°C to 40°C) (95°F to 104°F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionIEC 60529: IP40CertificationsCE, CSA, FCC ID: T68-FBLESafety complianceIEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 VEMCEMCSize215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Other	
Storage temperature-20°C to 60°C (-4° F to 140° F)Relative humidity0% to 90% (0 °C to 35 °C) (32 °F to 95 °F) 0% to 75% (35 °C to 40 °C) (95 °F to 104 °F) 0% to 45% (40 °C to 50 °C) (104 °F to 122 °F)Altitude2000 meters (6,561 feet)Temperature coefficientAdd 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)Ingress ProtectionIEC 60529: IP40CertificationsCE, CSA, FCC ID: T68-FBLESafety complianceIEC 61010- 1: Pollution degree 2; IEC 61010- 2: O33: CAT III 1000 V/CAT IV 600 VEMCEMCSize215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Battery type	Rechargeable lithium-ion battery (charge time: 4.5 hours)
O% to 90% (0 °C to 35 °C) (32 °F to 95 °F)           Relative humidity         O% to 75% (35 °C to 40 °C) (95 °F to 104 °F)           O% to 75% (35 °C to 40 °C) (104 °F to 122 °F)           Altitude         2000 meters (6,561 feet)           Temperature coefficient         Add 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)           Ingress Protection         IEC 60529: IP40           Certifications         CE, CSA, FCC ID: T68-FBLE           Safety compliance         IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V           EMC         IEC 61326-1           Size         215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Operating temperature	-10° C to 50° C (14° F to 122° F)
Relative humidity     0% to 75% (35 °C to 40 °C) (95 °F to 104 °F) 0% to 45% (40 °C to 50 °C) (104 °F to 122 °F)       Altitude     2000 meters (6,561 feet)       Temperature coefficient     Add 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)       Ingress Protection     IEC 60529: IP40       Certifications     CE, CSA, FCC ID: T68-FBLE       Safety compliance     IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V       EMC     IEC 61326-1       Size     215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Storage temperature	-20°C to 60°C (-4° F to 140° F)
Temperature coefficient     Add 0.1 × specified accuracy for each <sup>o</sup> C above 28° C (82° F) or below 18° C (64° F)       Ingress Protection     IEC 60529: IP40       Certifications     CE, CSA, FCC ID: T68-FBLE       Safety compliance     IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V       EMC     IEC 61326-1       Size     215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Relative humidity	0% to 75% (35 °C to 40 °C) (95 °F to 104 °F)
Ingress Protection     IEC 60529: IP40       Certifications     CE, CSA, FCC ID: T68-FBLE       Safety compliance     IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V       EMC     IEC 61326-1       Size     215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Altitude	2000 meters (6,561 feet)
Certifications         CE, CSA, FCC ID: T68-FBLE           Safety compliance         IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V           EMC         IEC 61326-1           Size         215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Temperature coefficient	Add 0.1 × specified accuracy for each° C above 28° C (82° F) or below 18° C (64° F)
IEC 61010-1: Pollution degree 2;           Safety compliance         IEC 61010-2: OSL TII 1000 V/CAT IV 600 V           EMC         IEC 61326-1           Size         215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Ingress Protection	IEC 60529: IP40
Satety compliance         IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V           EMC         IEC 61326-1           Size         215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Certifications	CE, CSA, FCC ID: T68-FBLE
Size 215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)	Safety compliance	
	EMC	IEC 61326-1
Weight 0.793 kg (1.75 lb)	Size	215.9 x 93.9 x 57.1 mm (8.5 x 3.7 x 2.25 in)
	Weight	0.793 kg (1.75 lb)



#### **Included Accessories**

TL75 Test Leads, Rechargeable Lithium-ion Battery, Charger, 18-inch (45.72 cm) iFlex<sup>™</sup> Flexible Current Probe, Hanging Strap, Soft Carrying Case

279 FC I/B also includes: Additional Lithium-ion Battery.

#### **Ordering Information**

279 FC/iFlex	TRMS Thermal Multimeter with iFlex™
'luke 279FC I/B	TRMS Thermal Multimeter with iFlex™ and Extra Battery Kit

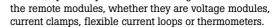
Contact your local distributor for price and availability. fluke.com/findus

#### Fluke 3000 FC Wireless Digital Multimeter



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See it. Save it. Share it.

Then read the results on the 3000 FC Wireless Multimeter from a safe distance. You can display the meter measurement, plus readings from up to three wireless modules, while reducing the risk of arc flash by separating yourself from hazardous measurement situations. Better still, the Fluke 3000 FC Series Wireless Multimeter

can send measurement data to your smartphone, so you can save and share measurements from the field with your team anytime, from anywhere.

#### Other capabilities of Fluke Connect<sup>™</sup> and the 3000 FC Multimeter:

- Connect to your PC with USB dongle (optional) for detailed analysis and diagnosis
- · Perform analysis with your smart phone and the FC App and share the results using Fluke Cloud<sup>™</sup> storage and ShareLive<sup>™</sup> video call. View data or graphs to get input from team members

#### The Fluke 3000 FC Series Wireless Multimeter with the Fluke Connect<sup>™</sup> app has all the essentials for convenient test and measurement troubleshooting.

- AC and DC voltage measurements to 1000 V
- AC and DC current with 0.01 mA resolution
  - Continuity, resistance, diode test, capacitance and frequency measurements
- MIN/MAX Recording • CAT III 1000 V, CAT IV 600 V; IP54
- Three-year warranty

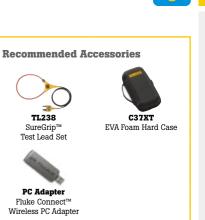
Functions	Range	Basic Accuracy
AC voltage	600.0 mV, 6.00 V, 60.00 V, 600.0 V, 1000 V	1.0% + 3
DC voltage	600.0 mV, 6.00 V, 60.00 V, 600.0 V, 1000 V	0.09% + 2
Continuity	600 Ω	Meter beeps at < 25 Ω, beeper detects opens or shorts of 250 µs or longer
Resistance	600 Ω, 600.0 Ω, 6.00 kΩ, 60.00 kΩ, 600.0 kΩ, 50.00 MΩ	0.5% + 1
Diode test	2.00 V	1% + 2
Capacitance	1000 nF, 10.00 μF, 100.0 μF, 9999 μF <sup>1</sup>	1.2% + 2
mA AC (45 Hz to 1 kHz) <sup>2</sup>	60.00 mA, 400.0 mA <sup>3</sup>	1.5% + 3
mA DC <sup>2</sup>	60.00 mA, 400.0 mA <sup>3</sup>	0.5% + 3
Frequency	99.99 Hz, 999.9 Hz, 9.99 kHz, 99.99 kHz	0.1% + 1

 $^{_{1}}$  In the 9999  $\mu F$  range for measurements to 1000  $\mu F$ , the measurement accuracy is 1.2% + 2. <sup>2</sup> Input burden voltage (typical): 400 mA input 2 mV/mA
 <sup>3</sup> 400.0 mA accuracy specified up to 600 mA overload.

For all specifications: accuracy is specified for one year after calibration, at operating temperatures of 18° C to 28° C, with relative humidity at 0% to 90%. Accuracy specifications take the form of ±[[% of Reading] + [Number of least significant digits]].

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

The Fluke 3000 FC True-RMS Wireless Multimeter and Fluke Connect<sup>™</sup> wireless test tools put tools, not your body, near live electrical panels. It's simple. Just de-energize the cabinet, open the panel while wearing PPE and connect



**Recommended Kits** Bundle and Save

Fluke 3000 FC General **Maintenance System** Fluke 3000 FC Industrial System Fluke 3000 FC HVAC System Fluke 3000 FC/1AC-II Wireless Multimeter and Non-Contact **Voltage Detector Kit** Fluke 3000 FC/EDA2 Wireless **Multimeter and Deluxe Accessories** Combo Kit Fluke 3000 FC/TPAK Wireless **Multimeter and Magnetic Hanger Combo Kit** 

#### **Included Accessories**

TL175 Test Leads, AC175 Alligator Clips, Manual Information Pack.

#### **Ordering Information**

FLK-3000 FC	FC Wireless Digital Multimeter
FLK-3000 FC GM	Wireless General Maintenance Kit
FLK-3000 FC IND	Wireless Industrial System Kit
FLK-3000 FC HVAC	Wireless HVAC System Kit
FLK-3000 FC/1AC-II	Wireless Multimeter and Non-Contact Voltage Detector Combo Kit
FLK-3000 FC/ EDA2	Wireless Multimeter Deluxe Accessories Combo Kit
FLK-3000 FC/ TPAK	Wireless Multimeter and Magnetic Hanger Combo Kit

SR.C.F

Contact your local distributor for price and availability. fluke.com/findus



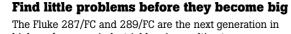
## **Digital Multimeters**

#### Fluke 280 Series True-RMS Logging Multimeters



Fluke 289/FC





high performance industrial logging multimeters. These high performance industrial logging multimeters are designed to solve complex problems faster in many applications. Log data and review it graphically on-screen to help minimize downtime.

Communicate wirelessly with your smart phone directly from the field with the Fluke  $\mathsf{Connect}^{\mathsf{\tiny TM}}$  app and get quick answers or next step authorizations faster than ever before. It's as simple as adding the Fluke ir3000 FC Connector to the standard Fluke 287 and 289 (connector sold separately).

- Large 50 000 count, 1/4 VGA dot matrix display with white backlight
- Logging function with expanded memory for unattended monitoring of signals over time. Using on-board TrendCapture, users can graphically review logged readings without needing a PC. Store up to 10000 recorded events
- Save, name, and recall multiple logging sessions before PC download is necessary
- Field upgradeable and expandable meter lets you stay current as new capabilities are added.
- Two terminal 50 ohm range with 1 milliohm resolution, 10 mA source current. Useful for measuring and comparing differences in motor winding resistance or contact resistance (289/FC)
- Low-pass filter for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (289/FC) • Limited lifetime manufacturer's warranty

Features	287	289
Multiple on screen displays	•	•
True-RMS AC bandwidth	100 kHz	100 kHz
dBV/dBm	•	•
DC mV resolution	1 μV	1 µV
Megohm range up to	500 MΩ	500 MΩ
Conductance	50.00 nS	50.00 nS
Continuity beeper	•	•
Elapse time clock/time of day clock	•	•
Min/Max/Avg/duty cycle/pulse width	•	•
Isolated optical DMM interface with USB PC connection	•	•
Auto/touch hold	•	•
Over 200 hours logging capacity with new power saving function	•	•
Lo Ohm capability	-	•
LoZ volts	-	•
Lo Pass Filter	-	•

Functions	Range	Basic Accuracy
AC volts or DC volts	50.00 mV, 500.00 mV, 5.00 V, 50.00 V, 500.00 V, 1000.0 V	0.02% 0.4% (True-RMS) (AC)
AC current DC current	500.00 μΑ, 5000.0 μΑ, 50.00 mA, 400.00 mA, 5.00 Α, 10.00 Α	0.15% 0.7% (True-RMS)
Temperature (excluding probe)	-200.0° C to 1350.0° C (-328° F to 2462° F)	1.0%
Resistance	50.00 $\Omega,$ 500.00 $\Omega,$ 5.00 kD, 50.00 kD, 500.00 kD, 5.00 MD, 50.00 MD, 50.00 MD	0.05%
Capacitance	1.00 nF, 10.00 nF, 100.0 nF, 1.00 $\mu F$ , 10.00 $\mu F$ , 100.0 $\mu F$ , 1000 $\mu F$ , 1000 mF, 100 mF	1.0%
Frequency	99.99 Hz, 999.99 Hz, 9.99 kHz, 99.99 kHz, 999.99 kHz	0.005%

Combo Kit Fluke 287 FlukeView<sup>™</sup> Forms **Combo Kit with ir3000FC Connector** Fluke 289 FlukeView<sup>™</sup> Forms Combo Kit Fluke 289 FlukeView™ Forms **Combo Kit with ir3000FC Connector Included Accessories** TL175 Test Leads, AC175 Alligator Clips, Probe Holder, Six AA Batteries (installed), Calibration Certificate Sheet.

**Recommended Accessories** 

Wry

**TLK287** 

Electronic Test Lead Set

FVF-SC2

FlukeView<sup>™</sup> Forms Software with Cable

1

**Recommended Kits** 

Fluke 287 FlukeView<sup>™</sup> Forms

Bundle and Save

i410

AC/DC Current Clamp

12814

TLK289

Industrial Test Lead Set

C280

Soft Case

ir3000 FC

Fluke Connect™ ir3000

Connector

#### **Ordering Information**

FLUKE-287	True-RMS Industrial Logging Multimeter with TrendCapture
FLUKE-289	True-RMS Electronics Logging Multimeter with TrendCapture
FLUKE-287/FVF	FlukeView™ Forms
Kit	Combo Kit
FLUKE-289/FVF	FlukeView™ Forms
Kit	Combo Kit
FLUKE-287/FVF/	Industrial Logging
IR3000 Kit	Multimeter and
FLUKE-289/FVF/ IR3000 Kit	Industrial Logging Multimeter and Software Combo Kit
FLUKE IR3000	Fluke Connect™
FC	ir3000 Connector

Contact your local distributor for price and availability. fluke.com/findus

#### Fluke 83V, 87V & 87V MAX Digital Multimeters



 $\bigotimes$ 

Performance and accuracy for maximum industrial productivity

Fluke 80-V Series is equipped with improved measurement functions, troubleshooting features, resolution and accuracy to solve more problems on motor drives, in-plant automation, power distribution, and electro-mechanical equipment.

The Fluke 87V and new 87V Max offer a unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment. A built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument.

#### **Electrical safety**

All inputs are protected to CAT III 1000 V and CAT IV 600 V. They can withstand impulses in excess of 8000 V to help protect you from arc blast resulting from surges and spikes. Limited lifetime manufacturer's warrantv.

Features	83V	1
True-RMS AC voltage and current for accurate measurements on non-linear signals	-	
Selectable filter for accurate voltage and frequency measurements on motor drives	-	
6000 counts, 3-3/4 digits	•	
4-1/2 digit mode for precise measurements (20000 counts)	-	
Measure up to 10 A, 20 A for up to 30 seconds	•	
Built in thermometer lets you carry one less tool (TC probe included)	-	
Frequency to 200 kHz and % duty cycle	•	
Resistance, continuity and diode test	•	
$10000 \ \mu F$ capacitance range for components and motor caps	•	
Min/Max/Average recording with Min/Max Alert to capture variations automatically	•	
Battery Life with Backlight off	400	hours

Functions	Banna	1	Basi
runctions	Range	83V	
DC volts	600.0 mV, 6.00 V, 60.00 V, 600.0 V, 1000 V	0.1%	
AC volts	600.0 mV, 6.00 V, 60.00 V, 600.0 V, 1000 V	0.5%	
DC current	600.0 μΑ, 6000 μΑ, 60.00 mA, 600.0 mA, 6.00 Α, 10.00 Α	0.4%	
AC current	600.0 μΑ, 6000 μΑ, 60.00 mA, 600.0 mA, 6.00 Α, 10.00 Α	1.2%	
Temperature (excl. probe)	-200° C to 1090° C (-328° F to 1994° F)	-	
Temperature Probe	-40° C to 260° C (-40° F to 500° F)	-	2
Resistance	600.0 Ω, 6.00 kΩ, 60.00 kΩ, 600.0 kΩ, 6.00 ΜΩ, 50.00 MΩ	0.4%	
Capacitance	10.00 nF, 100.0 nF, 1.00 $\mu\text{F},$ 10.00 $\mu\text{F},$ 100.0 $\mu\text{F},$ 9999 $\mu\text{F}$	1.0%	
Frequency	199.99 Hz, 1.99 kHz, 19.99 kHz, 199.99 kHz	0.005%	

Fluke Connect (FC) available in selected countries.

16

19998

Fluke 87V

1 199

Fluke 83V

87V 87V MAX • ٠ • • • • ٠ ٠ • ٠ ٠ • • • ٠ ٠ ٠ ٠ • ٠ 800 hours

c Accuracy 87V 87 MAX 0.05% 0.7% (True-RMS) 0.2% 1.0% (True-RMS) 1.0%

2.2° C (35.96° F) or 2%

0.2%

1.0%

0.005%

#### **Recommended Accessories**



Magnetic Meter Hanger





AC285 Grip™ Alliαat Clips



C37XT EVA Foam Hard Case

**Recommended Kits** Bundle and Save



Fluke 87V/E2 Industrial Electrician's Combo Kit

#### **Included Accessories**

TL175 Test Leads, AC175 Alligator Clips, Yellow Holster (H8OM excl. TPAK), 80BK-A Temperature Probe (87V/MAX only), 9 V Battery Installed (83V and 87V Only), Three AA batteries Installed (87V MAX only), User Manual and Technical Notes.

#### **Ordering Information**

FLUKE-83V	Industrial Multimeter
FLUKE-87V	True RMS Industrial Multimeter
FLUKE-87V/E2	Industrial Electrician Combo Kit
FLUKE-87V-MAX	MAX True RMS Industrial Multimeter
FLUKE-87V/ IMSK	Industrial Multimeter Service Kit

### 

## **Digital Multimeters**

**TL220** 

Test Lead Set

S111

R

TL224

SureGrip™ Silicone Insulated Test Leads

i400 AC Current Clamp

CXT80

Extreme Cas

eGrip™ Industrial

FLUKE ®

**Digital Multimeters** 



#### Fluke 88V Automotive Multimeter



#### The right meter for automotive diagnostics The Fluke 88V Automotive Multimeter is the most powerful

automotive multimeter ever offered by Fluke. In addition to having all standard multimeter features like the ability to measure voltage, current, continuity, and resistance, the 88V can perform diode test and pulse width measurements.

This meter can take current measurements up to 20 A for 30 seconds and 10 A continuously. The optional magnetic hanger lets you attach the meter to most steel surfaces for easy set-up and viewing. The 88V is designed to be used in high energy environments like those found on hybrid vehicles.

- 0.1% DC accuracy
- 4-1/2 digit mode for precise measurements (20000 counts)
  - Measure up to 1000 V AC and DC
  - Current measurements up to 10 A, 20 A for up to 30 seconds • Built-in thermometer for temperature measurements when you need them (temperature probe included)
  - Resistance, continuity and diode test
  - RPM measurements with inductive pickup (included)
  - Millisecond pulse width measurements for fuel injectors • Magnetic hanger to attach meter to the vehicle and free your
  - hands for other tasks • Min/Max/Average recording with Min/Max Alert to capture variations automatically
  - Peak Min/Max to record transients as fast as 250 µs
  - Relative mode to remove test lead resistance from low ohms measurements
  - Auto and manual ranging for maximum flexibility
  - Autohold<sup>™</sup> to capture stable readings with only one touch of the leads
  - · Large display digits and two-level bright white backlight for increased visibility
  - Analogue bar-graph to track changing or unstable signals
  - Input Alert provides audible warning against wrong use of input jacks
  - Limited lifetime manufacturer's warranty

#### **Recommended Accessories** 1 1 TLK281 TLK282 Deluxe Automotive Test notive Test Lead Lead Kit Kit 0 C35 80PK-27 Soft Carrying Case SureGrip™ Surface Temperature Probe (requires 80AK) 0 i410 **TL82** 400 A AC/DC TL82 Automotive Pin & Current Clamp Socket Adapter Set **Recommended Kits**

**A**uton



Fluke 88V/A Automotive Multimeter Combo Kit

Specifications	88V		
DC volts	Maximum Voltage: 1000 V Accuracy: ±(0.1% + 1) Best Resolution: 0.01 mV		
AC volts	Maximum Voltage: 1000 V Accuracy: ±(0.5% + 2) AC Bandwidth: 5 kHz Best Resolution: 0.01 mV		
DC Current	Maximum Amps: 10 A Amps Accuracy: ±(0.4% + 2) Best Resolution: 0.001 mA		
AC Current	Maximum Amps: 10 A Amps Accuracy: ±(1.2% + 2) Best Resolution: 0.001 mA		
Resistance	Maximum Resistance: $50 \text{ M}\Omega$ Accuracy: $\pm (0.4\% + 1)$ Best Resolution: $0.1 \Omega$	Included Acces	
Capacitance	Maximum Capacitance: 9999 µF Accuracy: ±(1% + 2) Best Resolution: 0.01 nF	High-impact Hol	<b>sories</b> ster, Test Leads, User :k Reference Guide.
Frequency	Maximum Frequency: 200 KHz Accuracy: ±(0.005% + 1) Best Resolution: 0.01 Hz	Ordering Inform	
Duty Cycle	Maximum Duty Cycle: 99.9% Accuracy: within 2% per KHz + 0.1% Best Resolution: 0.1%	FLUKE-88-5	Automotive Multimeter
Temperature Measurement	-200.0° C to 1090° C (-328° F to 1994° F), 1.0% excluding probe	FLUKE-88-5/	Automotive
80BK Temperature Probe	-40° C to 260° C, 2.2° C (-40° F to 500° F) or 2% whichever is greater	A KIT	Multimeter Combo
Conductance	Maximum Conductance: 60.00 nS Accuracy: ±(1.0% + 10) Maximum Resolution: 0.01 nS		M
Operating Range	Operating Temperature: -20° C to 55° C (-4° F to 131° F) Storage Temperature: -40° C to 60° C (-40° F to 140° F)	Contact your local di price and availability	
Size and Weight	5.2 cm × 9.8 cm × 20.1 cm, 624 g	fluke.com/findus	-

#### Fluke 170 Series Digital Multimeters

Troubleshooting tools for electrical and electronic systems



Fluke 179

Fluke 170 Series digital multimeters are the preferred solutions for professional technicians around the world. They include the features you need to troubleshoot and repair electrical and electronic systems, combined with Fluke's unparalleled reputation for ruggedness, reliability and accuracy.

- True RMS voltage and current measurements
- 0.09% basic accuracy (177, 179)
  - 6000 count resolution
  - Digital display with analog bargraph and backlight (177, 179)
  - · Manual and automatic ranging
  - Display Hold and Auto Hold
  - Frequency and capacitance measurements
  - Resistance, continuity and diode measurements
  - Temperature measurements (179)
  - Min/max/average recording
  - Smoothing mode allows filtering of rapidly changing inputs
  - · Easy battery exchange without opening the case
  - · Closed case calibration through front panel
  - Ergonomic case with integrated protective holster • IEC 61010-2-033 CAT III 1000V /
  - CAT IV 600V • Battery life: 200 hours typical for alkaline.
  - Size: (H×W×L): 4.3 × 9.0 × 18.5 cm  $(1.69 \times 3.54 \times 7.28 \text{ in})$
  - Limited lifetime manufacturer's warranty

#### **Electrical safety**

All inputs are protected to measurement CAT III 1000 V and CAT IV 600 V. These meters can withstand transient impulses in excess of 8000 V to help protect you from arc blasts resulting from surges and spikes.

Features	179	177	175
Max voltage AC/DC	1000	1000	1000
True-RMS	•	•	•
Temperature	•	-	-
Basic DC accuracy	0.09%	0.09%	0.15%
Backlight	•	•	-
Min/Max/Avg	•	•	•
Compatible with ToolPak <sup>™</sup> meter hanging kit with magnet	•	•	•
Limited lifetime warranty	•	•	•

Functions	Range	Best accuracy
DC voltage	600.0 mV, 6.00 V, 60.00 V, 600.0 V, 1000 V	±0.09% (177 and 179) ±0.15% (175)
AC voltage <sup>1</sup>	600.0 mV, 6.00 V, 60.00 V, 600.0 V, 1000 V	±1.0% of reading
DC current	60.00 mA, 400.0 mA, 6.00 A, 10.00 A <sup>2</sup>	±1.0% of reading
AC current <sup>2</sup>	60.00 mA, 400.0 mA, 6.00 A, 10.00 A <sup>2</sup>	±1.5% of reading
Resistance	600.0 Ω, 6.00 kΩ, 60.00 kΩ, 600.0 kΩ, 6.00 MΩ, 50.00 MΩ	±0.9% of reading
Capacitance	1000 nF, 10.00 μF, 100.0 μF, 9999 μF	±1.2% of reading
Frequency <sup>3</sup>	99.99 Hz, 999.9 Hz, 9.99 kHz, 99.99 kHz	±0.1% of reading
Temperature (Model 179)	-40°C to 400°C (-4° F to 752° F)	1.0% of reading

1 All AC voltage and AC current ranges are specified from 5% of range to 100% of range ious, 20 A for up to 30 seco 2 10 A contini

3 Voltage frequency is specified from 2 Hz to 100 kHz. Current frequency is specified from 2 Hz to 30 kHz.



**Digital Multimeters** 



Fluke 177



**Recommended Accessories** 

TL81A

Test Lead Set

-

i410 AC/DC Current Clamp

**TP220** 

SureGrip<sup>™</sup> Industrial

Test Probes

C37XT

EVA Foam

Hard Case

Deluxe Electro



Magnetic Meter Hange







C11XT EVA Foam Hard Case

**Recommended Kits** Bundle and Save



Fluke 179/EDA2 Industrial Digital **Multimeter Combo Kit** 

#### **Included Accessories**

Test Leads with 4 mm Lantern Tips, 9V Battery (installed) and User Manual, 80BK Temperature Probe (179 only).

#### **Ordering Information**

FLUKE-175	True RMS Digital Multimeter
FLUKE-177	True RMS Digital Multimeter
FLUKE-179	True RMS Digital Multimeter
FLUKE-179/ EDA2	Electronics Combo Kit
FLUKE-179/ IMSK	Industrial Multimeter Service



#### Fluke 233 Remote Display Digital Multimeter

#### Fluke 110 Series True-RMS Digital Multimeters





Fluke 233



The Fluke 233 True-rms Remote Display Digital Multimeter allows you to be in two places at once. The removable display solves several problems. First, you no longer have to hold both the meter and the test leads to make a measurement. It also allows you to measure where the measurement point is separated from controls or where the operator can't stay close to the meter during measurements due to various hazards or moving machinery.

- Wireless technology allows the display to be carried up to 9.1 m (29.8 ft) away from the point of measurement for added flexibility
- The removable magnetic display can be conveniently mounted where it is easily seen
- Low-power 802.15.4 wireless technology does not interfere with measurement accuracy
- Use as a conventional multimeter when the display is connected
- True-RMS AC voltage and current
- Built-in thermometer
- Auto power off maximizes battery life (400 hours) • Radio transmitter automatically turns off when the
- display is connected to the meter • Record signal fluctuations using the Min/Max function • Three-year warranty

Features	233
Removable magnetic display	•
True-RMS measurement	•
Digital display counts	6000
Display backlight	•
Built in thermometer	•
Resistance, continuity and diode test	•
Min/Max/Average recording	•
Auto power off maximizes battery life	•
Radio transmitter automatically turns off when the display is connected to the meter	•
Use as conventional multimeter when the display is connected	•
Safety rating	CAT IV 600 V/CAT III 1000 V
Auto and manual ranging	•
Display Hold and AutoHold™	•
Unsafe voltage alert warns for voltages above 30 V	•
2 Low battery indications - Base/Display	•
Ergonomic case with integrated holster	•
Selectable sleep mode preserves battery life	•

#### Specifications

DC weltere	Range	0.1 mV to 1000 V
DC voltage	Accuracy	0.25% + 2
AC welte go	Range	0.1 mV to 1000 V
AC voltage	Accuracy	1.0% + 3
DC current	Range	0.001 A to 10 A
DC current	Accuracy	1.0% + 3
AC current	Range	0.001 A to 10 A
AC current	Accuracy	1.5% + 3
Resistance	Range	0.1 Ω to 40 MΩ
Capacitance		1000 nF to 9999 µF
Frequency		0.1 Hz to 50.00 kHz
Temperature		-40° C to 400° C (-40° F to 752° F)
Power		3 AA batteries main body, 2 AA batteries display module
Battery life		400 hours
Compliance		IEC 61010-2-033: CAT IV 600 V, CAT III 1000 V
Size (H×W×L)		5.3 x 9.3 x 19.3 cm (2.08 x 3.6 x 7.6 in)
Weight		604 g



#### **Included Accessories**

TL75 Test leads, AC175 Alligator Clips, 80BK-A Temperature Probe, CD, two AA batteries and user manual.

#### **Ordering Information**

FLUKE-233 Remote Display **Digital Multimeter** 

Contact your local distributor for price and availability. fluke.com/findus



#### **Dependable Digital Multimeters for Electrical and HVAC applications**

All the models in the Fluke 110 series are True-RMS Multimeters with a large 3-1/2 digit / 6000 count display. The Fluke 117 includes integrated VoltAlert<sup>™</sup> non-contact voltage detection and LoZ ghost voltage detector features to get the job done faster. The Fluke 116 is the HVAC/R Multimeter with temperature, microamps, and LoZ to quickly troubleshoot problems with HVAC/R equipment. The Fluke 115 is a compact meter for a wide variety of electrical/electronic testing applications, while the Fluke 114, 113 and 110 are basic electrical troubleshooting meters designed for "go/ no-go" testing.

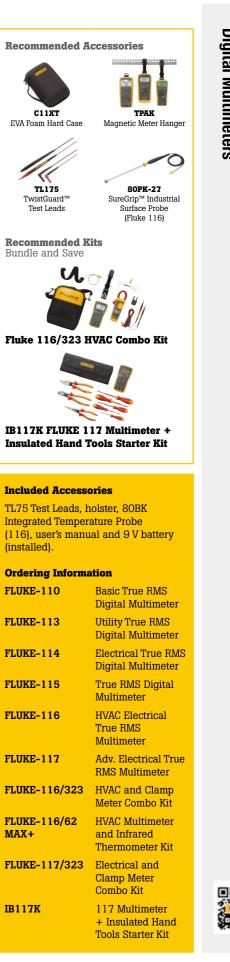
- VoltAlert<sup>™</sup> technology for integrated non-contact voltage detection (117)
- AutoVolt feature for automatic ac/dc voltage selection (117, 116, 114)
- Microamps to test flame sensors (116)
- VCHEK<sup>™</sup> LoZ low impedance measurement function to simultaneously test for voltage/ continuity (113)
- LoZ: Low input impedance prevents false readings due to "ghost voltage" (117, 116, 114)
- in poorly lit areas more effectively • Three-year warranty

Specifications	117	115	113	110
VoltAlert <sup>™</sup> detector	•		-	-
AutoVolt/LoZ	•	-	Vchek	-
Analogue bargraph	•	•	•	•
True-RMS for accurate measurements on non- linear loads	•	•	•	•
Min/Max recording	•	•	•	•
Display hold	•	•	•	•
3-1/2 digits	•	•	•	•
6000 counts	•	•	•	•
CAT III 600 V safety rated	•	•	•	•
			116	114
Temperature			•	-
Microamps			•	-
Frequency			•	-
Capacitance			•	-
Diode test			•	-
AutoVolt/LoZ			•	•
Analogue bargraph			•	•
True-RMS for accurate measurements on non-lin	ear loads		•	•
Min/Max recording			•	•
			•	•
Display hold				
Display hold 3-1/2 digits			•	•

Functions	117	116	115	114	113	110
AC/DC voltage	600 V	600 V	600 V	600 V	600 V	600 V
AC/DC current	10 A	600.0 μA	10 A	-	-	-
Resistance	40 MΩ	40 MΩ	40 MΩ	40 MΩ	60 kΩ	40 MΩ
Capacitance	9999 μF	9999 μF	9999 μF	-	9999 μF	-
Diode test	•		•	-	•	-
Frequency	5 Hz to 99.99 kHz	5 Hz to 99.99 kHz	5 Hz to 99.99 kHz	-	-	-
Temperature		+400° C		-	-	-
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT IV 600 V	CAT III 600 V

• Built in thermometer for HVAC applications (116)

• Large display and white LED backlight to work



FLUKE ®



#### Fluke 27 II, 28 II and 28 II Ex Industrial IP67 **Digital Multimeters**



The 27 II, 28 II and 28 II Ex-AU Digital Multimeters are designed for tough work environments. All three meters have IP 67 waterproof and dustproof rating. They provide an extended operating temperature range of -15° C to 55°  $\dot{\text{C}}$  (5° F to 131° F) and 95% humidity.

- Unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (28 II, 28 II Ex)
- Built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument (28 II, 28 II Ex)
- Hi-resolution 20000 count display mode (28 II, 28 II Ex) · Resistance and continuity. Relative mode to remove test
- lead resistance from low ohms measurements • Large digit display with bright, two-level backlight
- · Backlit keypad buttons allow for easy visibility in low-lit areas
- Optional magnetic hanger for easy setup and viewing, freeing your hands for other tasks
- · Intrinsically safe certifications from the world's leading certification bodies (28 II Ex) • Limited lifetime manufacturer's warranty

Features	27 II	28 II	28 II Ex
Tested to withstand a 3 m drop	•	•	•
Wide 1000 V measurement range	•	•	•
True–RMS AC voltage and current for accurate measurements on non–linear signals	-	•	•
Average responding voltage and current measurements	•	-	-
Low pass filter	-	•	•
Temperature	-	•	•
10 A continuous (20 A for 30 seconds)	•	•	•
Frequency and capacitance	•	•	•
Record signal fluctuations using the Min/Max function	•	•	•

Specifications		27 II	28 II	28 II Ex
DC seelts we	Range		0.1 mV to 1000 V	
DC voltage	Accuracy	0.05% +1	0.05% + 1	0.05% + 1
A Classification	Range		0.1 mV to 1000 V	
AC voltage	Accuracy	0.5% +3	0.7% +4	0.7% +4
DC current	Range		0.1 µA to 10 A	
DC current	Accuracy	0.2% + 4	0.2% + 4	0.2% + 4
AC current	Range		0.1 µA to 10 A	
AC current	Accuracy	1.5% + 2	1.0% + 2	1.0% + 2
Resistance	Range		0.1 0 to 50 MΩ	
Display counts		6000	6000/19,999	6000/19,999
Capacitance		1 nF to	9999 µF	10 nF to 9999 µF
Frequency			0.5 Hz to 199.99 kHz	
Temperature		-	-200° C to 1090° C	(-328° F to 1994° F)
Low pass filter (measur VSD's)	rement on	-	Yes	Yes
Compliance		IEC 61010-	2-033: CAT IV 600 V, CA	AT III 1000 V
Measurement method		Avg. responding	True-RMS	True-RMS
Power			Three AA batteries	
Battery life		800	hours	400 hours
Dimensions (DxWxH)		6.35 x 10	.0 x 19.81 cm (2.5 x 3.9	3 x 7.8 in)
Weight with holster			700 g (24.69 oz)	



#### **Included Accessories**

TL175 Test Leads, AC175 Alligator Clips, 80BK-A Temperature Probe (28 II), holster, user manual and three AA batteries (installed).

#### **Ordering Information** FLUKE-27II Industrial Multimeter FLUKE-28II Industrial Multimeter FLUKE-28IIEx Intrinsically Safe Industrial Multimeter

Contact your local distributor for price and availability. fluke.com/findus

#### Fluke 77IV Digital Multimeter



Fluke 77IV

#### Versatile multimeter for field service or bench repair

The Fluke 77IV Digital Multimeter has the features needed to repair most electrical and electronic problems. This meter is simple to use and has significant improvements over Fluke's original 70 Series with more measurement functions, conformance to the latest safety standards, and a much larger display that is easier to view.

- Wide 1000 V measurement range
- Average responding AC measurements
- 0.3% accuracy
- 10 amps continuous
- Frequency and capacitance
- Resistance and continuity
- Large display
- Backlight for work in dim areas
- Min/Max to record signal fluctuations
- Integral holster with probe holders
- Free your hands with the optional TPAK magnetic hanger
- Auto and manual ranging
- Limited lifetime manufacturer's warranty

Function	Maximum	Max. resolution	
Voltage DC	1000 V	1 mV	
Voltage AC	1000 V	1 mV	
Current DC	10 A	0.01 mA	
Current AC	10 A	0.01 mA	
Resistance	50 MΩ	0.1 Ω	
Capacitance	9,999 μF	1 nF	
Frequency	99.99 kHz	0.01 Hz	

Accuracies are best accuracies for each function

#### **General Specifications**

Accuracy is specified for one year after calibration, at operating temperatures of 18° C to 28° C, with relative humidity at 0% to 90%. Accuracy specifications take the form of  $\pm$  ([% of Reading] + [Counts]).

Specifications	22IV
V Maximum voltage between any terminal and earth ground	1000 V
Surge protection	8 kV peak per IEC 61010-2-03
Fuse for mA input	440 mA, 1000 V FAST Fuse
Fuse for A input	11 A, 1000 V FAST Fuse
Display	Digital: 6000 counts, updates 4/s
Bar Graph	33 segments, updates 32/sec
Frequency	10000 counts
Capacitance	1 000 counts
Operating altitude	2 000 m
Storage altitude	12 000 m
Operating temperature	-10° C to 50° C (14° F to 122° F
Storage temperature	-40° C to 60° C (-40° F to 140° F
Temperature coefficient	0.1 × (specified accuracy/° C (< 18° C or > 28° C) (<
Electromagnetic compatibility (EN 61326-1:1997)	In an RF field up to 3 V/m, accuracy = specified a temperature: specified accuracy ±
Relative humidity (maximum non-condensing)	90% to 35° C; 75% to 40° C; 45% to 50° C (90% to 45% to 122° C)
Battery life	400 hours
Size (H×W×L) and Weight	185 × 90 × 43 mm (7.28 × 3.54 × 1.70 in); 4
Safety compliance	IEC 61010-2-033; CAT III 1000 V, CAT
Certifications	CSA









Magnetic Meter Hange



i2000 FLEX AC Current Clamp Test Lead Kit





SureGrip<sup>™</sup> Stray Voltage Adapter Test Lead Kit



SureGrip<sup>™</sup> Maste Accessory Kit

## **Digital Multimeters**

Accuracy
±(0.3%+1)
±(2.0%+2)
±(1.5%+2)
±(2.5%+2)
±(0.5%+1)
±(1.2%+2)
±(0.1%+1)

< 64.4° F or > 82.4° F)) accuracy except in -5° C 95° F; 75% to 104° F;

420 g (14.81 oz) IV 600 V



#### **Included Accessories** TL75 Test Leads, 9V battery (installed), manual information pack.

**Ordering Information** FLUKE-77-4 **Digital Multimeter** 



#### Fluke PRV240 and PRV240FS Proving Units

#### Fluke 8808A Precision Bench Multimeter



Fluke PRV240





Fluke PRV240 FS



#### Fluke PRV240 Proving Unit

The Fluke PRV240 Proving Unit is a portable, pocketsized, battery-powered voltage source. It is unique in that it sources stable AC and DC voltages for both LoZ and HiZ instruments.

- Sources both AC and DC steady-state voltage supplies 240 V DC/AC
- A single LED indicates functionality, making this unit a simple-to-use solution for verification of your test tool
- Compatible with both high impedance or low impedance multimeters, clamp meters or two pole testers
- Voltage is sourced through recessed contacts that are activated when tested probes are inserted to avoid accidental contact
- Includes Magnetic Hanging Strap
- Long battery life 5000 tests per set of four AA batteries

#### • One-year warranty Fluke PRV240FS Proving Unit

The Fluke PRV24OFS Proving Unit is specifically built to prove the functionality of the FieldSense<sup>™</sup> measurement on the Fluke T6 Electrical Testers. It also provides AC and DC voltages for other HiZ instruments in your tool box.

- Reduces the risk of shock and arc flash by validating the functionality of test tools without placing yourself in a potentially hazardous electrical environment
- Can prove functionality of the FieldSense  ${}^{\scriptscriptstyle \mathrm{TM}}$  measurement on the T6 Electrical Testers
- Sources both AC and DC steady-state voltage supplies 240 V DC/AC
- A single switch and a set of LEDs indicate functionality of both the FieldSense<sup>™</sup> "no-test-lead" voltage measurement capability, plus standard AC and DC measurements with test leads
- Compatible with high impedance multimeters or clamp meters
- Voltage is sourced through a central hub designed to test the T6 FieldSense<sup>™</sup> open fork, as well as through recessed contacts that are activated when test probes are inserted to avoid accidental contact
- Long battery life 2000 tests per set of four AA batteries
- One-year warranty

Specifications	PRV240	PRV240FS
Output voltage		RMS or DC $\geq 1 M\Omega$
$LoZ >3 k\Omega$ load	60 V AC typical 50 V AC RMS minimum	-
LED power indicator	Turns on when out	put voltage present
Battery	4 AA Alkaline batteries NEDA 24 A IEC LRO3	4 × AA Alkaline batteries NEDA 15A IEC LR6
Battery life	5000 (5-second duration) test cycles with >1 MΩ load, 300 tests minimum with >3 kΩ load	2000 (10-second duration) test cycles with >1 MΩ load
Operating temperature	-10° C to 50° C	(50° F to 122° F)
Operating altitude	2000 m	(6,561 ft)
Dimensions	11.7 × 7.4 × 2.8 cm (4.6 x 2.9 x 1.1 in)	11.7 × 7.4 × 4.5 cm (4.6 x 2.9 x 1.75 in)
Weight	0.23 kg (8.11 oz) includes batteries	0.32 kg (11.28 oz) includes batteries
Safety	IEC 61010-1, IE	C 61010-2-030





Fluke T6-1000 + PRV240FS **Proving Unit Kit** 





#### **Included Accessories**

TPAK Hanging Strap, four AA batteries, instruction sheet.

#### **Ordering Information**

**PRV240 Proving Unit** PRV240FS **Proving Unit** 

Contact your local distributor for price and availability. fluke.com/findus















- Up to 0.01% accuracy • Dual measurement display
- Sensitive DC leakage current ranges

Multimeter

• Front panel setup keys

• 5.5 digit resolution

• Three-year warranty

8808A
Dual
5.5
AC Volts, DC Volts, AC Current, DC Current, Continuity, Diode
0.01 + 0.003
2x4 wire ohms, freq, i-Leakage dedicated setup keys
Null, dBm, dB, Min, Max
Limit Compare
No
RS-232, USB via optional ada
IEC 61010-2-030: CAT II 600 V, 10





#### Fluke 8808A 5.5 Digit

The Fluke 8808A multimeter has a broad range of functions, measuring volts, ohms and amps with a basic V DC accuracy of 0.01%. The meter is easy to use and includes innovative functions to simplify routine testing and precision 4-wire resistance measurements.

• TL2X4 wire measurement technique



**Recommended Accessories** 

TI.2X4W-TWZ 2x4-Wire Ohms Tweezers Test Leads

¥8846D Rack Mount Kit, Dual



884X-CASE Moulded Plastic Case **Digital Multimeters** 

Frequency, Ohms,

apter 1000 V Max



#### Included Accessories

LCI line power cord, test lead set, spare line power fuse, programmers manual/ user manual on CD-ROM, 884X-USB USB to RS232 cable adapter, FVF-BASIC FlukeView<sup>™</sup> Forms Software Basic Version.

#### **Ordering Information**

FLUKE 8808A

5.5 Digit Multimeter5.5 Digit Multimeter

#### FLUKE 8808A/ SU

5.5 Digit Multimeter (Software + Cable)

available.

Calibration & Service Agreement units also



## **Clamp Meters**

Wires in tight compact spaces. Panels out of reach. Extra-large conductors. We understand your workspace and have designed products for noise-free, reliable readings. Built on success, digital clamp meters designed by Fluke are known as workhorse current clamp meters. With advanced performance features, the amp clamp meter line is designed to be simple to use and gimmick-free.

#### **Clamp Meter Selection Guide**

Fluke Clamp Meters	Residential, Elect	Residential/Commercial Electrical		General Purpose			Industrial	Industrial Electrical			HVAC/R	High-End Ind	High-End Industrial, Utility	Leakage	Wire	Wireless
	323	325	365	374 FC	375 FC	376 FC	377 FC	378 FC	381	393 FC	902 FC	353	355	368 FC/369 FC	a3000 FC	a3001 FC
Measurements																
AC current	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AC voltage	•	•	•	•	•	•	•	•	•	•	•		•			
Resistance	•	•	•	•	•	•	•	•	•	•	•		•			
Continuity	•	•	•	•	•	•	•	•	•	•	•		•			
DC voltage	•	•	•	•	•	•	•	•	•	•	•		•			
DC current		•	•	•	•	•	•	•	•	•	•	•	•			
True-RMS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Frequency		•			•	•	•	•	•	•		•	•			•
AC + DC voltage													•			
AC + DC current												•	•			
Min/Max/Avg		•		•	•	•	•	•	•	•	•	•	•			
Temperature		•									•					
Capacitance		•		•	•	•	•	•		•	•					
Measurement logging				•	•	•	•	•		•				•	•	•
Special Features																
Inrush current mode				•	•	•	•	•	•	•		•	•		•	•
Low Pass filter for VFDs					•	•	•	•	•			•	•			
18-inch iFlex™				Optional	Optional	Included	Included	Included	Included	Included						Included
Wireless				•	•	•	•	•		•	•			•	•	•
FieldSense™							•	•								
PQ indicator								•								
DC power										•						
Display																
Display hold	•	•	•	•	•	•	•	•	•	•	•	•	•	•	in phone app in phone app	in phone a
Docklikeh+																

реенение																
Jaw opening	30 mm (1.18 in)	30 mm (1.18 in)	18 mm (0.7 in)	34 mm (1.33 in)	34 mm (1.33 in)	34 mm (1.33 in)	34 mm (1.33 in)	34 mm (1.33 in)	34 mm (1.33 in)	34 mm (1.33 in)	30 mm (1.2 in)	58 mm (2.3 in)	58 mm (2.3 in)	40 mm (1.5 in)/ 61 mm (2.4 in)	34 mm (1.33 in)	254 mm (10 in) coil
Max wire size	300 mm <sup>2</sup> (11.81 in <sup>2</sup> )	300 mm <sup>2</sup> (11.81 in <sup>2</sup> )	17 mm (0.67 in)	$400 \text{ mm}^2$ (15.74 $\text{in}^2$ )	$400 \text{ mm}^2$ (15.74 $\text{in}^2$ )	$400 \text{mm}^2$ (15.74 $\text{im}^2$ )	$400 \mathrm{mm}^2$ (15.74 $\mathrm{in}^3$ )	$400 \text{ mm}^2$ (15.74 in <sup>2</sup> )	$400 \mathrm{mm}^2$ (15.74 in <sup>2</sup> )	400 mm <sup>2</sup> (15.74 in <sup>2</sup> )	300 mm <sup>2</sup> (11.81 in <sup>2</sup> )	400 mm <sup>2</sup> or 3× 240 mm <sup>2</sup> (15.74 in <sup>2</sup> or 3× 9.44 in <sup>2</sup> )	400 mm <sup>2</sup> or 3× 240 mm <sup>2</sup> (15.74 in <sup>2</sup> or 3× 9.44 in <sup>2</sup> )		$400 \text{ mm}^2$ (15.74 in <sup>2</sup> )	
Current range AC	0 to 400.0 A	0 to 40.00 A/ 400.0 A	0 to 200.0 A	0 to 600.0 A (2500 A with iFlex <sup>™</sup> )	0 to 600.0 A (2500 A with iFlex <sup>TM</sup> )	0 to 999.9 A (2500 A with iFlex <sup>™I</sup> )	0 to 999.9 A (2500 A with iFlex <sup>™I</sup> )	0 to 999.9 A (2500 A with iFlex™)	0 to 999.9 A (2500 A with iFlex <sup>™</sup> )	0 to 999.9 A (2500 A with iFlex <sup>TM</sup> )	0 to 600.0 A	0 to 1400 A	0 to 1400 A	0 to 60 A	0 to 400 A	0 to 2500 A
Accuracy AC current (50/60 Hz)	$2\% \pm 5$ counts		2% ±5 counts 2% ±5 counts	$2\% \pm 5 \text{ counts}$	2% ±5 counts	$2\% \pm 5 \text{ counts}$	2% ±5 counts	$2\% \pm 5 \text{ counts}$	2% ±5 counts	2% ±5 counts	2% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	$1\% \pm 5$ counts	2% ±5 counts	$3\% \pm 5$ counts
AC Response	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS
Current range DC		0 to 40.00 A/ 400.0 A	0 to 200 A	0 to 600.0 A	0 to 600.0 A	0 to 999.9 A	0 to 999.9 A	0 to 999.9 A	0 to 999.9 A	0 to 999.9 A	0 to 200 μA	0 to 2000 A	0 to 2000 A			
Accuracy DC current		2% ±5 counts	2% ±5 counts	2% ±5 counts 2% ±5 counts 2% ±5 counts	2% ±5 counts	2% ±5 counts	2% ±5 counts 2% ±5 counts	$2\% \pm 5$ counts	2% ±5 counts	2% ±5 counts	1% ±5 counts	1% ±5 counts 1.5% ±5 counts	1.5% ±5 counts			
Voltage range AC	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V 0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 600.0 V		0 to 600.0 V			
Accuracy AC voltage	1.5% ±5 counts	1.5% ±5 counts	2% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1% ±5 counts		1% ±5 counts			
Voltage range DC	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1500 V	0 to 600.0 V		0 to 1000 V			
Accuracy DC voltage	1.0% ±5 counts	1.0% ±5 counts	2% ±5 counts	$2\% \pm 5 \text{ counts}$ 1% $\pm 5 \text{ counts}$	1% ±5 counts	1% ±5 counts	1% ±5 counts 1% ±5 counts	1% ±5 counts	1% ±5 counts	1% ±5 counts	1% ±5 counts		1% ±5 counts			
Resistance range	0 to 4000 Ω	0 to 40 kΩ	0 to 6000 $\Omega$	0 to 6000 $\Omega$	0 to 6000 Ω	0 to 60 kΩ	0 to 60 kΩ	0 to 60 k0	0 to 60 kΩ	0 to 60 kU	0 to 9999 Ω		0 to 400 kΩ			
Frequency range		5 to 500 Hz			500 Hz	500 Hz	500 Hz	500 Hz	500 Hz	500 Hz		5 to 1000 Hz	5 to 1000 Hz	40 to 1000 Hz		
Warranty and Safety																
Warranty (years)	2	2	e	ო	ო	ო	ю	ო	e	e	e	ო	e	1	e	e
Safety Compliance (IEC 61010-2-032)	CAT IV 300 V, CAT II 600 V	CAT IV 300 V, CAT II 600 V	CAT III 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1500 V, CAT IV 600 V	CAT III 600 V	CAT III 1000 V, CAT IV 600 V	CAT II 1000 V, CAT IV 600 V	CAT III 600 V	CAT III 600 V CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V
Fluke Connect <sup>ax</sup>																
Fluke Connect <sup>™</sup> App compatible				•	•	•	•	•		•	•			•	•	•

**Clamp Meters** 



#### NEW Fluke 393 FC Solar Clamp Meter CAT III 1500 V



#### The World's First CAT III **1500 V Solar Clamp Meter**

The Fluke 393 FC CAT III 1500 V/CAT IV 600 V True-RMS Clamp Meter with iFlex is designed for technicians who work in DC environments up to 1500 V: solar arrays, wind power, electric railways,

and data center battery banks for uninterruptible power supplies. The Fluke 393 FC meets the IEC 61730-1 standard for overvoltage category III photo-voltaic panels and extends the safe measurement range up to 1500 V DC.

Make DC power measurements quickly and accurately with a tool that does it all: V, A and Power (kVA). Ensure PV panels are properly installed with the help of an audio beep to indicate incorrect polarity. Visual Continuity makes continuity testing easier in low-light situations.

- Safe and accurate voltage measurement up to 1500 V DC
- Thin jaw for access to cables in crowded combiner boxes
- IP54 rating for dust and water making it ideal for working outdoors on solar arrays and wind power systems
- DC power measurement, showing readings in kVA
- Audio and Visual Polarity to ensure photovoltaic panels are properly installed
- Visual Continuity that provides a bright green indicator light in the display for working in dark and noisy environments
- Seamless logging, sharing and reporting of test results via Fluke Connect software
- Three-year warranty

Features	Range	Accuracy		
DC power	600.0 kVA 1500 kVA	2% + 2.0 kVA 2% + 20 kVA		
Current AC (clamp jaw)	999.9 A	±(2% + 5 digits)		
Current AC (iFlex™)	2500 A	±(3% + 5 digits)		
Current DC	999.9 A	±(2% + 5 digits)		
Voltage AC	1000 V	±(1% + 5 digits)		
Voltage DC	1500 V	±(1% + 5 digits)		
mV DC	500.0 mV	±(1% + 5 digits)		
Capacitance	0 to 1000 μF	±(1% + 5 digits)		
Resistance / Continuity	60 kΩ	±(1% + 5 digits)		
Jaw opening	34 mm	34 mm (1.33 in)		
Visual Continuity	Ye	Yes		
Audio Polarity	Ye	Yes		
Logging (device / phone)	Yes	Yes / Yes		
Low Pass	Ye	Yes		
Display	Dual	Dual line		
Safety Compliance (device)	IEC 61010-2-032: CAT III 1500 V / CAT IV 600 V			
Safety Compliance (test leads)	IEC 61010-031: CAT III 1	IEC 61010-031: CAT III 1500 V insulated test leads		



**Clamp Meters** 

Work in the **Solar Industry?** Visit the link to learn how Fluke tools can help with the future of power.



fluke.com/sea.solar

FLUKE-393 FC CAT III 1500 V True-RMS AC/DC Clamp Meter with iFlex<sup>™</sup>

PVLEAD1

MC4 to 4 mm Test Lead Set

C37XT

EVA Foam Hard Case

Google Play

**Recommended Accessories** 

14

TL1500DC

Test Lead Set 1500 V

**PVLEAD3** 

MC4 Solar Power

Clamp Set

Pack30

Professional Tool

Backpack

**Get the FREE Fluke** Connect<sup>™</sup> App!

App Store

By using the Fluke Connect<sup>™</sup> App. you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.

Contact your local distributor for price and availability. fluke.com/findus

**Included Accessories** 

**Ordering Information** 

CAT III 1500 V rated test leads, 18-inch

iFlex<sup>™</sup> Flexible Current Probe, ToolPak Magnetic Meter Hanger, premium

carrying case, two AA batteries.

### Fluke 377 FC and 378 FC Clamp Meters with FieldSense<sup>m</sup>



Fluke 378 FC

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Fluke 377 FC

with FieldSense<sup>™</sup> Technology The new Fluke 377 FC and 378 FC are the first industrial clamp meters that use FieldSense™ technology to make accurate non-contact voltage measurements, thereby enhancing safety and improving productivity. Get a full set of phaseto-phase voltage and current measurements along with auto-calculation of phase rotation by clamping the jaw over each of the three-phase conductors. The Fluke 378 FC includes the unique power quality indicator that automatically senses power quality issues related to current, voltage and power factor, enabling you to guickly determine if the fault is upstream or downstream.

- · Safe and accurate voltage measurement without metallic contact
- View both voltage and current measurements simultaneously on dual display • Complete three-phase measurements 50%
- faster than other industrial clamp meters • Phase rotation information is auto calculated (in Fluke Connect<sup>™</sup> App)
- Screen equipment for power quality problems with PQ Indicator (Fluke 378 FC only)
- Easy logging, seamless data transfer and reporting with Fluke Connect<sup>™</sup>
- Three-year warranty

Features	Range	377 FC	378 FC
Current AC	999.9 A	±(2% + 5 dig	gits)
(clamp jaw/iFlex™)	2500 A	±(3% + 5 dig	gits)
Current DC	999.9 A	±(2% + 5 dig	gits)
Voltage AC (FieldSense™)	1000 V	±(3% + 5 digits) (≤ ±(5% + 5 digits) (≥	
Voltage AC (Test Leads)	1000 V	±(1% + 5 dig	gits)
Voltage DC	1000 V	±(1% + 5 dig	gits)
Capacitance	1000 μF	±(1% + 4 dig	gits)
Resistance/Continuity		60 kΩ / Ye	S
Jaw opening		34 mm (1.33	in)
Three-phase calculations		Yes	
Power Quality indicator		No	Yes
Phase Rotation		Yes	
Visual Continuity		Yes	
Data Logging		Yes	
Low pass filter (for VFD)		Yes	
Safety Compliance		IEC 61010-2-032: CAT III 10	00 V / CAT IV 600





#### Voltage and Current Measurements



**Recommended Accessories** 

#### **Included Accessories**

Test Leads, TwistGuard<sup>™</sup> Test Probes, black grounding clip, 18-inch iFlex™ Flexible Current Probe, ToolPak Magnetic Meter Hanger, premium carrying case, two AA batteries and quick reference guide.

#### **Ordering Information**

FLUKE-377 FC Non-Contact Voltage True-RMS AC/DC Clamp Meter

FLUKE-378 FC

Non-Contact Voltage True-RMS AC/DC Clamp Meter

Contact your local distributor for price and availability. fluke.com/findus



Clamp Meters

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Be ready for anything

of wireless test tools and

The Fluke 370 Series of True-RMS Clamp Meters

meet even the most demanding job requirements.

All four of the clamp meters have improved base

RMS standard, CAT IV safety rating and a durably

constructed body. In addition, the 376 FC, 375 FC

and 374 FC are part of the Fluke Connect<sup>™</sup> family

features such as a large, backlit display, true-

provides a range of state-of-the-art features to

Fluke 374 FC

Functions	Range	374 FC	375 FC	376 FC
Current AC Accuracy	0 to 600.0 A	±(2% + 5 digits)	±(2% + 5 digits)	-
Current AC Accuracy	0 to 999.9 A	-	-	±(2% + 5 digits)
Current AC Accuracy (iFlex™)	0 to 2500 A	±(3% + 5 digits)	±(3% + 5 digits)	±(3% + 5 digits)
Current DC	0 to 600.0 A	±(2% + 5 digits)	±(2% + 5 digits)	-
Current DC	0 to 999.9 A	-	-	±(2% + 5 digits)
Voltage AC	0 to 600.0 V	-	-	-
vollage AC	0 to 1000 V	±(1% + 5 digits)	±(1% + 5 digits)	1±(% + 5 digits)
Voltage DC	0 to 600.0 V	-	-	-
voltage DC	0 to 1000 V	±(1% + 5 digits)	±(1% + 5 digits)	±(1% + 5 digits)
Resistance range	-	0 to 6000 Ω	0 to 6000 Ω	0 to 60 kΩ
Jaw opening	-	34 mm (1.33 in)	34 mm(1.33 in)	34 mm(1.33 in)
Max. wire size	-	750 MCM	750 MCM	750 MCM
Frequency measurement range	-	-	500 Hz	500 Hz
Safety Compliance (61010-2-032)	-	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V

#### Fluke iFlex<sup>™</sup> Flexible Current Probe

#### **Unprecedented measurement flexibility**



The iFlex<sup>™</sup> Flexible Current Probe expands the measurement range of select Fluke Clamp Meters to 2500 A AC while providing increased display flexibility, improved wire access and the ability to measure awkward-sized conductors. Available in 18-inch and 10-inch coil sizes.

- Compatible with Fluke 374 FC, 375 FC, 376 FC and 381
- CAT IV 600 V, CAT III 1000 V
- 7.5 mm (0.29 in) coil diameter allows measurement in tight spaces
- 1.8 m (5.9 ft) cable • Three-year warranty
- Visit fluke.co/clamps for additional specifications.

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

**TL224** 

SureGrip™ Silicone

Insulated Test Leads

AC285

SureGrip<sup>™</sup>

Alligator Clips

C37XT

Î

EVA Foam Hard Case

**Recommended Accessories** 

**TL223** 

SureGrip<sup>™</sup> Electrical Test Lead Set

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TL175

TwistGuard<sup>1</sup>

Test Leads

i2500-18

18 inch iFlex<sup>™</sup> Flexible Current Probe

Fluke Connect<sup>™</sup>

of wireless test tools.

The Fluke 376 , 375 FC, and 374 FC

are part of the Fluke Connect<sup>™</sup> family

• Trend measurements, pinpoint intermittent faults and transmit results wirelessly by connecting your meter to your phone via the Fluke Connect<sup>™</sup> mobile app • Create and send reports right from

• Stay safely away from the arc flash zone through Bluetooth

18-inch iFlex<sup>™</sup> Flexible Current Probe (Fluke 376 FC only), Test Leads, Soft Carrying Case, Instruction Card, Safety Information Sheet, two AA Alkaline

Enabled

the field

connectivity

Included Accessories

**Ordering Information** 

FLUKE 374 FC True-RMS Clamp

FLUKE 375 FC True-RMS Clamp

FLUKE 376 FC True-RMS Clamp

meter

meter

meter

Calibration & Service Agreement units also

Flexible Current Probe

Flexible Current Probe

25 cm (9.84 in)

46 cm (18.11 in)

Batteries.

i2500-10

i2500-18

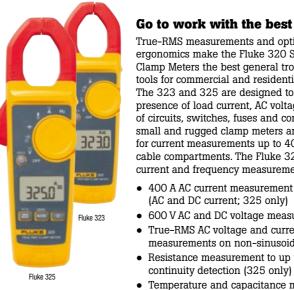
iFlex™

iFlex™

available.



#### Fluke 320 Series True-RMS Clamp Meters





(325 only) • Frequency measurement (325 only) • Slim, ergonomic design · Large, easy to read backlit display (325 only)

- CAT IV 300 V/CAT III 600 V safety rating
- Hold button
- Two-year warranty

	<b>Residential/Commercial Electrical</b>
	323
Measurements	
AC current	•
AC voltage	•
Resistance	•
Continuity	•
DC voltage	•
DC current	-
True-RMS	•
Frequency	-
Min/Max/Avg	-
Temperature	-
Capacitance	-
Display	
Display hold	•
Backlight	-
Specifications	
Jaw opening	30 mm (1.18 in)
Max wire size	600 MCM
Current range AC RMS	0 to 400.0 A
Accuracy AC current (50/60 Hz)	±(2.0% + 5 digits)
AC response	True-RMS
Current range DC	-
Accuracy DC current	-
Voltage range AC	0 to 600.0 V
Accuracy AC voltage	±(1.5% + 5 digits)
Voltage range DC	±600 V
Accuracy DC voltage	±(1% + 5 digits)
Resistance range	0 to 4000 Ω
Frequency measurement range	-

Contact your local distributor for price and availability. fluke.com/findus

**Clamp Meters** 

True-RMS measurements and optimized ergonomics make the Fluke 320 Series True-RMS Clamp Meters the best general troubleshooting tools for commercial and residential electricians. The 323 and 325 are designed to verify the presence of load current, AC voltage and continuity of circuits, switches, fuses and contacts. These small and rugged clamp meters are ideally suited for current measurements up to 400 A in tight cable compartments. The Fluke 325 also offers DC current and frequency measurements.

(AC and DC current; 325 only)

 600 V AC and DC voltage measurement • True-RMS AC voltage and current for accurate measurements on non-sinusoidal signals • Resistance measurement to up to  $40 \text{ k}\Omega$  with continuity detection (325 only) • Temperature and capacitance measurement

Light Industrial
325
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±(2.0% + 5 digits)

0 to 400 A ±(2.0% + 5 digits)

> 0 to 40  $k\Omega$ 500 Hz











**Clamp Meters** 



#### **Included Accessories**

Test Leads, Soft Case, User Manual.

**Ordering Information** 

FLUKE 323

FLUKE 325

True-RMS Clamp Meter True-RMS Clamp Meter



#### Fluke 350 Series AC/DC True-RMS Clamp Meters



### TP38 Insulated Test Probe $\cap$ 80PK-8 Туре К Ріре TLK-225 SureGrip<sup>™</sup> Master Accessory Set TL223-1 Test Lead Set C1600 Gear Tool Box

#### readings. The iFlex<sup>™</sup> Flexible Current Probe (included) disorganized wires. • Remote display reads measurements up to Fluke 381 9.1 m (29.85 ft) away

Fluke 381 Remote Display True-RMS

clamp meter

AC/DC Clamp Meter with iFlex™

- iFlex<sup>™</sup> Flexible Current Probe included,18 inch circumference
- 2500 A AC current measurement with iFlex<sup>™</sup> • 999.9 A AC and DC current measurement with fixed jaw
- 1000 V AC and DC voltage measurement
- Frequency measurement to 500 Hz
- 60 kΩ resistance measurement
- Min/Max/Avg and inrush recording
- Three-year warranty

#### Fluke 365 Detachable Jaw **True-RMS AC/DC Clamp Meter**

2005

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592

Fluke 365

#### Where rugged meets reliable

The Fluke 365 True-RMS AC/DC Clamp Meter offers a small, detachable jaw with 1.2 meters of cable that makes it easy to take and read measurements in tight or hard-to-reach places.

- 200 A AC and DC current measurement with detachable jaw
- 600 VAC and DC voltage measurement
- Detachable jaw makes accessing wires and viewing the display easier
- Built in flashlight allows for easy illumination and identification of wires • IEC 61010-2-032: CAT III 600 V
- Compact design fits in your hand and can be
- used while wearing protective equipment • State-of-the-art signal processing allows for use
- in noisy electrical environments while providing stable readings • Large, easy to read, backlight display
- automatically sets the correct measurement range so you do not need to change switch positions while taking a measurement
- Three-year warranty

#### Contact your local distributor for price and availability. fluke.com/findus

FLUKE 355

True RMS AC/DC

True RMS AC/DC

Clamp Meter

**Clamp Meter** 

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FLUKE ®

**Clamp Meters** 

#### The World's most advanced

The Fluke 381 True-RMS AC/DC Clamp Meter combines iFlex<sup>™</sup> flexibility with remote reading capability for the ultimate in innovation and safety. Now one technician can do jobs that would otherwise require two people. Clamp the Fluke 381 around a conductor, remove the display and walk across the room to operate controls or remove protective equipment, all while watching real-time

expands the measurement range to 2500 A AC while providing increased display flexibility. With a cord that runs 6 feet, you can finally measure those tight spaces, awkward sized conductors and

• IEC 61010-2-032: CAT IV 600 V, CAT III 1000 V



**Recommended Accessories** 









i2500-10 10 inch iFlex<sup>™</sup> Flexible Current Probe

#### Fluke 365



FTPL-1 SureGrip™ Fused Test Probe and Lead Set



TL220 SureGrip™ Industrial Test Lead Set



SureGrip<sup>™</sup> Alligato





Fuse Test Probe Se



EVA Foam Hard Case



Premium Test Lead Set



SureGrip<sup>™</sup> Silicone Insulated Test Leads



#### **Included Accessories**

18-inch iFlex<sup>™</sup> Flexible Current Probe (Fluke 381 only), Test Leads, Soft Carrying Case, Instruction Card, Safety Information Sheet, Two AA Alkaline **Batteries** 

#### **Ordering Information**

FLUKE 381	
FLUKE 365	

Remote Display True-RMS AC/DC Clamp Meter with iFlex™

Detachable Jaw True-RMS AC/DC **Clamp Meter** 

Sec. in

#### Fluke 902 FC True-RMS HVAC Clamp Meter



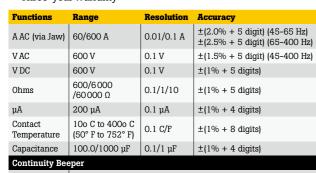
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#### **Improve productivity in the field** The Fluke 902 FC delivers the features necessary to diagnose and

repair HVAC systems. In addition, with Fluke Connect<sup>™</sup> you can trend measurements, create and send reports right from the field, and safely stay away from live equipment.

#### **Applications for HVAC**

- 200 µA DC current measurements to measure flame rod
- Extended resistance range to measure thermistors up to 60  $\mbox{k}\Omega$
- Capture flue gas temperature
- Measure start and run motor capacitors
- Measure performance of variable frequency drives
- Temperature measurement from -10° C to 400° C (14° F to 752° F)
- 1000 µF capacitance measurement
- IEC 61010-2-032: CAT III 600 V, CAT IV 300 V
- Three-year warranty



Beep Volume 75 dBA nom. 15 cm from case front On Threshold  $\leq = 30 \Omega$ 

#### Fluke 368 FC/369 FC AC True-RMS Leakage Current Clamp Meters



#### Measure leakage current to track small problems, avoid large problems

The Fluke 360 Series of True-RMS Leakage Current Clamp Meters help users detect, document, record and compare leakage current readings over time to prevent unplanned downtime, and identify intermittent GFCI and RCD trips, without taking equipment offline.

- True-RMS measurements for accuracy when measuring complex, non-sinusoidal waveforms
- Jaw size: 40 mm (1.57 in) (368 FC) and 61 mm (2.4 in) (369 FC)
- Current resolution 1  $\mu\text{A}/0.01$  mA and 0.01 A/0.1 A
- Frequency range 40 Hz to 1 kHz
- Selectable filter 40 Hz to 70 Hz or wideband 40 Hz to 1 kHz
- Highest resolution of 1  $\mu\text{A}$  measure up to 60 A
- Forward-facing LED worklight for use in dark wiring cabinetsBacklit display; auto backlight off and auto power off for
- extended battery life. • Wireless data connectivity via Fluke Connect™
- CAT III 600 V safety rating
- Three-year warranty

### Specifications Measurement Function Alternating current AC Amore Parts 2 mA 20 mA 200

C Ampere Range	3 mA, 30 mA, 300 mA, 3 A, 30 A, 60 A
ange Selection	mA, A: manual selection 3 mA, 30 mA, 300 mA: automatic selection 3 A, 30 A, 60 A: automatic selection
requency	40 Hz to 1 kHz
rest Factor	Three

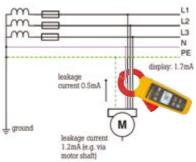
Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.





Meter Cas

Magnetic Meter Hanger



#### **Included Accessories**

Fluke 902 FC: TL75 Test leads, 80BK Integrated DMM Temperature Probe, Two AA Alkaline Batteries, Soft Carrying Case, Statement of Calibration Practices and User Manual.

Fluke 368 FC/369 FC: Soft Case, Two AA Batteries, Safety Manual.

#### **Ordering Information**

FLUKE 902 FC	HVAC Clamp Meter
FLUKE 368 FC	AC Leakage Current Clamp Meter
FLUKE 369 FC	AC Leakage Current Clamp Meter

Contact your local distributor for price and availability. fluke.com/findus



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## Battery Analyzers

Fluke Battery Analyzers are the ideal test tool for maintaining, troubleshooting and performance testing individual stationary batteries and battery banks used in critical battery back-up applications in data centers, telecom networks, power distribution systems and more. With an intuitive user interface, a compact design, and rugged construction Fluke Battery Analyzers are designed to provide optimum performance and reliability.

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FLUKE ®

#### Fluke BT500 Series Battery Analyzers



More battery tests. Less time.

Fluke's BT500 Series Battery Analyzers cover a broad range of battery test functions ranging from DC voltage and resistance tests to full condition testing using an automated string function testing and the test probe integrated infrared temperature measurement system. 500 Series Battery Analyzers are designed for measurements on stationary batteries of all types.

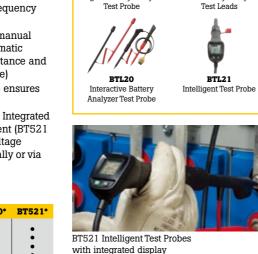
- The world's fastest battery measurements reduce time of a typical battery measurement by 50% from 8 seconds to 4 seconds
- Unique Industry leading CAT III 600 V safety rating
- Key measurements: Battery resistance, DC and AC voltage, DC and AC current, ripple voltage, frequency and battery temp
- Sequence measurement mode: Automatic or manual sequence testing of battery strings with automatic measurement storage including voltage, resistance and temperature (with BTL21 intelligent test probe)
- Optimized user interface: Quick, guided setup ensures you're capturing the right data every time.
- Intelligent test probe set (BT520 and BT521): Integrated LCD display, infrared temperature measurement (BT521 only), verbal audio feedback and captures voltage readings and temperature logging automatically or via integrated save button
- Three-year warranty

Functions	Range	Resolution	Accuracy	BT510	BT520*	BT521*
Battery resistance <sup>1</sup>	3 mΩ 30 mΩ 300 mΩ 3000 mΩ	0.001 mΩ 0.01 mΩ 0.1 mΩ 1 mΩ	1% + 8 0.8% + 6 0.8% + 6 0.8% + 6	•	•	•
V DC	6 V 60 V 600 V 1000 V	0.001 V 0.01 V 0.1 V 1 V	0.09% + 5 0.09% + 5 0.09% + 5 0.09% + 5	• • -	•	•
V AC (45 Hz to 500 Hz with 800 Hz filter)	600 V	0.1 V	2% + 10	•	•	•
Frequency (displayed with Vac and Aac) <sup>2</sup>	500 Hz	0.1 Hz	0.5% + 8	•	•	•
AC voltage ripple (20 KHz Max)	600 mV 6000 mV	0.1 mV 1 mV	3% + 20 3% + 10	:	:	:
A DC/A AC (with accessory Fluke i410)	400 A	1 A	3.5% + 2	-	-	•
Temperature	0° C to 60° C (32° F to 140° F)	1° C	2° C	-	-	•
Meter mode	999 records for each measurement position with time stamp					
Sequence mode	Up to 100 profiles and 100 profile templates (Each profile stores up to 450 batteries) with time stamp					

\*BT520ANG and BT521ANG for angled probe models

Specifications	
Size (HxWxD) and Weight	220 × 103 × 58 mm (8.66 × 4.05 × 2.28 in), 850 g (1.87 lb)
Screen dimensions	77 × 56 mm (3.03 × 2.2 in)
Interface	USB mini
Operating temperature	0° C to 40° C (32° F to 104° F)
Lithium-ion battery charging temperature	0° C to 40° C (32° F to 104° F)
Operating humidity	Non-condensing (10° C), ≤80% RH (at 10° C to 30° C (50° F to 86° F)), ≤75% RH (at 30° C to 40° C (86° F to 104° F))
Ingress Protection (IEC 60529)	IP40
Radio	FCC ID: T68-FWCS, IC: 6627A-FWCS
Vibration requirements	MIL-PRF-28800F: Class 2
Drop test requirements	1 m
Temperature coefficients	Add 0.1 $\times$ specified accuracy for each degree C above 28° C (82° F) or below 18° C (64° F)
Safety compliance (IEC 61010-2-032)	CAT III 600 V

1 The measurement is based on AC injection method. The injected source signal is <100 mA, 1 kHz, 2 Trigger level V AC: 10 mV, A AC: 10 A



**Recommended Accessories** 

BP500

Lithium-ion Battery

3000mAh

BTL520ANG

Angled Battery Analyze

i410

AC/DC Current Clamp

BTL10

Basic Battery Analyze

#### Included Accessories

4-Wire Test Pin (set), BTL10 Basic Test Lead (set), TL175 TwistGuard<sup>™</sup> Test Leads with Adapter, L300 Attachable LED Flashlight (2) (BT520 and BT521 only), BTL20 Intelligent Test Probe Set with Extender (no Temperature Sensor)(BT520 only), BTL21 Intelligent Test Probe Set with Extender and Temperature Sensor (BT521 only), i410 AC/DC Current Clamp (BT521 only), BP500 Lithium-ion Battery, BC500 AC Charger, Mini-USB Cable, Shoulder Strap, Belt Strap, Magnetic Hanging Strap, FlukeView<sup>™</sup> Battery Management Software, Soft Carrying Case, Spare Fuses (2), Battery Tags (BT520 and BT521 only).

Ordering Information			
FLK-BT510	Basic Battery Analyzer		
FLK-BT520	Battery Analyzer		
FLK-BT521	Advanced Battery Analyzer		
FLK-BT520 ANG	Battery Analyzer with Angled Probes		
FLK-BT521 ANG	Battery Analyzer with Angled Probes		

Contact your local distributor for price and availability. fluke.com/findus



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#### The expert's choice for building diagnostics

These electrical testers have all the advantages of traditional solenoid testers, with none of the typical drawbacks. Use all 3 voltage detection methods light, sound, and vibration, to work more efficiently in noisy environments, dimly lit areas, or tight spaces. Built-in flashlight, GFCI trip capability, and the legendary ruggedness you expect from Fluke, make these an excellent choice for most residential, commercial, and industrial applications.

The Fluke T+PRO is the choice for the demanding commercial and industrial electrician. This full-featured electrical tester includes voltage and continuity measurement, a Rotary Field Indicator, resistance, and a digital display with 0.1 V resolution.

The Fluke T+ is the basic electrical tester for residential electricians and HVAC technicians, who need a durable, reliable tool for testing voltage and continuity.

Specifications			
Temperature	Operating	-10°C to 55°C (14°F to 131°F)	
	Storage	-30°C to 60°C (-22°F to 140°F)	
	90%	0°C to 30°C (32°F to 86°F)	
Relative Humidity	75%	30°C to 40°C (86°F to 104°F)	
	45%	40°C to 50°C (104°F to 122°F)	
Altitude	Operating	2,000 m (approx. 6,561.6 ft)	
Storage	10,000 m (approx	x. 32,808.4 ft)	
Battery Type/Life	AAA (2); 40	) hours	
Shock, Vibration	Sinusoidal vibration per MIL-PRF-2	8800F for a Class 2 instrument	
Safety	ISA-82.02.01 (IEC 61010-1 Mod) Second Edition, CAN/CSA-C22.2 No. 61010-1 Second Edition, IEC 61010 - 1 to 1000 V CAT III/600 V CAT IV Compliance to NFPA 70E1		
AC Bandwidth	45 Hz to	66 Hz	
Maximum Working Voltage	1000 V A	C/DC	
Maximum Measurable Voltage	600 V AC/DC		
Duty Cycle	Indefinitely for voltages up to 240 V For voltages between 240 V and 600 V the duty cycle is 30 s on / 300 s off For voltages above 240 V the tester must connect to a voltage source only for a MAXIMUM of 30 s and then disconnect for a MINIMUM of 300 s		
Voltage Hazard LED	LEDs turn on at voltages > 30 V AC/DC $\pm$ 35%		
LED Voltage Indication Levels	12 V, 24 V, 48 V, 120 V, 208 V, 240 V, 277 V, 480 V, 600 V		
LEDs	LEDs turn on between 90% and 100% of the indicated voltage on the LED, except for the $12$ V LED which turns on between 50% and 100%		
LCD Accuracy	AC voltage	$\pm$ (3% rdg + 2 digits)	
	DC voltage	$\pm$ (2% rdg + 2 digits)	
	Resistance	±(5% rdg + 3 digits)	
LCD Resolution	0.1 V for voltages < 50 V, 1 V for voltages ≥ 50 V 0.01 kΩ for resistance measurement		
GFCI Test Current	100 V - 150 V @ 6 mA - 9 mA AC, 150 V - 240 V < 12 mA		
Standard Input Test Current	< 5 m	ıA	
Size (H x W x L)	3.3 x 5.46 x 19.3 cm (1.3 x 2.15 x 7.6 in)		
Weight	0.28 kg (9.9 oz)		
1 When used properly per Article 110.9 Use of Equipment (A) Test Instruments and Equipment.			

**Recommended Accessories** TP2 AC285 SureGrip<sup>™</sup> Alligato Slim Reach Clips Test Probes C37XT CIIXT EVA Foam Hard Case EVA Foam Hard Case

#### Added functionality available only on the T+PRO:

- Backlit LCD display for easier viewing • Display resolution of 0.1 V, ideal for
- troubleshooting low-voltage lighting
- Resistance (Ohms) to 9.99 kOhms
- Rotary Field Indication
- Display Hold for easier viewing in hard-to-test areas



#### **Included Accessories** Test leads and probes

Two AAA batteries Test lead strap for managing leads

#### **Optional Accessories**

H3 Belt Holster TP2 replacement test probes

#### **Ordering Information**

FLUKE T+PRO	Electrical Tester
FLUKE T+	Electrical Tester
FLUKE	Electrical Tester
T+PRO-1AC KIT	and AC Voltage
	Detector Kit

Contact your local distributor for price and availability. fluke.com/findus



#### Measure voltage without test leads

Measure voltage up to 1000 VAC through the open fork, without test lead contact to live voltage.+ Without opening covers or removing wire nuts; on wires up to 4/0 (120 mm2), carrying as much as 200 A. It will change your job.

- FieldSense<sup>™</sup> technology for AC voltage, current and frequency measurement without making electrical contact to live voltage+
- Simultaneous voltage and current display (T6-1000 & T6-1000 PRO) - shows all power supply measurements at a glance for efficient troubleshooting
- T6-1000 PRO features Visual Continuity<sup>™</sup> the screen automatically lights up green for continuity, perfect when it's too loud to hear the beeper
- Works with wire up to AWG 4/0 (17.8 mm jaw opening)
- HOLD button temporarily freezes the reading for easy viewing
- Easy to read display with backlight
- Accepts optional Fluke TPAK Magnetic Meter Hanger for convenient operation
- Two-year warranty

+Voltage measurement requires capacitive path to ground, provided through user in most applications. Ground connection via test lead may be required in some situations.

#### **The Full Package**

The Fluke T6-1000 PRO Electrical Tester comes with a belt holster and black alligator clip as standard. Measure wires up to AWG 4/0 (120 mm2), carrying as much as 200 A and 1000 V AC, even with gloves on.

Specifications		T6-600	T6-1000/ T6-1000 PRO	
Function	Requires Test Leads	Range	Range	Resolution
FieldSense™ AC voltage	No	600 V	1000 V	1 V
FieldSense™ AC current	No	200.0 A	200.0 A	0.1 A
FieldSense <sup>™</sup> frequency (Hz)	No		45 Hz – 66 Hz	1 Hz
Volts AC	Yes	600 V	1000 V	1 V
Volts DC	Yes	600 V	1000 V	1 V
	Yes	2000 Ω	2000 Ω	1Ω
Resistance	Yes		20.00 kΩ	0.01 kΩ
	Yes		100.0 kΩ	0.1 kΩ
Visual Continuity:		No	T6-1000: No T6-1000 PRO: Yes	
Audible Continuity:		Yes	Yes	
Safety Compliance (IEC 61010-2-032)		CAT III 600 V	CAT III 1000 V CAT IV 600 V	
Accessories Included		No	T6-1000: No T6-1000 PRO: Yes	

Accuracy1:  $\pm (\% \text{ of reading}) + [number of least significant digits]$ ). Accuracy is specified for 1 year after calibration, at 18° C to 28° C (64°F to 82°F) with relative humidity to 90%. AC conversions are ac-coupled, RMS responding. Accuracy[2: Add 3% without an external ground connection. External ground connection required for user wearing insulated gloves, standing on an insulated ladder and otherwise insulated from earth ground. Accuracy[3: FieldSense™ specified from 16V to 100% of range.

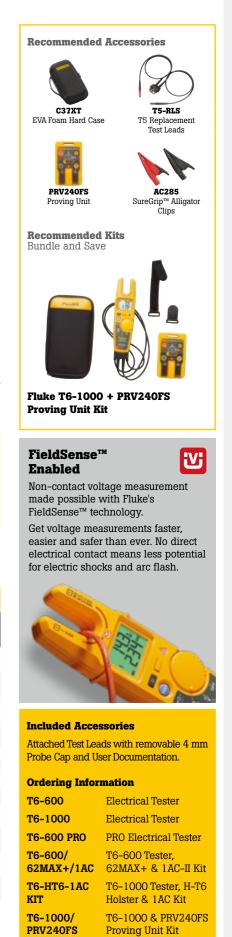


**Electrical Testers** 





±(3% + 3 counts) <sup>23</sup> 45 Hz - 66 Hz
±(3% + 3 counts) 45 Hz - 66 Hz
$\pm (1\% + 2 \text{ counts})^3$
±(1.5% + 2 counts) 45 Hz - 66 Hz
±(1% + 2 counts)





#### Fluke T5 Series Electrical Testers

#### Fluke 9040 Phase Rotation Indicator



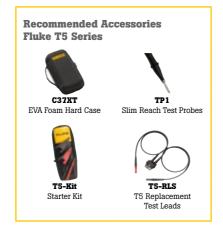
#### Fluke T5 Series Voltage, Continuity and **Current Testers**

The Fluke T5 Electrical Testers let you check voltage, continuity and current with one compact tool. OpenJaw™ current lets you check current up to 100 A AC - without breaking the circuit. Its tough test leads stow neatly in the back of the tester, making it easy to tote the T5 in your tool pouch. Detachable SlimReach™ test probes are customized for national electrical standards. The test leads accept optional accessories such as clips and specialty probes. Available in 600 V and 1000 V models.

- Excellent front-line troubleshooting and measurement tool
- Available in 600 V and 1000 V models
- Digital display
- OpenJaw<sup>™</sup> current measurement
- Rotary switch selects volts, amps and ohms functions
- · Heavy-duty test leads
- Two-year warranty

Functions	T5-1000	T5-600
Measure AC/DC voltage	1000 V	600 V
Measure AC current (average)	100 A	100 A
Measure continuity	< 25 Ω	< 25 Ω
Measure resistance	1000 Ω	1000 Ω
DC polarity indicator	Yes	Yes
Detachable probe tips with optional probe tips styles	Yes	Yes
Safety Compliance (IEC 61010-2-032)	CAT III 1000 V	CAT III 600V

\*Voltage levels will vary depending on country of intended use







motor rotation measurements

The Fluke 9040 is effective for measuring phase rotation in all areas where 3-phase supplies are used to feed motors, drives and electrical systems. The Fluke 9040 is a rotary field indicator and can provide clear indication of 3-phase via an LCD display and the phase rotation direction to determine correct connections. It allows rapid determination of phase sequence and has a voltage (up to 700 V) and frequency range suitable for commercial and industrial applications. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets per IEC 61557-7.

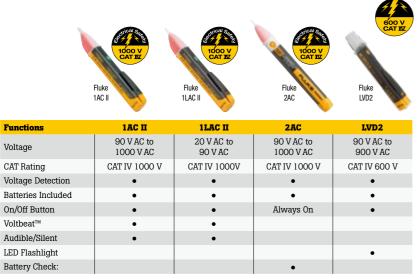
- 3-phase indication
- Indication of phase rotation
- Clear LCD display
- No battery required
- Two year warranty

Specifications	
Voltage range	40 - 700 V
Phase display	-
Frequency range	15 - 400 Hz
Operating time	Continuous
Size	124 × 61 × 27 mm (4.88 × 2.40 × 1.06 in)
Power supply	from unit under test
Weight	0.20 kg (7.05 oz)
Safety Compliance	(IEC 61010-2-030) - CAT IV 300 V, CAT III 600 V

#### Fluke VoltAlert<sup>™</sup> Family

VoltAlert<sup>™</sup> AC non-contact voltage testers from Fluke are easy to use - just place the tip to a terminal strip, outlet, or supply cord. When the tip glows red, you know there's voltage present.

Fluke now offers three models of noncontact voltage detectors, making sure you have the right tool for the job. Two-year warranty.



#### Included Accessories Fluke T5-600 & T5-1000: Detachable Probes and Instruction Sheet. **Ordering Information** FLUKE T5-600 Electrical Tester

FLOKE 15-1000	Electrical rester
FLUKE 1AC-II	VoltAlert™ Voltage Detector
FLUKE 1LAC-II	VoltAlert™ Voltage Detector
FLUKE 2AC	VoltAlert™ Voltage Detector
FLUKE LVD2	Volt Light

Contact your local distributor for price and availability. fluke.com/findus

#### Take the guesswork out of phase/







**Electrical Testers** 



**Included Accessories** 

Alligator Clips - Black (3), Standard Test Probes - Black (3), Flexible Test Probes - Black (3), Two AA Batteries, User Manual.

**Ordering Information** 

FLUKE-9040

Phase Rotation Indicator

Contact your local distributor for price and availability. fluke.com/findus



III 600 V



## Laser Levels

PLSHVE

RPM

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From point and line to rotary lasers, Fluke laser levels provide bright, crisp reference points and lines for quick and accurate layout of many jobs.

PLS tools were developed out of necessity by professional contractors with of 50 years of experience in commercial and residential interior and external layouts.

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#### PLS 3x360R and 3x360G Three-plane Laser Levels



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PLS 3x360G

**RAR** 

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#### Lighten your toolbelt - plumb, level and square with one tool

The PLS 3x360R and 3x360G Three-plane Laser Levels combine the best qualities of your favorite PLS gear, now with best-in-class accuracy and new features including a rechargeable battery pack with charging adaptor, and a pendulum lock for added protection during transportation. • Accuracy of 2 mm at 10 meter distance

- Pendulum lock
- Out-of-level warning
- Replaceable glass inserts and metal towers
- IP54 protection rating to limit dust and water entry
- Three-year warranty

#### PLS, The Professional Standard – Built by contractors for contractors

The PLS 3x360R and 3x360G provide bright, crisp reference points and lines for quick and accurate layout. The 3x360R and 3x360G fill the gap in Fluke's legacy products that are now discontinued, including the HVL100, PLS 360 and PLS 480.

Key Features	PLS 3x360R	PLS
Laser Function		
Battery		
Battery	Lithium-ion, 3.	6 V, 5200 mAh
Battery Life, Continuous Use (Typical)	3 beams: $\ge$ 9 hours 1 beam: $\le$ 30 hours	3 bean 1 bean
Line Fan Angle		
Horizontal	36	60°
Front Vertical	36	60°
Side Vertical	36	60°
Working Range		
Without Line Detector	20 m (65.61 ft)	35 m
With Line Detector	50 m (164.04 ft)	65 m
Accuracy		
Accuracy	±2 mm @ 10 m distance (±	±0.07 in @ 32.8 ft
Laser Leveling		
System	Automatic	Pendulum
Range		ling: ≤ 4° eveling: > 6°
Leveling Time	≤ 3 se	econds
<b>General Specifications</b>		
Ingress Protection	IEC 605	29: IP54
Weight (With Battery)	0.8 kg (	1.76 lb)
Li-ion Battery Safety	IEC 6	2133
Laser Safety		
Light Source	Semiconduct	or laser diode
Max Output Power	< 1	mW
Wavelength		
Red	635 nm	±10 nm
Green	520 nm	±10 nm
Electromagnetic Compat	ibility (EMC)	
International	IEC 61	326-1



Laser Levels



#### **Recommended Accessories**





PLS 3x360 CB Ceiling Bracket used with PLS 3x360 MLB





PLS XLD+ Rotary Laser Detector PLS 3x360 MLB

Magnetic L-Bracket w/ Micro and Elevation Adjustment



PLS RRT4/PLS GRT4 Red/Green Reflective Target



PLS RBP Single PK Li-ion battery only



TPOD300 Elevating Tripod



#### **Included Accessories**

PLS 3x360R/PLS 3x360G Bare Tool: **Canvas** Pouch PLS 3x360R/PLS 3x360G Kit: RBP5 (Li-ion), Power Supply, 3x360

Magnetic L-Bracket, Red/Green Reflective Target, Canvas Pouch, Blow Mold Case

#### **Ordering Information**

PLS 3x360R Z Tool PLS 3x360G Z Tool PLS 3x360R Kit

Three-plane Laser Level Red Three-plane Laser

Level Green

Three-plane Laser Level Kit Red

PLS 3x360G Kit Three-plane Laser Level Kit Green

#### PLS H2, HV2R and HV2G Rotary Laser Levels



PLS HV2G



#### **Designed for any construction job site** These professional-grade tools offer the accuracy and durability you can expect from PLS, a Fluke Company. The PLS Rotary range is ideal for use by general

contractors, electricians, plumbers and landscapers in both interior and exterior applications.

#### H2 Rotary Laser Level

The PLS H2 model is a horizontal-only rotary laser that offers a simple one button operation.

- The H2 is a horizontal-only rotary laser. It is easyto-use and fully self-leveling, designed for interior and exterior layout projects.
- This fully automatic unit offers one-button operation and is ideal for large exterior layout applications including concrete forms, slabs, and other horizontal leveling applications.
- Three-year warranty

#### HV2R (Red Laser) and HV2G (Green Laser)

Offering a rugged ergonomic design and simplified controls, the PLS HV2R/G emits a laser line in the horizontal or vertical plane. The HV2R/G rotary lasers also emit a point from the top when placed in the vertical position.

• The HV2G rotary laser level emits a self-leveling horizontal laser plane and can be used in the vertical position to emit a vertical laser plane. Applications include setting foundations and footings, concrete pours, drywall terracing, contour framing and suspended ceiling installation. • Three-year warranty

Specifications	H2	HV2R	HV2G
Laser	Class II Red	Class II Red	Class II Green
Laser axis	Horizontal Only	Horizontal and Vertical	Horizontal and Vertical
Accuracy	≤ 2.2 mm (0.08 in) @ 30 m (98.42 ft)	≤ 2.2 mm (0.08 in) @ 30 m (98.42 ft)	≤ 2.2 mm (0.08 in) @ 30 m (98.42 ft)
Auto-leveling range	±5 degrees	±5 degrees	±5 degrees
Manual slope range	±5 degrees	±5 degrees	±5 degrees
Working range	≤ 30 m (98.42 ft) without XLD laser detector ≤ 300 m (984.25 ft) with XLD laser detector	≤ 30 m (98.42 ft) without XLD laser detector ≤ 300 m (984.25 ft) with XLD laser detector	≤ 30 m (98.42 ft) without XLD laser detector ≤ 300 m (984.25 ft) with XLD laser detector
Ingress Protection (IEC 60529)	IP67	IP67	IP67
Battery Life	> 60 hours	> 60 hours	> 60 hours

PLS XLD TPOD500 Laser Detector Elevating Tripod PLS RBP10 PLS C19 NiMH Rechargeable Rotary Laser Level Batterv Carrying Case **Recommended Kits** Bundle and Save

**Recommended Accessories** 



#### PLS HV2G KIT, Manual Slope Green **Rotary Laser Kit**



PLS HV2R SYS, Manual Slope Red **Rotary Laser System** 

#### **Included Accessories**

PLS BP10 Alkaline Battery Tray, Four D Batteries, Safety Sheet and Quick Reference Guide.

Ordering Information		
PLS H2 Z	Horizontal Red Rotary Laser	
PLS H2 KIT	Horizontal Red Rotary Laser Kit	
PLS H2 SYS	Horizontal Red Rotary Laser System	
PLS HV2R Z PLS HV2G Z	Manual Slope R/O Rotary Laser Bare Tool	
PLS HV2R KIT PLS HV2G KIT	Manual Slope R/0 Rotary Laser Kit	
PLS HV2R SYS PLS HV2G SYS	Manual Slope R/ G Rotary Laser System	

Contact your local distributor for price and availability. fluke.com/findus

#### **PLS Laser Levels**



PLS 3G

PLS 180B

#### Point Laser (3R/G, 5R/G)

The professional self-leveling three-point (3R/G) and five-point (5R/G) laser level, available in red or green laser, allows for fast, accurate layout of reference points. Three-year warranty.

#### Combo Line Laser (6R/G)

Plumb, level, and square with one tool. This professional self-leveling combination point and cross line laser level, available in red or green laser, includes vertical and horizontal modes with lines and points combined.

Three-year warranty.

#### Line Laser (180R/G)

Plumb, level, and square with one tool. This professional self- leveling cross line laser level, available in red or green laser, includes vertical and horizontal modes allowing for fast, accurate, level and plumb reference lines. Three-year warranty.

#### **SLD Laser Line Detector**

Laser line detector compatible with the PLS 6 and PLS 180 laser levels, for use outdoors, or in an area with bright overhead lighting. Visual and audible indicators for ease of use. Includes mounting clamp for quick and steady positioning.

Models	PLS 3R/G KIT	PLS 5R/G KIT	PLS 6R/G KIT
Laser Function	<b>.</b>	•	
Laser type	3-point	5-point	Crossline
Laser colour	Red / Green	Red / Green	Red / Green
Accuracy	< 3 mm @ 10 m (0.11 in @ 32.8 ft)	< 3 mm @ 10 m (0.11 in @ 32.8 ft)	< 3 mm @ 10 m (0.11 in @ 32.8 f
Batteries	(3) AA alkaline	(3) AA alkaline	Rechargeable Battery Pack
Included in box			
Laser level	3R/G Z	5R/G Z	6R/G Z
Canvas pouch	•	•	•
PLSBP5 alkaline pack	•	•	•
FS floor stand	•	•	•
PLSMLB wall bracket	•	•	•
Reflective target	•	•	•
PLSC18 carrying case	•	•	•
UB9 wall/ceiling bracket			
Application guide			
Electrical	•	•	•
HVAC	•	•	•
Framing	•	•	•
Carpentry			•
Foundations			•
Floor and tile			•
Acoustic ceiling			•
Painting			•
Window and glass	•	•	•
Other configuration			
Tools and pouch only	3R/G Z	5R/G Z	6R/G Z
Kit with detector			





180 R/G SYS



Elevating Tripod



PLS RBP Single PK Li-ion battery only



Laser Levels

#### **Included Accessories**

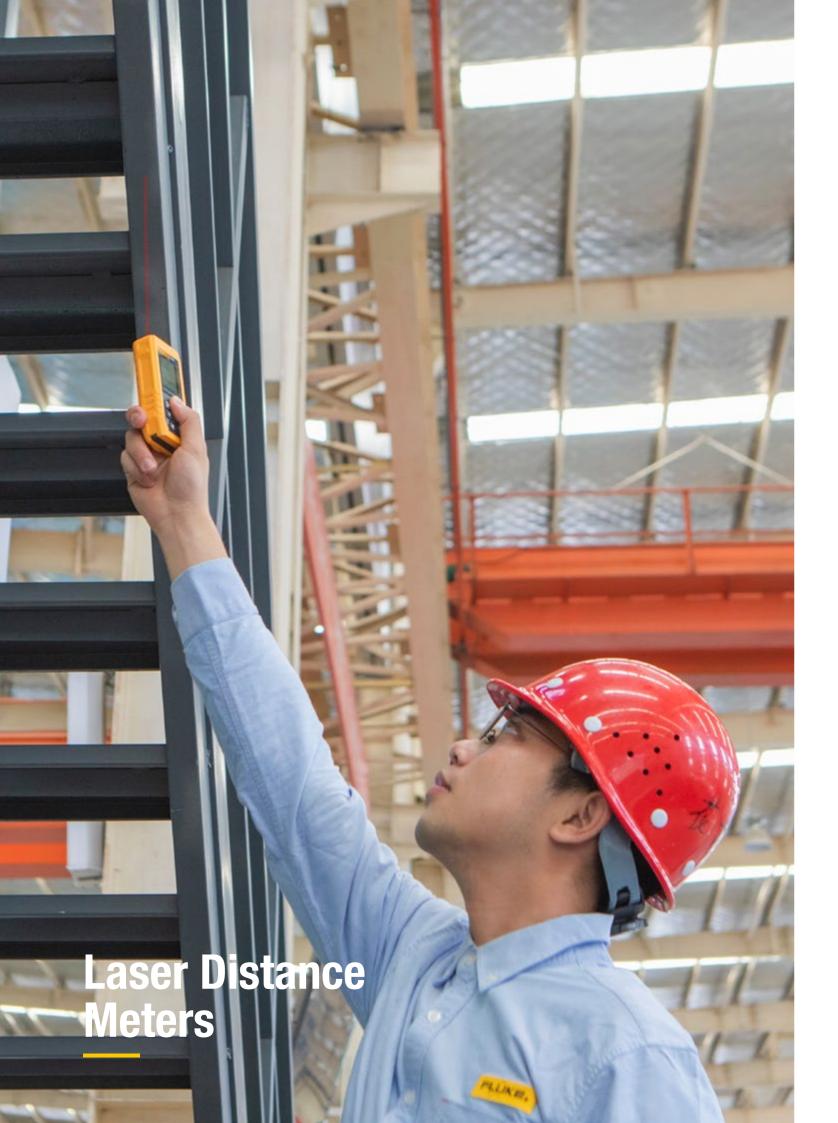
Bare Tool: Canvas Pouch Kit: Canvas Pouch, Carry Case, Three AA Batteries, Floor Stand, Wall Bracket, Reflective Target. 6R/G and 180R/ G models with Rechargeable Battery Pack. 180R/G models with Wall/ Ceiling Bracket.

System: 6R/G and 180R/G models with Canvas Pouch, Carry Case, Three AA Batteries, Floor Stand, Wall Bracket, Reflective Target, Line Detector, Rechargeable Battery Pack. 180R/G models with Wall/ Ceiling Bracket.

#### **Ordering Information**

-	
PLS 3R Z	Red/Green 3-Point
PLS 3G Z	Laser Level
PLS 3R KIT	Red/Green 3-Point
PLS 3G KIT	Laser Level Kit
PLS 5R Z	Red/Green 5-Point
PLS 5G Z	Laser Level
PLS 5R KIT	Red/Green 5-point
PLS 5G KIT	Laser Level Kit
PLS 6R Z	Red/Green Combo
PLS 6G Z	Point Laser Level
PLS 6R RBP KIT PLS 6G RBP KIT	Red/Green Combo Point Laser Level Kit
PLS 6R RBP SYS PLS 6G RBP SYS	Red/Green Combo Point Laser Level System
PLS 180R Z	Red/Green Combo
PLS 180G Z	Point Laser Level
PLS 180R RBP KIT PLS 180G RBP KIT	Red/Green Combo Point Laser Level Kit
PLS 180R RBP SYS PLS 180G RBP SYS	Red/Green Combo Point Laser Level System





#### Fluke 417D and 424D Laser Distance Meters



**Professional grade distance** measuring tools that are fast, easy to use and fit in your pocket Measure farther, with greater accuracy, in more situations.

- Measure with greater accuracy: Up to ±1 mm, no scales to interpret or misread (424D)
- Do the work of two: Instead of holding the tape, your helper can do other jobs • The most advanced 2 laser technology for
- distance measurement • Speed up the job: Easily measure hard-to-
- access areas, like high ceilings, without climbing a ladder • Keep it on the level: New inclination sensor
- on the Fluke 424D helps with leveling, height tracking, measuring around obstacles
- Reduce estimating errors, let the meters do the math: Find area and volume. Easily add and subtract distances. Use Pythagoras calculations for height
- Improved battery life: Automatic shut-off feature
- Improved visibility with backlit screen • Three-year warranty (417D & 424D)

#### The Fluke 424D Laser Distance Meter offers:

- Improved visibility with backlit screen
- · Tripod mode allows you to mount to a tripod for measuring long distances
- Stake out function
- · Enhanced Pythagoras calculation for determining distance indirectly from three other measurements
- Audible keypad feedback
- Storage of the last twenty measurements for quick recall of distance
- Strong environmental protection with IP54 (water spray and dust proof) sealing
- · Inclination sensor for taking measurements in hard to reach areas
- · Compass provides a "heading" for distance measurement
- · Automated end-piece correction: when measuring from an edge or corner, a built-in sensor detects the position of this bracket and automatically changes the reference point

Key Features	417D	424D
Maximum measurement distance	40 m (131,23 ft)	100 m (328.08 ft)
Accuracy	±2 mm (0.078 in)	±1 mm (0.039 in)
Battery life (no. of measurements)	3000	5000
Area measurement	•	•
Volume measurement		•
Pythagoras calculations		•
Plus and minus calculations		•
Measurement storage		20 sets
Backlight		•
Minimum/Maximum		•
Audible keypad feedback		•
Tripod mount		•
Corner angle measurement		•
Ingress Protection (IEC 60529)	IP54	IP54
Compass		•
Inclination sensor		•
Automated end-piece correction		•
Laser Class	2	2



C550

Premuim Tool Box

Laser Levels

#### **Recommended Accessories**



Gear Tool Box



L206 Deluxe LED Hat Light

**Recommended Kits** Bundle and Save



Fluke 417D/62MAX+ Laser Distance Meter/Infrared **Thermometer Combo Kit** 



#### **Included Accessories**

417D & 424D: Two AAA Batteries, User Manual CD, Quick Reference Guide, Vinyl Carrying Pouch, Lanyard.

#### **Ordering Information**

FLUKE-417D	Laser Distance Meter, 40 m
FLUKE-424D	Laser Distance Meter, 100 m
FLUKE-417D 62 MAX+ KIT	Laser Distance Meter/Infrared Thermometer Combo Kit





#### Fluke 405, 408 and 410 Laser Distance Meters



These Laser Distance Meters have the Fluke durability and quality you expect. The simple design and easyto-use button operation allow you to operate with one hand, minimize time spent measuring and maximize the reliability of measurements.

#### **Key Functions:**

- Quickly measure distance, calculate area / volume / pythagoras • Auto level and height
- Built to withstand rainy or dusty conditions: 1-meter drop tested with rated IP65
- Electronic angle display, auxiliary level measurement
- Up to 100 sets of data storage
- The battery life up to 5000 single measurements Automatically power off after 3 minutes of inactivity
- Universal tripod interface, easy to use
- Type-C charging port, strong endurance
- 2-inch HD display, clear viewing in full sunlight

405 408 410 Specifications 0.2 to 50 m 0.2 to 80 m 0.2 to 100 m Range Accuracy\*  $\pm (2.0 \text{mm} + 5 \times 10^{-5} \text{D})$ In favorable Accuracy ±(3.0mm+29x10<sup>-5</sup>D) In unfavorable condition\*\*\* Angle accuracy Angel measurement method Measurement unit Display 2.0-inch positive display Measurements Single measurement . Continuous measurement ٠ Area measurement ٠ Volume measurement ٠ Auto Level Auto Height Pythagoras 2-point • Pythagoras 3-point Add / Substrate Method ٠ . Measurement reference Front / Tripod hole / Back / Extender Auto-off 3 minutes after inactivity Data Storage 100 sets Time-delay measurement ٠ . Auto calibration Side button ٠ ٠ Extender General Laser class Laser type up to 3500 measurements (single measurement) Battery life Operating temperature Storage temperature Ingress protection IP65 Drop test 1 m 52 mm × 116mm × 28mm Size Weight 110g Certificat Laser certification

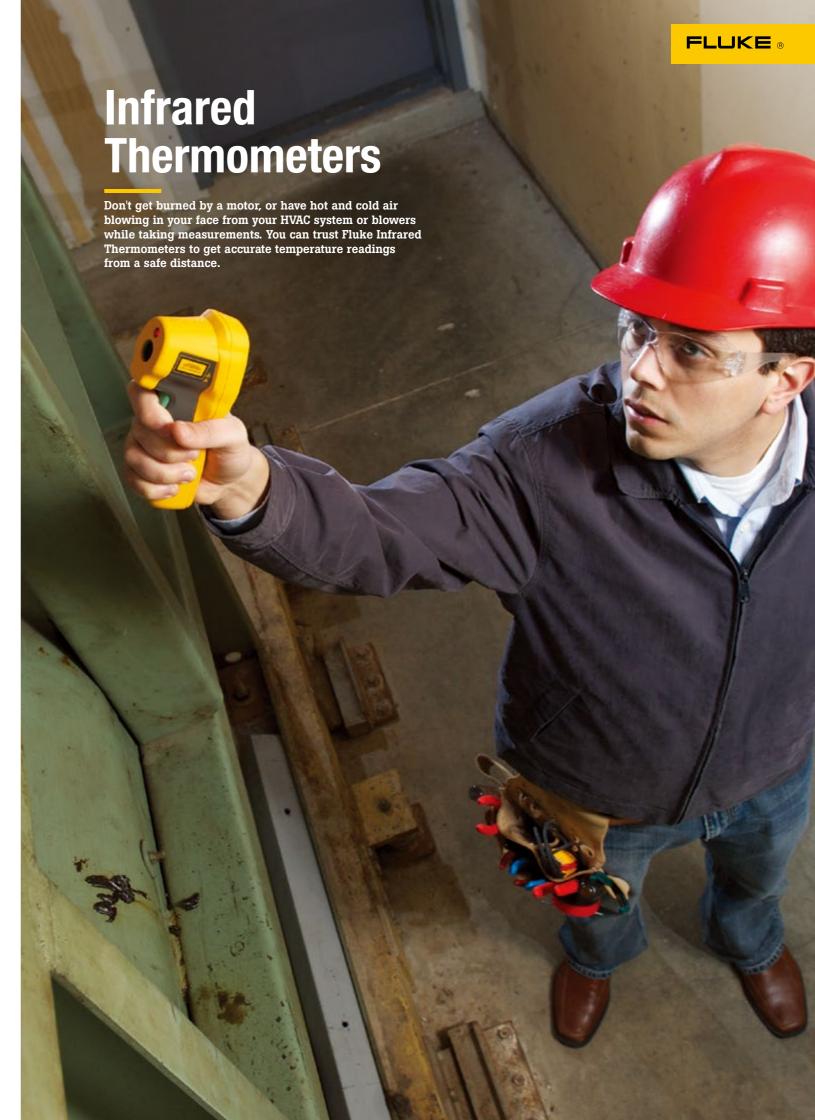
Electrical certification

#### **Included Accessories**

Fluke 405: Full telescope, User manual, Vinyl carrying pouch, 2 AAA NiMH rechargeable cells, Qualification certificate, Lanyard, Type-C cable, 0.5m

Fluke 408: Full telescope, User manual, Vinyl carrying pouch, 2 AAA NiMH rechargeable cells, Qualification certificate, Lanyard, Type-C cable, 0.5m

Fluke 410: Full telescope, User manual, Vinyl carrying pouch, 2 AAA NiMH rechargeable cells, Qualification certificate, Lanyard, Type-C cable, 0.5m



#### **Digital Infrared Thermometer Selection Guide**

	Visual Infrared Thermometer						560 Series		570 Series
	Fluke TC01A Fluke TC01B		Fluke 62 MAX	Fluke 62 MAX Fluke 62 MAX+ Fluke 64 MAX	Fluke 64 MAX	Fluke 561	Fluke 566	Fluke	Fluke 572-2
500	200 °C							568/568EXX	
	256 x 192	Temperature range	-30 to 500 °C	-30 to 650 °C	-30 to 600 °C	- 40 to 550 °C	- 40 to 650 °C	- 40 to 800 °C	- 30 to 900 °C
	12 µm	Distance to spot	10:1	12:1	20:1	12:1	30:1	50:1	60:1
	-10 °C to 550 °C	Laser sighting	Single laser	Dual laser	Single laser	single-point laser	single-point laser	single-point laser	offset dual laser, output <1 mW
	$\pm$ 2% of rdg or $\pm$ 2 °C, whichever is greater (@ 23 °C $\pm$ 5 °C ambient temperature)	Accuracy	1.5%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
e	0.25 to 5 m(* -20 °C to 10 °C, only for 0.25 to 3 m)	Response time	< 500 mSec	< 300 mSec	< 500 mSec	< 500 mSec	< 500 mSec	< 500 mSec	< 500 mSec
	25 Hz	Recommended distance to spot	Up to 2 m	Up to 2 m	Up to 2 m	Up to 2.5 m	Up to 4.5 m	Up to 7.5 m	Up to 9 m
	1 minute	Adjustable emissivity	•		•	•	•	•	
	Fixed focal length: 3.2 mm	MIN/MAX readings	•	•	•	•	•	•	•
	Built-in automatic shutter	AVG readings	•	•	•		•	•	
	50 mK	DIF readings	•	•	•	•	•	•	•
	8 to 14 µm	Backlit LCD	•		•	•	•	•	
	56° x 42°	Audible Hi/Lo alarm			•		•	•	•
	3.81 mrad	Visible Hi/Lo alarm					•	•	
		Includes contact probe				•	•	•	•
	Visual Infrared Thermometer	Probe input (types)				Thermocouple K	Thermocouple K	Thermocouple K	Thermocouple K
	Fluke VT06 Fluke VT08	Data logging (number of measurements)			99 points		20 points	99 points	99 points
	-30 to 500 °C	PC interface						USB	USB 2.0
	Thermal image / Visible image / PIP Thermal image	FlukeView® Forms software compatible						•	•
	60 mk								
	50° x 37.5°								
	7.6 mrad								
	Portus free								

	Recommended Applications         Image: Second System         Plant/Facilities Maintenance         Preventive and Predictive Maintenance         Energy Eudits         Vehicle and Fleet Maintenance         Programs         Faulty Electrical/Circuit Connections Petrochemical/Hazardous Locations Matrice Dumae and Baseiner
	Motors, Pumps and Bearings
	Heating/Ventilation/Air
	Conditioning/Refrigeration
	<ul> <li>Leaky Ductwork</li> <li>Thermostats</li> </ul>
	Temperature Balancing
	Steam Distribution Systems
	Compressor Lines
	Factor and an activity
	Safety and protection
	<ul><li>Fire Localisation</li><li>Hazardous Materials</li></ul>
	<ul> <li>Faulty Ballasts</li> </ul>
	Search and Rescue
,	Smoldering Embers
2	Equipment Maintenance
	Safety and protection
	• Fire Localisation
	Hazardous Materials     Foulty Bollogta
	<ul> <li>Faulty Ballasts</li> <li>Search and Rescue</li> </ul>
	<ul> <li>Search and Rescue</li> <li>Smoldering Embers</li> </ul>
	Equipment Maintenance
246	-1

hrs

20 °C to 400 °C [-4 °F to

#### Fluke VT06 and VT08 **Visual Infrared Thermometer**



Higher resolution, greatly improving temperature measurement efficiency

The 120 x 90 resolution model has more than 10000 infrared pixels, which is 12 times higher than the previous generation\* and rich temperature details help you find problems faster.

#### Difficult to distinguish between false and real? Infrared and visible blending can help!

VT08 is equipped with both infrared and visible light cameras and blend a visual image with infrared heat map overlay in real-time to distinguish the object. In addition, you can quickly adjust the blend degree according to your habits, or switch to the Picture-in-Picture mode.

#### Experience of thermal imagers in the size of a spot thermometer

Portability is one of the advantages of VT06 / 08 thermal imager. It is almost comparable to the point thermometer in terms of weight and size. Great abilities with a small size, you can get a leap in temperature measurement experience from point to area.

#### Drop-proof, dust and water resistance, suitable for harsh industrial environments

Built with legendary Fluke ruggedness, VT06/08 features IP65 ingress protection and 2-meter drop test. It can provide stable and reliable test results even if it is exposed to the sun and rain, or it is dropped.

Specifications	VT08	
Thermal image and optics		
Infrared resolution	120	×90
Image mode	Thermal image / Visible image / PIP	The
Thermal sensitivity/NETD	60	mk
Field of view (H x V)	50° x	37.5°
Spatial resolution	7.6 1	mrad
Focus system	Focus	s free
Minimum focusing distance	0.5 m (	19.7 in)
General features		
Temperature range	-20 °C to [-4 °F to 752 °F] (not spo	o 400 °C ecified for belov
Battery type	Rechargeable Li-ion	battery, unrem
Battery operation time		(VTO8) (VTO6) on environment
Internal storage	28 GB (>100	0000 images)
Laser sighting	Ye	es
Type-C interface	Ye	es



VT06	
ermal image	

ow -10 °C) novable

ent and settings





FLUKE ®

#### **Included Accessories**

Wrist strap for main unit, Quick reference guide, Charger + Adapter, TYPE C data cable, Data downloadi ng card



#### Fluke iSee<sup>™</sup> Mobile Thermal Camera TC01A/TC01B



Fluke TC01R Fluke TC01A

#### Detailed image guality comparable to professional thermal cameras

Easily see potential problems with blended IR and visual images, on a large 8.89 cm (3.5 in) LCD display. Fluke Performance Series Infrared Cameras are

one-handed pistol grip models that make on-site thermal inspections quicker and easier.

- 256 x 192 pixels, detailed image quality
- Up to 550 °C, suitable to use in many applications
- 50 mk (0.05 °C) thermal sensitivity for fine differences
- $\pm 2\%$  or  $\pm 2$  °C accuracy to ensure reliable results
- 25 Hz frame rate for smooth video recording
- · Customize image view with more than 10 standard or custom color palettes
- Powerful full temperature range analysis
- Never miss any detail with real-time high and low temperature capture
- Adjustable emissivity to apply with different materials
- Comprehensive temperature analysis for spot, line and area, supported with professional thermal imaging mobile software
- Real-time temperature alarm for timely response of abnormal condition
- Automatic time-lapse capture mode, for unattended operation
- Infrared and visible image comparison for locating, comparing and archiving
- Real-time image sharing for fast and easy communication

	Visual Infrared Thermometer		
	Fluke TC01A	Fluke TC01B	
Performance specifications			
IR resolution	256	x 192	
Pixel size	12	2 µm	
Temperature range	-10 °C to 550 °C	-20 °C to 550 °C	
Temperature accuracy	$\pm$ 2% of rdg or $\pm$ 2 °C, whichever is grea	ater (@ 23 °C ± 5 °C ambient temperature)	
Temperature measurement distance	0.25 to 5 m(* -20 °C to 1	10 °C, only for 0.25 to 3 m)	
Frame rate	25	5 Hz	
Warm-up time	1 m	linute	
Focal length	Fixed focal le	ength: 3.2 mm	
Shutter mode	Built-in auto	omatic shutter	
Thermal sensitivity (NETD)	50	) mK	
Spectral range	8 to	14 µm	
Field of view (H x V)	56°	x 42°	
Spatial resolution	3.81 mrad		
General Specifications			
USB Interface	Туре С	Lightning	
Operating temperature	0 °C to 40 °C		
Storage temperature	-30 °C to 60 °C		
Operating humidity	10% to 90% RH, non-condensing		
Power consumption	350 mW (Typical)	200 mW (Typical)	
Drop test	1	m	
Ingress protection	IEC 60529: IP54 (with Type C cover)	IEC 60529: IP56	
Operating altitude	2000 m		
Storage altitude	12000 m		
Dimensions (L x W x H)	60 x 33.5 x 11.2 mm		
Weight	2	2 g	
EMC	International IEC 61326-1: Portable Electromagnetic Environment CISPR 11: Group 1, Class A Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself. Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a lowvoltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances. Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments. Korea (KCC) Class A equipment [Industrial Broadcast & Communications Equipment] Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes. USA (FCC) 47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.		
Warranty	2 y	rears	





Fluke 62 MAX

Ø

- IP54 rated for extra protection against airborne contaminants
- Get your tool to work when you can't-set time and desired interval between measurements and Auto Capture will capture spot temperatures unattended (64 MAX)
- 99 data point logging (64 MAX)
- Displays the minimum, maximum or average temperature, or the difference between two measurements
- · Hi and Lo alarms for rapid display of measurements outside set limits
- Dual rotating lasers to help you identify area to be measured (62 MAX+)
- Small and lightweight, fits easily into your tool box
- Three-year warranty

Specifications	62 MAX	62 MAX+	
Temperature range	-30° C to 500° C (-22° F to 932° F)	-30° C to 650° C (-22° F to 1,202° F)	
Accuracy	$\pm 1.5^{\circ}$ C or $\pm 1.5\%$ of reading, whichever is greater $-10^{\circ}$ C to $0^{\circ}$ C: $\pm 2.0$ $-30^{\circ}$ C to $-10^{\circ}$ C: $\pm 3.0$ (14° F to 32° F: $\pm 2.0$ $-22^{\circ}$ F to 14° C: $\pm 3.0$ )	±1.0° C or ±1.0% of reading, whichever is greater -10° C to 0° C: ±2.0 -30° C to -10° C: ±3.0 (14° F to 32° F: ±2.0 -22° F to 14° C: ±3.0)	: I) -( (
Emissivity		0.10 to 1.00	
Optical resolution	10:1 (calculated at 90% energy)	12:1 (calculated at 90% energy)	20
Compliance		IEC 61010-1: 2001	
Laser safety	1	FDA and IEC 60825-1 Class 2	





#### Fluke 62 MAX, 62 MAX+ and 64 MAX

Thermometers have the precision you need to do your job accurately and will not break the budget. Designed and tested to survive a 3-meter drop, you can count on these lightweight, compact infrared thermometers to work when you need them to work-even in the harshest environments

 Temperature accuracy of up to ≥ 0° C: ±1° C or ±1% ≥ of reading whichever is greater with 20:1 distance to

• Flashlight (64 MAX) and large, easy-to-read backlit LCD display for easy viewing even in dark environment

#### **64 MAX**

- 30° C to 600° C (-22° F to 1,112° F)  $\pm 1.0^\circ$  C or  $\pm 1.0\%$  of reading, whichever is greater -10° C to 0° C: ±2.0 -30° C to -10° C: ±3.0 (14° F to 32° F: ±2.0 -22° F to 14° C: ±3.0)

0:1 (calculated at 90% energy)

#### **Recommended Accessories**



Tripod Mounti Accessory for 64 MAX

**Recommended Kits** Bundle and Save Fluke 116/62 MAX+ Technician's Combo Kit

Fluke T6-600/62 MAX+/1AC-II **Infrared Thermometer and Electrical Tester Kit** Fluke 417D/62MAX+ Laser **Distance Meter/Infrared Thermometer Combo Kit** Fluke 62MAX+/323/1AC Combo Kit

## Infrared Thermometers

#### **Included Accessories**

Fluke 64 MAX, 62 MAX and 62 MAX+: Two AA Batteries and Instruction Sheet.

#### **Ordering Information**

FLUKE 62 MAX+/323/1AC

FLUKE-T6-600/ 62MAX+/1AC

1587KIT/62

MAX+

**FLUKE-64 MAX** Single Laser IR Thermometer, 10:1 Spot FLUKE-62 MAX+ Dual Laser IR

Thermometer, 12:1 Spot

IR Thermometer Clamp Meter and Voltage **Detector Kit** 

FLUKE-64 MAX IR Thermometer

T6-600 Tester, 62MAX+ and 1AC-

II Combo Kit 2-in-1 ADV Elec Kit

with 62MAX+ i400 AC Current Clamp



#### Fluke 560 and 570 Series Infrared Thermometers



#### Fluke 561, 566 and 568 Infrared and **Contact Thermometers** With a straight-forward user interface and soft-key

menus, the Fluke 561, 566 and 568 make even complex measurements easy. With just a few pushes of a button you can easily adjust emissivity, start data logging, or turn on and off alarms. With a rugged, easy-to-use design, the Fluke 561, 566 and 568 can stand up to tough industrial, electrical, and mechanical environments.

- Confidently measure more surfaces, with adjustable emissivity and built-in materials table
- Log and download measurements for reporting (568)
- Audible and visual alarms
- MIN/MAX/DIF functions
- Includes KTC bead probe and compatible with any K-type thermocouple

• Two-year warranty

Specifications	561	566	568/568 Ex	
Infrared temperature range	-40° C to 535° C (-40 to 995° F)	-40° C to 650° C (-40 to 1,202° F)	-40° C to 800° C (-40 to 1,472° F)	
Accuracy	Greater of $\pm 1\%$ or $\pm 1^{\circ}$ C			
Distance to Spot (D:S)	12:1	30:1	50:1	
Sighting	Laser point			
Typical distance to target	Up to 2.5 m (8.2 ft)	Up to 4.5 m (14.76 ft)	Up to 7.5 m (24.6 ft)	
Contact temperature range	-40° C to 550° C (-40° F to 1,022° F)	-2'/0° (' to 13'/2° (' L_16/0° F to 2' 601 6° F)		
Number of on-board memory locations	-	20	99	
PC download and software	-	-	FlukeView <sup>™</sup> Forms	
Material type adjustment (emissivity)	Hi/Med/Lo	Material table or 0.1 to 1.00 by 0.01		
High and low alarms	-	High and l	ow alarms	



Fluke 572-2

**Infrared Thermometer** The Fluke 572-2 Infrared Thermometer is the one product you can use in high temperature industrial environments

Fluke 572-2 High Temperature

all around the world. This is the best choice for when you need accurate results for high temperature readings from a long distance.

- Measure -30° C to 900° C (-22° F to 1,652° F)
- 60:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- Last reading Hold (20 seconds)
- High and low temperature alarm
- Data storage and review (99 data sets)
- Compatible with standard mini-connector K-type thermocouples, including ones you already own
- Current Temperature plus MAX, MIN, DIF, AVG displays
- Adjustable emissivity and predefined emissivity table
- FlukeView<sup>™</sup> Forms documenting software Two-year warranty

t into your multility		
Specifications	572-2	
Infrared temperature range	-30° C to 900° C (-22° F to 1,652° F)	
Infrared accuracy (calibration geometry with ambient temperature 23° C $\pm$ 2° C)	≥0° C: ±1° C or ±1% of the reading, whichever is greater ≥-10° C (14° F) to <0° C (32° F): ±2° C (3.6° F) <-10° C (14° F): ±3° C (5.4° F)	
Distance:Spot	60:1	
Laser sighting	Offset dual laser, output <1 mW	
Hi/Low alarms	Audible and two-color visual	
Min/Max/Avg/Dif	Yes	
Data storage	99 points	
K-type thermocouple input temperature range	-270° C to 1372° C (-454° F to 2,501.6° F)	
K-type thermocouple input accuracy (with ambient temperature 23° C $\pm 2^\circ$ C)	< -40° C: ±(1° C + 0.2°/1° C) ≥ -40° C: ±1% or 1° C, whichever is greater	



#### Included Accessories

Pipe Clamp Probe Kit

560 Series: Thermocouple K-type Velcro Pipe Probe (561 only), K-type Thermocouple Bead Probe (566 & 568 only), FlukeView<sup>™</sup> Forms Software (568 only), USB Cable (568 only), Hard Carrying Case, two AA Batteries and User Manual with Measurement Guide.

Gear Tool Box

572-2: K-type Thermocouple Bead Probe, USB 2.0 Computer Interface Cable, FlukeView<sup>™</sup> Forms Documenting Software, Hard Carrying Case, Getting Started Guide and User Manual (CD).

#### **Ordering Information**

•	
FLK-572-2	IR Thermometer
FLUKE-561	HVACPro Infrared Thermometer
FLUKE-566	IR Thermometer
FLUKE-568	IR Thermometer
FLUKE-568 Ex	Intrinsically Safe IR Thermometer

Contact your local distributor for price and availability. fluke.com/findus

#### Fluke 50 Series II Thermometers

Lab accuracy in a field thermometer





fast response and laboratory accuracy in a rugged handheld test tool.

- Laboratory accuracy:  $\pm (0.05\% + 0.3^{\circ} \text{ C})$
- Large backlit dual display
- Min/Max/Avg
- Supports a wide range of thermocouple types
- Temperatures displayed in<sup>o</sup> C, <sup>o</sup>F, or Kelvin (K)
- Three-year warranty

#### **Powerful data logging capabilities**

The Fluke 53 II B and 54 II B can log up to 500 points of data to internal memory.

- User-adjustable recording intervals • Real-time clock captures the exact
- event time • Recall function lets logged data be easily
- reviewed • Download data to
- optional FlukeView™ PC software



Fluke 51 II

Specifications	51 II	52 II	53 II B	54 II B
Thermocouple types	J,K,T,E	J,K,T,E	J,K,T,E,N,R,S	J,K,T,E,N,R,S
Number of inputs	Single	Dual	Single	Dual
Time stamp	Relative Time	Relative Time	Time of Day	Time of Day
Dual display with backlight	•	•	•	•
Min/Max/Avg recording	•	•	•	•
(T1-T2) True differential	-	•	-	•
Data logging up to 500 points	-	-	•	•
IR data port for interface to PC	-	-	•	•
Compatible with FlukeView <sup>™</sup> Software	-	-	•	•
Battery life	1000 hours typical, AA			
Size (HxWxD)	173 mm × 86 mm × 38 mm			
Weight	0.4 kg			
Temperature range and accuracy				
		210° C to 1200	)° C (-346° F to 2,	102º El
J-type Thermocouples			°C (-328°F to 2,5	,
K-type Thermocouples T-type Thermocouples			°C (-328 F to 2,3	,
E-type Thermocouples			°C (-238°Fto 1	
N-type** Thermocouples				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			)° C (-328° F to 2,	
R** and S-type** Thermocouples		0.0101101	°C (32°F to 3,212	.0° F)
Temperature accuracy above -10	0° C:	11.07	25% - 0.0% G1	
J, K, T, E, and N-type**			05% + 0.3° C ]	
R** and S-type**		±[ 0.0	05% + 0.4° C ]	
Temperature accuracy below -10	00° C:			
J, K, E, and N-types		•	20% + 0.3° C ]	
T-type		±[ 0.5	50% + 0.3° C ]	

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#### The Fluke 50 Series II Contact Thermometers offer

Electronic offset function maximizes overall accuracy

#### **Recommended Accessories**



SureGrip<sup>™</sup> Piercing Temperature Probe



Pipe Clamp Temperature Probe

80PK-27 SureGrip™ Industrial Surface Temperature Probe

Infrared Thermometers

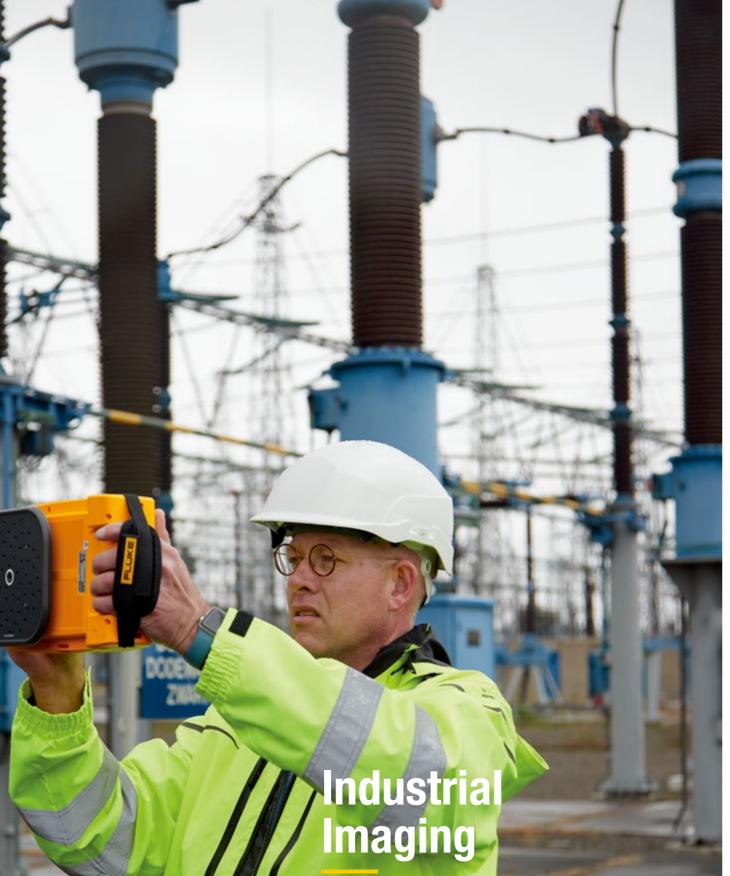
#### **Included Accessories**

Fluke 50 Series Thermometers: Impact Absorbing Holster, Two Bead Probe Thermocouples 80PK-1 (54 and 52 only), One Bead Probe Thermocouple, 80PK-1 (51 and 53 only).

#### **Ordering Information**

FLUKE 51 II	Single Input Digital Thermometer
FLUKE 52 II	Dual Input Digital Thermometer
FLUKE 53 II B	Single Input Digital Thermometer with Data Logging
FLUKE 54 II B	Dual Input Digital Thermometer with Data Logging





**Infrared Camera Selection Guide** 

Through the latest advancements in technology— Fluke thermal imaging, video borescopes, and acoustic imaging tools help expedite inspections and make crucial maintenance decisions easier.

- Fluke Thermal Imagers offer the highest resolution necessary to identify areas of concern for non-invasive preventive maintenance inspection.
- Fluke Video Borescopes offer industrial tough solution for inspecting machinery with difficult to reach spaces.
- Acoustic Imagers provide leading edge technology taking ultrasonic leak detection to a new level of efficiency and accuracy.



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Industrial Imaging



090	092	x 100 x 1536 ls)	2000 °C	nrad	19°	н	Aanual us	tow 1/2			rpe-C, D card, ooth	llend is 0% to %.			
TiX1060	1001 - 760	Yes (enhanced to 2048 x 1536 pixels)	-40 °	0.43mrad	25° x 19°	0.5m	Auto / Manual Focus	13 Hz, full window 25 Hz, 1/2 window			USB Type-C, HDMI, SD card, Bluetooth	AutoBlend continuous 0% to 100%.	ŝ		
TiX885	640 400	1280 × 960	-40 °C to 1200 °C	0.68 mrad	25° × 19°	0.2 m	Auto / Manual Focus	30Hz			USB Type-C, HDMI, SD card, Bluetooth	AutoBlend continuous 0% to 1 00%.	temperature of 25		
TiX880	001 019		-40 °C to 1200 °C	0.68 mrad	25° × 19°	0.2 m	Auto / Manual Focus	2H2			USB Type-C, HDMI, SD card, Bluetooth	AutoBlend continuous 0% to 100%.	3.5 hrs for continuous use $@$ ambient temperature of 25 $^\circ C$		
TiX875	640 . 400	040 × 460	-40 °C to 700 °C	0.68 mrad	25° × 19°	0.2 m	Auto / Manual Focus	30Hz		Je	USB Type-C, HDMI, SD card, Bluetooth	AutoBlend continuous 0% to 100%.	3.5 hrs for continu		
TiX870	640 - 400	000 	-40 °C to 700 °C	0.68 mrad	25° × 19°	0.2 m	Auto / Manual Focus	9Hz		Support high and low temperature alarm for the highest, lowest and average temperature of the area	USB Type-C, HDMI, SD card, Bluetooth	AutoBlend continuous 0% to 100%.			
Ti480U	640 400	040 × 400	-20 °C to 1200 °C	0.68 mrad	25° x 19°	0.25m	Auto / Manual Focus	30Hz	Yes	perature alarm for the higher temperature of the area	USB 2.0, HDMI, SD card, Bluetooth	AutoBlend continuous 0% to 100%.	ry gs and usage)	SmartView IR	2 years
Ti401U	640 400		-20 °C to 650 °C	0.68 mrad	25° x 19°	0.25m	Auto / Manual Focus	30Hz		ow temperature a temperatu	USB 2.0, HDMI, SD card, Bluetooth	AutoBlendAutoBlendcontinuous 0%continuous 0%to 100%to 100%	2 to 3 hours/battery (*Actual life depends on settings and usage)	Smar	7
Ti300U	000 100		-20 °C to 650 °C	1.14 mrad	25° x 19°	0.1m	Auto / Manual Focus	30Hz		pport high and le	USB 2.0, HDMI, SD card, Bluetooth				
RSEGOH		00t < 0t0	-20 °C to 2000 °C	0.67 mrad	25° x 18.7°	0.5m	Auto	30Hz		Su	IPv4, UDP, TCP, RTSP, RTCP, RTP				
RSE30H	000 100	007 × 400	-20 °C to 2000 °C	1.13 mrad	25° x 18.7°	0.5m	Auto	30Hz			IPv4, UDP, TCP, RTSP, RTCP, RTP	,	12V to 24 V DC, PoE		
RSE60	640 - 400		-20 °C to 650 °C	0.68 mrad	25° x 18.7°	0.3m	Auto	30Hz			IPv4, UDP, TCP, RTSP, RTCP, RTP	ı	12V to 24		
RSE30	000 100	007 × 100	-20 °C to 650 °C	1.13 mrad	25° x 18.7°	0.3m	Auto	30Hz			Pv4, UDP, TCP, RTSP, RTCP, RTP	ı			
	Key Features	SuperResolution	Temperature Range	IFOV with Std lens	Field of View	Minimum Focus Distance	Multisharp Focus	Frame Rate	Remote display&operation via software	Area audible alarm	"Wireless Connectivity / Network Protocol "	IR-Fusion Technology	Power Supply	Analysis Software	Warranty

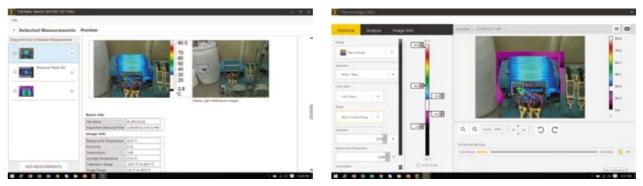
#### **Fluke Thermal Imaging Software**



Get the most out of your thermography program. Create professional inspection reports in minutes while efficiently capturing full radiometric data to support preventive and predictive maintenance programs with the new Fluke Connect<sup>™</sup> Desktop software.

- mode and image blending
- Connect a camera to your computer wirelessly with the built in Fluke Camera WiFi • Never lose your data - automatically save all your thermal images and reports in the Fluke Connect<sup>™</sup> cloud storage, accessible anytime on PC or Mobile App
- image

Fluke Connect™ Desktop has all the same features as SmartView and more, with intuitive navigation interface and the advantage of Fluke Connect<sup>™</sup> cloud storage. Download Fluke Connect<sup>™</sup> Desktop FREE from the Fluke website and the Fluke Connect<sup>™</sup> Mobile app from the mobile IOS or Android app store.



#### Get more out of your thermal inspections with Fluke Connect™ Wireless Modules

You can connect up to 5 Fluke Connect<sup>™</sup> Wireless modules with a Fluke Infrared Camera, whileincorporating live readings on the infrared image. The table below highlights a list of Fluke Connect™ enabled tools that are compatible with Fluke Infrared Cameras.

#### Fluke Connect<sup>™</sup> Compatibility Guide

Fluke Connect™ Tools	Fluke Connect™ App	3000 FC	902 FC	376/375 /374 FC	a3000 FC a3001 FC	a3002 FC	a3003 FC a3004 FC	v3000 FC	v3001 FC	t3000 FC
Fluke Connect ${}^{\rm TM}$ App – iOS and Android ${}^{\rm TM}$	•	•	•	•	•	•	•	•	•	•
TiX580 Infrared Camera	•	•	•	•	•	•	•	•	•	•
Ti480PRO Infrared Camera	•	•	•	•	•	•	•	•	•	•
PTi120/TiSxx Series Infrared Cameras	•	•	•	•	•	•	•	•	•	•



Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.





#### Fluke Connect<sup>™</sup> Desktop for Thermal Imaging

- Easily edit and optimize images to visualize equipment status
- Combine infrared and visible images for simpler analysis using picture-in-picture
- Create detailed reports in minutes and save customized report templates
- Organize images and easily search by asset, severity, and image title
- Enhance inspection credibility by incorporating live readings of energized circuits and operational equipment from Fluke Connect<sup>™</sup> enabled test tool into your infrared

• Share images immediately with team members with the Fluke Connect<sup>™</sup> Mobile App



#### Get the FREE Fluke Connect<sup>™</sup> App!

By using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.





#### Fluke PTi120 400C Pocket Infrared Camera



Fluke PTi120



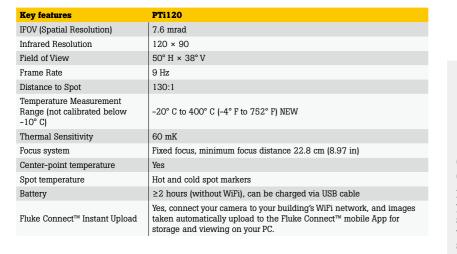
#### Infrared troubleshooting power you need, right in your pocket

A fully radiometric thermal imager with a 3.5" LCD touchscreen that offers IR-Fusion<sup>™</sup> to blend a visible light image with an infrared image to easily locate problems. The PTi120 has built in WiFi that allows you to connect your camera to the Fluke Connect<sup>™</sup> App and share images remotely with your team. Compact and easy to use, the Fluke PTi120 should be your first line of defense with maintenance work.

- 120 × 90 infrared resolution (10,800 pixels)
- -20° C to 400° C (-4° F to 752° F) temperature measurement range
- 8.89 cm (3.5 in) LCD touchscreen display with intuitive interface for easy troubleshooting
- 1 m (3.28 ft) drop tested
- IP54 enclosure rating
- Touchscreen IR-Fusion blends a visible light image with an infrared image, simply slide your finger across the screen to adjust
- Two-year warranty









#### **Get the FREE Fluke** Connect<sup>™</sup> App!

By using the Fluke Connect<sup>™</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



#### **Included Accessories**

Soft Case, Lanyard and USB cable.

Fluke Pocket

Infrared Camera

#### **Ordering Information**

FLK-PTI120 9HZ 400C

Contact your local distributor for price and availability. fluke.com/findus

#### 

#### Fluke Performance Series Infrared Cameras

TiS20+, TiS20+ MAX, TiS55+, TiS60+ and TiS75+



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#### Easy-to-use frontline troubleshooting

Easily see potential problems with blended IR and visual images, on a large 8.89 cm (3.5 in) LCD display. Fluke Performance Series Infrared Cameras are one-handed pistol grip models that make onsite thermal inspections quicker and easier.

#### **Manual Focus**

Focus is one of the most critical aspects of a thermal image because it cannot be altered with software. Both manual and fixed focus options are available on the latest TiS55+ and TiS75+ infrared cameras, leveraging the advantages of both optical systems and making this ideal for both seasoned thermographers and users new to thermography.

- Measure up to 550° C (1,022 °F) (TiS55+ and TiS75+) to handle a wide range of applications
- Manual and fixed focus (TiS55+ and TiS75+)
- IS3 and AVI video recording (TiS75+ only)
- Dew point calculation (TiS75+ only) • Digitally document critical information with your
- infrared image using IR-PhotoNotes<sup>™</sup> or voice annotation with TiS55+, TiS60+ and TiS75+
- Make decisions in real time—wirelessly sync images from your camera, create and email reports all with your smart phone and the Fluke Connect<sup>™</sup> App
- Monitor battery charge and avoid unexpected loss of power with the smart battery with LED charge indicator
- Two-year warranty

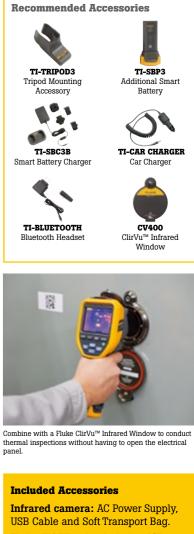
Key features	TiS20+	TiS20+ MAX	TiS55+	TiS60+	TiS75+		
Infrared Resolution	120 × 90 (10,800 pixels)	120 × 90 (10,800 pixels)	256 × 192 (49,152 pixels)	320 × 240 (76,800 pixels)	384 × 288 (110,592 pixels)		
IFOV (Spatial Resolution)	7.6 mrad	7.6 mrad	1.91 mrad	1.86 mrad	1.91 mrad		
Field of View	50° H × 38° V	50° H × 38° V	28° H × 20° V	34.1° H × 25.6° V	42° H × 30° V		
Thermal Sensitivity (NETD)**	60 mK	60 mK	40 mK	45 mK	40 mK		
Temperature Measurement Range	-20° C to 150° C (-4°F to 302° F)	-20° C to 400° C (-4°F to 752° F)	-20° C to 550° C (-4°F to 1,022° F)	-20° C to 400° C (-4°F to 752° F)	-20° C to 550° C (-4°F to 1,022° F)		
Focus Systems	Fixed focus	Fixed focus	Manual focus and 1 meter focus marker	Fixed focus	Manual focus and 1 meter focus marker		
IR-Fusion AutoBlend Continuous 0% to 100%.	Yes	Yes	Yes, including Picture in Picture (PIP)				
Display	8.89 cm (3.5 in) (landscape) 320 × 240 LCD touch screen	8.89 cm (3.5 in) (landscape) 320 × 240 LCD touch screen	8.89 cm (3.5 in) (landscape) 640 × 480 LCD touch screen	8.89 cm (3.5 in) (landscape) 320 × 240 LCD	8.89 cm (3.5 in) (landscape) 640 × 480 LCD touchscreen		
Colour Alarms	-	-	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>		
IR PhotoNotes and Voice Annotations	-	-	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>		
Software	ftware Fluke Connect <sup>™</sup> Desktop Software - full analysis and reporting software with access to the Fluke Connect <sup>™</sup> system						

<sup>1</sup> Refer to product datasheet for more details.



Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.





Fluke TiS55+ also includes 4GB Micro-SD-Card, One lithium-ion Smart Battery, Hard Carrying Case and adjustable Hand Strap.

Fluke TiS60+ & TiS75+ also includes 4GB Micro-SD-Card, Two-bay Smart Battery Charger, Two Lithium-ion Smart Batteries, Hard Carrying Case and adjustable Hand Strap.

#### **Ordering Information**

•	
FLK-TIS20+ 9Hz	Infrared Camera
FLK-TIS20+ MAX 9Hz	Infrared Camera
FLK-TIS55+ 9Hz	Infrared Camera
FLK-TIS55+ 27Hz	Infrared Camera
FLK-TIS60+ 9Hz	Infrared Camera
FLK-TIS60+ 30Hz	Infrared Camera
FLK-TIS75+ 9Hz	Infrared Camera
FLK-TIS75+ 27Hz	Infrared Camera

Contact your local distributor for price and availability. fluke.com/findus



Industrial Imaging

#### Fluke Professional Series Infrared Cameras

Ti401 PRO and Ti480 PRO



Get clear, accurate focus on objects near and Recommended Accessories far with MultiSharp<sup>™</sup> focus1, or focus with laser speed and accuracy on your designated target with LaserSharp® Auto Focus. Easily navigate the menu and view images on a 3.5 inch, 640 x 480 touchscreen. Get more from your camera with an optional 2x or 4x telephoto or wide angle smart lens - no calibration required. New models to the Professional Series family are the Ti480 PRO and Ti401 PRO Infrared Cameras, capturing smaller temperature differences with increased thermal sensitivity on an intuitive touch screen.

- Get 4x the pixel data with SuperResolution, which captures multiple images and combines them to create a 1280 x 960 image (Ti480 PRO)
- Save time. Wirelessly sync images directly from your camera to the Fluke Connect<sup>™</sup> system, and attach to an asset record or work order
- Reduce the need to take notes in the field with two helpful features:
- IR-PhotoNotes<sup>™</sup> annotation system captures digital images of the surrounding area to reference conditions or actual location - Any additional details can also be saved to the file with voice annotation
- Field of view: (34° H × 24° V)
- View all your assets with increased accuracy using one of the four optional lenses (macro, wide-angle, 2x telephoto and 4x telephoto)
- Two-year warranty

Key features	Ti401 PRO	Ti480 PRO				
Infrared resolution	640 × 480 (307,200 pixels)					
SuperResolution	No	Yes, in software. Captures and combines 4x the data to create a 1280 × 960 image				
IFOV with standard lens (spatial resolution)	0.93 mrad, D:S 1065:1					
Field of view	34° H :	× 24° V				
Thermal sensitivity (NETD)**	≤ 0.075 °C at 30 °C target temp (75 mK)	≤ 0.05° C at 30° C (86° F) target temp (50 mK)				
Temperature measurement range	-20 °C to +650 °C	-20° C to 1000° C (-4° F to 1,832° F)				
LaserSharp™ Auto Focus and Manual Focus						
Laser distance meter	Yes, calculates distance to the target for precisely focused images and displays distance on screen					
Optional lenses	Wide angle, 2x and 4x te	lephoto, 25 micron macro				
IR-Fusion technology	Yes, adds the context of the visible details to your infrared image					
Display	8.89 cm (3.5 in) (landscape),	640 × 480 LCD Touch Screen				
Frame rate	60 Hz or 9	Hz versions				
Voice annotation		e per image; reviewable playback on Idset available but not required				
Text annotation	Yes. Including standard shortcuts as	well as user programmable options				
Video recording	No	Standard and radiometric				
Remote control operation	Remote display through Fluke Connect	Remote display and control operation through Fluke Connect™				
Alarms	High temperature, low temperature, and isotherms (within range)					
Wireless connectivity	Fluke Connect <sup>™</sup> app compatible. Wireless connectivity to PC, iPhone <sup>™</sup> and iPad <sup>™</sup> (iOS 4s and later), Android <sup>™</sup> 4.3 and up, and WiFi to LAN					
Software	Full analysis and reporting software with access to the Fluke Connect™ system					



TI-SBC3B

Additional Smart Battery Charger



#### **Included Accessories**

AC Power Supply and Battery Pack Charger, Two Rugged Lithium-Ion Smart Battery Packs, USB Cable, HDMI Video Cable, 4GB Micro SD Card, Adjustable Hand Strap.

#### **Ordering Information**

FLK-TI401 PRO 9Hz	Infrared Camera
FLK-TI401 PRO 60Hz	Infrared Camera
FLK-TI480 PRO 9Hz	Infrared Camera
FLK-TI480 PRO 60Hz	Infrared Camera





#### **Fluke Ultra Series Thermal Imagers**

Ti480U, Ti401U, Ti300U



The NEW Fluke Ultra Series Thermal Cameras is designed to provide advanced visual infrared experience. It comes with a smart intuitive user interface, increased thermal sensitivity to capture the smallest differences and the latest technology for on-screen clarity. A professional 640 x 480 Infrared Camera with improved spatial resolution and UltraFocus focusing technology makes the Ti480U/401U/300U go-to camera range for the professional moving to the next level.

With the support of the new sensor, the Ultra Series now makes a substantial progress in image quality, focus speed and test functions, taking performance to whole new level. While retaining the classic industrial design, it improves the user experience and help users with their efficient practical workflow.

We believe that every day Thermographers are making things better around them, and Fluke is striving for this common goal together with its users.

	Fluke Ti480u	Fluke Ti401u		
Basic Parameters				
IR resolution	640 × 480	640 × 480		
SuperResolution	1280 × 960	-		
Detector type	Uncoole	ed focal plane infrared		
Thermal sensitivity (NETD) @ 30 °C	50 mk (0.05 °C)	75 mk (0.075 °C)		
Spectral response		7 to 14 µm		
Image frame rate	30 Hz	30 Hz		
Lens Field of View (FOV)		25° x 19°		
Spatial resolution (IFOV)	0.68 mrad	0.68 mrad		
Minimum imaging distance	0.2	5 m		
Lens focal distance	f 24.8			
Focus		Auto / Manual Focus		
Lens recognition		Auto		
Optional lens		2x telephoto lens 4x telephoto lens Wide-angle lens		
Digital Zoom	1-10x	1-10x		

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

Industrial Imaging

Contact your local distributor for price and availability. fluke.com/findus



#### Fluke Ti300u 384 × 288 detector 75 mk (0.075 °C) 30 Hz 1.14 mrad 0.1 m f 15

1-4x



Packing List	Ti300U	Ti401U	<b>Ti480U</b>
The Imager (standard field angle lens included)	$\checkmark$	$\checkmark$	$\checkmark$
SBP3 smart battery pack	2	2	2
SBC3 power adapter	$\checkmark$	$\checkmark$	$\checkmark$
SBC3 battery charging base	$\checkmark$	$\checkmark$	$\checkmark$
Hand strap	$\checkmark$	$\checkmark$	$\checkmark$
Hard carrying case	-	$\checkmark$	$\checkmark$
Carrying case	$\checkmark$	-	-
Soft carrying case	$\checkmark$	-	-
Mini HDMI cable	$\checkmark$	$\checkmark$	$\checkmark$
USB-A dual-port cable	$\checkmark$	$\checkmark$	$\checkmark$
32GBMICROSD	$\checkmark$	$\checkmark$	$\checkmark$
Quick reference guide	$\checkmark$	$\checkmark$	$\checkmark$
Safety information	$\checkmark$	$\checkmark$	$\checkmark$
Detection report	$\checkmark$	$\checkmark$	$\checkmark$

#### Fluke TiX800 Expert Series Thermal Imagers

**TiX870, TiX875, TiX880, TiX885** 



Fluke TiX880

The new Fluke TiX885, TiX880, TiX875 and TiX870 thermal cameras, with 640 x 480 resolution, provide superior image quality needed for experimental R&D applications.

With the help of Super Resolution technology, the high-end TiX885 and TiX880 cameras can produce images with a resolution of 1280 x 960 pixels.

Capture images while moving or use the camera for measuring fast changing temperatures with a frame rate of up to 30 Hz.

Industrial OEMs can reliably identify devices, arrange test data, and mark GPS location using QR code recognition feature in TiX885, TiX880, and TiX870.

TiX885 and TiX875 facilitates recording of fully radiometric IR video stream + data stream. The SmartView IR software allows the captured data to be transferred into a PC to aid in secondary analysis.

These cameras can auto-focus from a far distance for outdoor surveys, and the 1 to 35x continuous digital zoom [1 to 25x for TiX875 and TiX870] enables the user to clearly observe fine details on such far-off targets.

180 ° articulating lens, 5.5-inch OLED responsive touch screen and > 3.5 hours of battery life offers flexibility, comfort & convenience in operating the camera.

The TiX885 and TiX880 are ideal for high temperature testing as they can measure up to 1200°C.

	<b>TiX870</b>	<b>TiX875</b>	<b>TiX880</b>	<b>TiX885</b>		
Detector						
IR Resolution		640	× 480			
SuperResolution	-	-	Enhanced to 1280 × 960 pixels	Enhanced to 1280 × 960 pixels		
Thermal Sensitivity* (* Under best case scenario)	<35 mK @ 30 °C	<30 mK @ 30 °C	<25 mK	@ 30 °C		
Field of View (FOV)	25° × 19°					
Spatial Resolution (IFOV)	0.68 mRad					
Digital Zoom	1 to 25x 1 to 35x			35x		
Detector Type	Focal Plane Array (FPA), Uncooled Infrared Detector					
Spectral Response		8 to	14 um			
Lens Aperture		F	1.0			
Lens Recognition		A	uto			
Minimum Focus Distance	0.2 m					
Focus System	Auto/Manual					
Frame Rate	9 Hz	30 Hz	9 Hz	30 Hz		

**Included Accessories** 

Fluke TiX800 Thermal Imager (standard lens): Rechargeable Li-ion batteries (3 pcs), Power adapter, Battery charger, Lens Cover, USB Cable, HDMI Cable, High-Speed SD Card, Card Reader, Safety Information, Quick Reference Guide, Hand Strap, Neck Strap, Hard **Carrying Case** 

#### **Recommended Accessories**

TIX800 4X TELE, TIX800 7C TELE LEN TIX800 2X TELE, TIX800 12C TELE LEN TIX800 2X WIDE, TIX800 46C WIDE LEN TIX800 MACRO, TIX800 50UM MACRO LEN TIX800 MACRO, TIX800 25UM MACRO LEN

#### Fluke TiX1000 Expert Series Thermal Imager

TiX1060



The 1024x768 resolution new Fluke TiX1060 thermal imager has superior image quality and is well suited for R&D engineers and scientific researchers. With frame rate up to 25Hz, it retains more details and meets the testing needs of capturing fast changing temperature.

For outdoor applications, the TiX1060 comes with auto-focus technology, allowing user to focus on target from a far distance. Coupled with 1 to 35x continuous digital zoom, user can view small details on distant targets clearly.

With a full 180-degree articulating lens, the Fluke TiX1060 Infrared Camera allows thermographers to easily navigate over, under, and around objects to preview and capture images with ease. Combined with the Super Resolution technology, the TiX1060 can achieve image resolution of 2048 × 1536 pixels.

It also comes with the Fluke SmartView® IR software, which provides a suite of advanced tools to view, optimize, annotate, and analyze infrared images, and generate fully customizable professional reports.

	TiX1060
Detector	
Image resolution	1024 x 768
Super Resolution	Yes (enhanced to 2048x1536 pixels)
Thermal sensitivity (NETD)	<30 mK @ 30 °C
Field of View (FOV)	25° x 19° (standard lens)
Spatial Resolution (IFOV)	0.43 mrad
Digital zoom	1x to 35x continuous zoom
Detector type	Focal Plane Array (FPA), uncooled infrared detector
Detector pixel spacing	17 μm
Spectral range	8 to 14 µm
Lens aperture	F1.0
Lens recognition	Auto
Minimum focus distance	0.5 m
Focus System	Auto [motorized focus]/Manual
Frame rate	13 Hz, full window; 25 Hz, 1/2 window

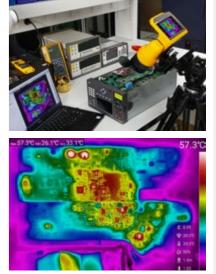
Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

Industrial Imaging

Contact your local distributor for price and availability. fluke.com/findus

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#### **Included Accessories**

Fluke TiX1060 Thermal Imager (standard lens): Rechargeable Liion batteries (3 pcs), Power Adapter, Battery charger, Lens Cover, USB Cable, HDMI Cable, High-Speed SD Card, Card Reader, Safety Information, Quick Reference Guide, Hand Strap, Neck Strap, Hard Carrying Case

#### **Recommended Accessories**

TIX1000 4X TELE, TIX1000 9C TELE LEN TIX1000 2X TELE, TIX1000 12C TELE LEN TIX1000 2X WIDE, TIX1000 46C WIDE LEN TIX1000 MICRO, TIX1000 50UM MICRO LEN



#### Mounted Infrared Cameras

**RSE30 and RSE60** 



Fluke RSE60

The wide temperature range & high IR resolution makes the Fluke RSE30 & RSE60 thermal imaging cameras suitable for a variety of applications including critical asset monitoring, hotspot detection, research & development, process monitoring and guality control. amongst others. Our standard, wide angle and telephoto lens options capture exceptionally detailed images required for such challenging applications. The SmartView IR software gives customers the tools they need to watch, plot, analyze and report temperature data. The SDK enables app developers to produce intricate, feature-rich apps that

live up to the demands and expectations



• Wide Temperature range: -20 to 650° C and -20 to 2000° C options covers a wide variety of applications.

of their users.

- 384×288 & 640×480 infrared resolution offers high-definition images crucial for hotspot detection.
- Autofocus feature allows capturing sharp images.
- Video streaming at a 30Hz frame rate for smooth visual experience.
- · SmartView IR software to stream radiometric videos, capture fully-radiometric videos or images, analyze images, plot data trends, export data, customize reports.
- User-definable measurement points, lines, and areas to meet the challenging needs of multi-point testing.
- Access the full potential of our RSE 30/60 series infrared cameras with Open API SDK.

Key features	RSE30	RSE60	RSE30H	RSE60H			
IR Resolution	384 × 288	640 × 480	384 × 288	640 × 480			
Thermal Sensitivity (NETD)	<50 mk	<30 mk	<50 mk	<30 mk			
Spectral Response		7.5 μm t	to 14 µm				
Focus		Au	ito				
Temperature Range	-20 °C to 650 °C	-20 °C to 650 °C	-20 °C to 2000 °C	-20 °C to 2000 °C			
Temperature Accuracy	<u>+</u>	$\pm 2~^\circ C$ or $\pm 2~\%$ of reading, whichever is greater					
Fully-Radiometric Streaming	Yes. 30Hz	Yes. 25Hz	Yes. 30Hz	Yes. 25Hz			
Video	Frequency: 30 Hz Bandwidth: 1.8 Mb Sub stream Pixel: 384 x 288 Frequency: 30 Hz Bandwidth: 100 Kb	Frequency: 30 Hz Bandwidth: 2.5 Mb Sub stream Pixel: 320 x 240 Frequency: 30 Hz Bandwidth: 100 Kb	Frequency: 30 Hz Bandwidth: 2.5 Mb Sub stream Pixel: 320 x 240 Frequency: 30 Hz Bandwidth: 100 Kb	Frequency: 30 Hz Bandwidth: 2.5 Mb Sub stream Pixel: 320 x 240 Frequency: 30 Hz Bandwidth: 100 Kb			
Alarm Input/Output	1 relay output: load capacity: 24 V, 1.5 A 1 optocoupled output: output capacity: 3.3 to 24 V, 35mA maximum output current 1 channel optocoupled input: input capability: 3.3 to 24 V, 5mA-to-15mA input current						
Access standard	ONVIF						
Network Protocols		IPv4, UDP, TCP, I	RTSP, RTCP, RTP				
Concurrent Access	10 channels for	mainstream and subs	tream, 1 channel for f	ully-radiometric			

#### Included Accessories

Thermal Camera (standard lens). Lens cap (removable), Power adapter, Power connector, Ethernet cable 3 m, Allen wrench, Tripod adapter block, Mounting screw M2X5, Documents including each of Safety Sheet and Quick Reference Guide, Quality Certificate and Warranty Card

#### **Recommended Accessories**

RSE30-2X TELE LEN RSE30-2X WIDE LEN RSE30H-2X TELE LEN RSE30H-2X WIDE LEN RSE60-2X TELE LEN RSE60-2X WIDE LEN RSE60H-2X TELE LEN RSE60H-2X WIDE LEN

#### **Ordering Information**

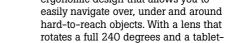
FLUKE-RSE30/ APAC	Infrared Camera
FLUKE-RSE60/ APAC	Infrared Camera
FLUKE-RSE30H/ APAC	Infrared Camera
FLUKE-RSE60H/ APAC	Infrared Camera

Contact your local distributor for price and availability. fluke.com/findus

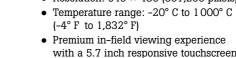
#### Fluke TiX580 Infrared Camera











LCD

impossible to see.



lenses-2x and 4x telephoto, wide angle, and 25 micron macro-no calibration required, interchangeable between compatible cameras

• See, save and share from the field and connect to the largest selection of wireless test and measurement tools with the Fluke Connect<sup>™</sup> App • Two-year warranty

#### LaserSharp<sup>™</sup> Auto Focus

Get an in-focus image like never before with just a touch of a button. LaserSharp™ Auto Focus, exclusive to Fluke, uses its built-in laser distance meter to calculate the distance to your designated target with pinpoint accuracy. On target and in-focus. Every. Single. Time.

#### **Brilliant Image Quality**

Enhanced image quality and temperature measurement accuracy can turn your 640 × 480 images (307,200 pixels) into 1280 × 960 images (1,228,800 pixels). That's 4× the resolution and pixels with SuperResolution.

Key Features	TiX580
Infrared resolution	640 × 480 (307,200 pixel) SuperResolution mode: 1280 × 960 (1,228,800 pixels) (TiX580)
IFOV (spatial resolution)	0.93 mrad
Field of view	34° H × 24° V
Distance to spot	753:1
Thermal sensitivity	≤ 0.05° C at 30° C (86° F) target temp (50 mK)
Temperature range	-20° C to 1000° C (-4° F to 1,832° F)
Optional lenses	Pre-calibrated smart optional lenses: wide angle, 2x tele
Wireless connectivity	Fluke Connect™ app compatible. Wireless connectivity to iPad™ (iOS 4s and later), Android™ 4.3 and up, and WiFi
IR-Fusion™	AutoBlend™ mode, continuous blending
Picture-In-Picture (PIP)	Yes
Software	Fluke Connect <sup>™</sup> (web, mobile and desktop)
Video recording	Standard and radiometric
Alarms	High temperature, low temperature, and isotherms (with



Industrial Imaging



#### Tablet-sized screen, more details, faster decisions.

You need maximum flexibility with an ergonomic design that allows you to sized 5.7 inch touchscreen LCD, you can aim and focus from a comfortable angle and easily capture targets that were once

• Resolution: 640 × 480 (307,200 pixels)

with a 5.7 inch responsive touchscreen

• See the details you need with smart

ephoto to PC, iPhone™ and Fi to LAN

hin range)





enhoto infrared lens (2x magnification)



FLK-LENS/4XTELE2 Telephoto infrared lens (4x magnification)







FLK-TIX5XX-NECK Neck Strap

FLK-LENS/WIDE2 e-angle infrared lens



Infrared 25 Micron Macro lens



luetooth Hand



Window



#### **Included Accessories**

AC Power Supply and Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, HDMI Video Cable, Hard Carrying Case, Adjustable Neck and Hand Strap, Bluetooth Headset (where available), Warranty Registration Card and Calibration Certificate. Flash Drive includes Product Manuals and SmartView<sup>™</sup> Software.

#### **Ordering Information** FLK-TiX580 9Hz Infrared Camera FLK-TiX580 60Hz Infrared Camera

Contact your local distributor for price and availability. fluke.com/findus



Industrial Imaging

# Fluke CV Series ClirVu<sup>™</sup> Infrared Windows





Fluke CV200

# **Compliance without compromise.** Safety without sacrifice.

- Increase the safety and speed of electrical thermal imaging inspections with Fluke ClirVu<sup>™</sup> IR Windows. Reduce the risk of arcflash and electrocution, increase the safety of your personnel and reduce the time and cost of preventive maintenance.
- Save time with a quick and easy five-minute or less installation
  - One technician
  - One hole with standard Greenlee<sup>™</sup> punch
  - Panel door does not need to be removed - Grounds instantly to metal enclosure with patent-pending AutoGround<sup>™</sup> process - Maintains panel arc test ratings up to 63 kA when properly installed
- Torture Tested<sup>™</sup> to the highest arc blast test ratings
- IEEE C37.20.7: 63 kA Arc tested at KEMA. UL 50/50E/50V, UL 1558, IEC 60529-1: IP67, IEC 60068, NEMA 4/12, CSA C22.2 NO.14-13:2012, and CE
- Convenience of both quick turn (CV400, CV300, CV200) or security keyed access (CV401, CV301, CV201)
- Available in three sizes 50 mm (1.96 in), 75 mm (2.95 in) and 95 mm (3.74 in) • Work permit requirements and NFPA 70E
- processes are significantly reduced • Full PPE is often not required so inspections
- are done faster and more conveniently • Lifetime replacement warranty against
- manufacturing defects

Specifications	CV400	CV401	CV300	CV301	CV2	200
Size	95 mm (3.74 in) 75 mm (2.95 in) 50 mm (1.96 in			(1.96 in)		
Voltage Range	Any					
NEMA Environment Type	Type 4/12 (indoor/outdoor)					
AutoGround™			Ye	s		
ClirVu™ Optic			Ye	s		
Operating temperature	-40° C to	232º C and 2	260° C (-40° F	to 449.6° F a	and 500° F) In	termittent
Body material		EZAC & ZA-2	27 High Stren	gth Zinc/ Alu	iminum Alloy	
Ratings and testing						
Arc-Tested (IEEE C37.20.7)		6	63 kA for 30 c	ycles @ 60 H	Iz	
UL 50V component recognition	Yes					
UL 50, UL 50E/NEMA Environmental Rating	NEMA Type 4/12					
UL 1558			Ye	s		
CSA C22.2 No. 14, No. 94	Yes					
CSA Type Rating			Туре	4, 12		
Ingress Protection (IEC 60529)	IP67					
Lloyds Register	IEC 62271-100, 200: Up to 11 kV marine switchgear, indoor or outdoor (offshore only), IP65					
Vibration rating		IEC 60068-2	2-6: 10-2000	Hz, 5 g peal	k, 2.5 hr/axis	
Humidity rating		IEC 60	068-2-3:40	C, 93% RH,	504 hr.	
Install						
Actual mounting hole diameter required	115.42 mi	n (4.54 in)	89.89 mm	ı (3.53 in)	61.37 mm	1 (2.41 in)
Greenlee Punch Kit = Punch/ Die		3B = /2983AV	739E 1431AV/	3B = 1432AV	102	B = /442AV
Door Latch	Hand Turn	Security Key	Hand Turn	Security Key	Hand Turn	Security Key
Optics						
Optic insert diameter	95 mm	(3.74 in)	75 mm (	2.95 in)	50 mm	(1.96 in)

# **Included Accessories**

**Quick & Easy Installation** 

in 5 minutes or less

Hand Turn Door Latch (CV200, 300 & 400), Security Key Door Latch (301, 401) and Warranty Statement. Fluke IR Windows are supplied complete, assembled and ready for installation.

# **Ordering Information**

· · · · · · · · · · · · · · · · · · ·	
FLUKE-CV200	50 mm, Infrared Window, Hand Turn Door Latch
FLUKE-CV300	75 mm, Infrared Window, Hand Turn Door Latch
FLUKE-CV301	75 mm, Infrared Window, Securit Key Door Latch
FLUKE-CV400	95 mm, Infrared Window, Hand Turn Door Latch
FLUKE-CV401	95 mm, Infrared Window, Securit Key Door Latch

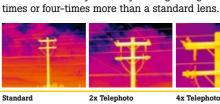
Contact your local distributor for price and availability. fluke.com/findus

# **Fluke Lenses**

**Telephoto, Wide Angle and Macro** 

# **Telephoto Lenses**







# Wide angle lenses

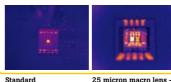
When working in a tight space, see a larger target from a close distance. Ideal for roof and building inspection or for looking through IR Windows.



Standard lens

# Macro lenses

Get an incredibly detailed image of very small objectsas small as 25 microns, smaller than the average human hair.



objects

Model number	Ti401Pro	Ti480PRO
TI-LENS/TELE2 2x Telephoto infrared smart lens†	•	•
TI-LENS/WIDE2 Wide Angle Infrared Smart Lens†	•	•
FLK-Lens/4xTele2 4x Telephoto infrared smart lens†	•	•
FLK-Lens/25Mac2 25 Micron macro infrared smart lens†	•	•

†The lenses for TiX580, Ti480PRO are smart lenses. They come pre-calibrated and don't require calibration to a specific camera, so they are interchangeable between compatible cameras





The difference between finding and potentially diagnosing the problem, and not seeing any discrepancy at all. Get the detail you need, even from a distance, when you view your target magnified two-



4x Telephoto







wide lens see both sides of the building at the same time from the same distance



25 micron macro lens - see detail in very small



# **Ordering Information**

FLK-LENS/ TELE2 FLK-Lens/

4xTele2 FLK-Lens/

Wide2 FLK-Lens/ 25Mac2

2x Telephoto Infrared Smart Lens

4x Telephoto Infrared Smart Lens Wide Angle

Infrared Smart Lens 25 Micron Macro

Infrared Smart Lens



# Fluke DS703 FC Diagnostic Video Borescope



<u>?</u>@

equipment? Diagnose before teardown with the durability of Fluke Industrial inspections require a powerful diagnostic borescope designed to stand up to the

Gritty, industrial, expensive

your hand. • High definition probe with dual-view camera

dirtiest, most harsh environments. Fluke Diagnostic

Scopes put high-resolution images in the palm of

- High Resolution DS703 FC- 1280 × 720 (921,600 pixels)
- Processing speeds that render a smooth, clear. consistent image
- 17.78 cm (7 in)' LCD screen for easy viewing
- Improved battery charging and management
- Macro to micro zoom function
- Adjustable lighting to capture the best image • Up is Up<sup>™</sup> technology for an appropriate
- orientation, regardless of the probe location
- True 720p video • Two-year warranty

# Fluke DS703 FC High Resolution Diagnostic Scope with Fluke Connect™

Rugged, high-definition industrial 1280 × 720 resolution Diagnostic Scope with Wi-Fi capability. 22.86 cm (7 in) capacitive touch screen for accurate diagnostics in difficult to reach spaces. 720p video recording inspection camera. Up is Up™ technology rotates the display screen to allow for consistent image display, regardless of the orientation of the probe.

	DS703 FC
LCD screen	5510510
Туре	7 inch Capacitive touch screen
Refresh rate	30 hz
LED backlight	Adjust display brightness for optimal viewing
Communication	Aujust display brightness for optimiar viewing
Wireless interface	WiFi 802.11b/g/n, Range: 10.06 m (33 ft)
Data transfer	USB and micro HDMI cable
FlukeConnect™	Save and share images via FlukeConnect™
Instant upload to the cloud	Yes, with FlukeConnect™
General features	ies, with Hukeconnect
Color palettes	Visible light, grayscale or inverted
•	6 GB
Internal memory	
Physical buttons	Intuitive, easy to navigate button technology, 4 functional keys, 4 navigational, one capture or select button
Carrying case	Protective EVA case
Strap	Hand Strap and Neck Strap included
Power adapter	AC adapter/battery charger input
Battery	6400mAh 3.7 volt rechargeable internal li-ion battery
Battery life	3 hours at 50 % LED brightness
Dimensions	17.73 x 22.48 cm (6.98 x 8.85 in)
Weight	0.88 Kg (1.95 lbs)
General specifications and s	afety
Tablet	IP54, dust protected and protected against water projected from a nozzle
Drop test	2 meter (6.56 feet)
Operating temperature	0 °C to 45 °C (32 °F to 113 °F), 50 °C (122 °F) for less than 10 minutes
Storage temperature	-40 °C to 60 °C (-40 °F to 140 °F)
Operating humidity	90 % at 35 °C (95 °F), 75 % at 40 °C (104 °F), 45 % at 50 °C (122 °F)
Warranty	2 years

# **Recommended Accessories** FLK-8.5MM Scope FLK-3.8MM Scope 1M probe, forward 3M probe, dual view view

FLK-5.5MM Scope FLK-8.5MM Scope 1M probe, forward 2M probe, dual view FLK-5.5MM/ FLK-9MM Scope 0.7M ART Artic Forward view 20M probe reel



# **Included Accessories**

Hand strap, neck strap, USB cable, AC power supply/battery charger, TPAK Magnetic Hanger, protective EVA case.

## **Ordering Information**

FLK-DS703 FC High Resolution **Diagnostic Scope** 

Contact your local distributor for price and availability. fluke.com/findus

# Fluke ii900 Sonic Leak Detection **Industrial Imager**



A fast, simple way to detect compressed air, steam, gas and vacuum leaks.

Equipped with an array of microphones for an expanded field-of-view, the handheld Fluke ii900 Sonic Industrial Imager enables maintenance teams to quickly and accurately locate air, gas and vacuum leaks in compressed air systems; even in noisy environments

- 17.78 cm (7 in) 1280 × 800 LCD with capacitive touchscreen
- · Frequency band of 2 kHz to 52 kHz (detected 150 ml/min leak at 7 bar for 10 mins)
- SoundMap<sup>™</sup> overlay for visual leak detection • Capture images in JPEG or PNG format with user input notes function

 $\bigotimes$ Fluke ii900

- Manual frequency filtering
- Two-year warranty

# SoundSight<sup>™</sup> Technology

Specifically designed for noisy production facilities, new SoundSight<sup>™</sup> technology is simple to learn and easy to implement. The 7" LCD touchscreen overlays a SoundMap™ on a visual image for quick leak location identification. The straightforward, intuitive interface allows technicians to isolate the sound frequency of the leak to filter out loud background noise. In a matter of hours, the team can inspect the entire plant during peak operations. For the first time, you can quickly and easily identify the air leak repairs needed to ensure efficient operations and reduce utility bills. Images can be saved and exported for reporting purposes. Never leave air leaks unattended again.

# With minimal training, the ii900 enables you to:

- · Quickly and easily locate leaks
- Optimize air compressors-delay the capital expense of installing additional compressors
- Ensure proper air pressure to pneumatic equipment
- Lower energy and gas costs
- Reduce leak detection time
- Improve reliability of the production line
- Make leak detection part of the typical maintenance routine
- Train the team in a matter of minutes
- Validate repairs on the spot

Key Features	ii900
Sensor	
# of Microphones	64 digital MEMS microphones
Frequency Band	2 kHz to 52 kHz
Sound Pressure Sensitivity	150 ml/min leak at 7 bar from 10 meters
Operation Distance Range	0.5 to 70 meters (1.64 to 229.6 ft)
Built-in Digital Camera (visible	e light)
Field of view	63°± 5°
Focus	Fixed lens
Acoustic Measurements	
Measurement Range	15.4 dB SPL to 115.2 dB SPL ±1 dB SPL 2 kHz 5.6 dB SPL to 102.5 dB SPL ±2 dB SPL 19 kHz 28.4 dB SPL to 131.1 dB SPL ±1 dB SPL 35 kHz 41.8 dB SPL to 133.1 dB SPL ±3 dB SPL 52 kHz
<b>General Specifications</b>	
Battery Life	6 hours/battery (product includes spare battery)
Ingress Protection (main unit)	IP40 protection against particles 1mm or greater
Sensor head rating	IP51 protection against dust and dripping water
True the Virtual De	

Try the Virtual Demo See sound now. Take a virtual tour of the Fluke ii900 and ii910 Acoustic Imagers. interface allows technicians



Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

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FLK-TIX5xx-NECK Neck Strap

EBC290 External Battery Charger 

PLUCE CXT1000 Hard Carry Case











fluke.com/sea.ii900

# Included Accessories

AC Power Supply, Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, Rugged, Hard Carrying Case, Two Rubber Array Covers, Adjustable Hand Strap and Neck Strap.

**Ordering Information** 

FLK-II900

Sonic Industrial Imager



# Fluke ii910 Precision Acoustic Imager





# A fast, easy way to detect, locate and analyze partial discharge in one tool.

The ii910 is the all-in-one tool maintenance teams have been waiting for when it comes to leak and partial discharge (PD) issues. Quickly scan the environment and get all the pictures/videos you need with simple one-button capture. No additional tools, equipment or cumbersome cables required. The ii910 Acoustic Imager's groundbreaking technology makes it a cost-efficient, safe, effective, and comfortable tool for teams who inspect and maintain power distribution and industrial high voltage equipment.

- 17.78 cm (7 in) 1280 × 800 LCD with capacitive touchscreen
- Detection range of 0.5 m to 120 m
- Frequency band of 2 kHz to 100 kHz
- SoundMap<sup>™</sup> overlay for visual PD detection
- Captures videos in MP4 format • Manual frequency filtering
- Two-year warranty

# SoundSight<sup>™</sup> Technology for partial discharge detection

Partial Discharge is a very serious issue that you need to be able to monitor quickly and easily. Whether you are inspecting insulators, transformers, switch gears or high voltage powerlines you need to be sure that you spot a problem quickly and early. Partial discharge that goes unchecked can cause blackouts, fires, explosions, or death from arc flashes. In addition to the danger that partial discharge poses to human lives and the environment, there is a significant monetary risk of downtime. Having equipment go down can cost millions of dollars per hour of downtime.

The Fluke ii910 Precision Acoustic Imager is the perfect tool for teams that are constantly inspecting and maintaining power distribution and industrial high voltage equipment. The ii910 provides a safe quick and easy way to detect and locate partial discharge in order to maintain high voltage equipment and prevent catastrophic events. With SoundSight<sup>™</sup> technology the ii910 translates the sounds that it hears into a visual representation so that you can quickly locate problem areas. The higher frequency capability of the ii910 allows for earlier detection to facilitate early maintenance planning.

Key Features	ii910	
Sensor		
Frequency Band	2 kHz to 100 kHz	
Nominal Frame Rate	25 fps	
Detection Range	0.5 to 120 m (1.64 to 393.7 ft)	
Built-in Digital Camera (visibl	light)	
Field of View	63° ±5°	
Focus	Fixed lens	
Display		
Size	22.86 cm (7 in) LCD with backlight, under-sunlight readable	
Resolution	1280 × 800 (1,024000 pixels)	
Touchscreen	Capacitive	
Acoustic Image	Yes, SoundMap™ image	
Acoustic Measurements		
Measurement Range	12.1 dB SPL to 114.6 dB SPL ±1 dB SPL 2 kHz 4.4 dB SPL to 101.2 dB SPL ±2 dB SPL 19 kHz 12.8 dB SPL to 119.2 dB SPL ±1 dB SPL 35 kHz 19.8 dB SPL to 116.1 dB SPL ±3 dB SPL 52 kHz 41.4 dB SPL to 129.0 dB SPL ±1 dB SPL 80 kHz 54.4 dB SPL to 135.5 dB SPL ±1 dB SPL 100 kHz	
Auto Max/Min dB Gain	Auto or manual, user selectable	
Frequency Band Selection	User selectable through user-made pre-sets or manual entry	
<b>General Specifications</b>		
Battery Life	6 hours/battery (product includes spare battery)	
Main Unit Rating	IP40 protection against particles 1 mm or greater	
Weight	2.15 kg (4.74 lbs)	
General Safety	IEC 61010-1	



# **Included Accessories**

**Recommended Accessories** 

EBC290

External

Battery Charger

PLUCE

CXT1000

Hard Carry Case

BP291

4500 mAh capacity

Li-ion Battery

FLK-TIX5xx-NECK

Neck Strap

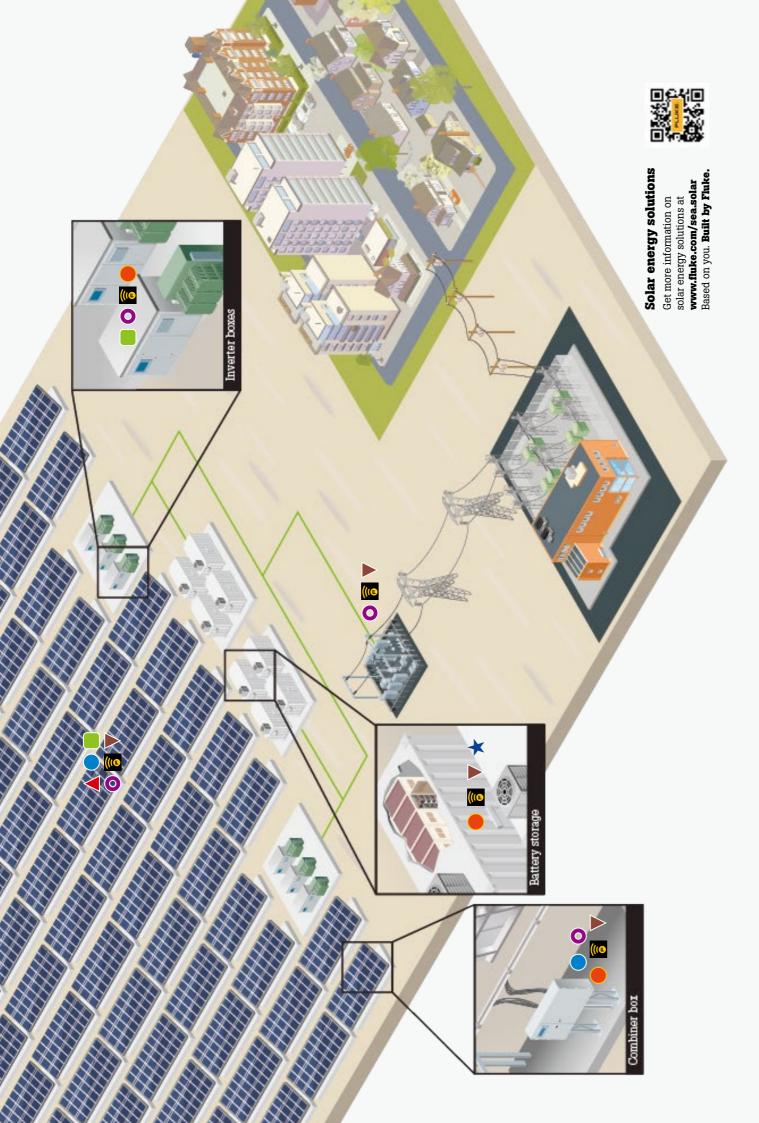
AC Power Supply, Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, Rugged Hard Carrying Case, Two Rubber Array Covers, Adjustable Hand and Neck Strap.

# **Ordering Information**

FLK-II910 **Precision Acoustic** Imager







# Solar Technician/ Installer

# Focus:

- Mechanical and electrical design
  Conduct commissioning
  Troubleshooting

# Job needs:

- Irradiance meter/PV tester
  - Digital multimeter
- Clamp meter
  - Temperature/Thermal
- Insulation and power quality
  - Insulated hand tools Earth ground

# PV Designer/Electrician

- Focus:
- Conduct commissioning
  Preventative maintenance
  Troubleshooting

# Job needs:

- Irradiance meter/PV tester
  - Digital multimeter
- Clamp meter
- O Temperature/Thermal
- Insulation and power quality
  - Insulated hand tools

Earth ground

# Solar Advisor

Focus:

**Maintenance Manager** 

Focus:

**Operations and** 

- Mechanical and electrical designTroubleshooting

Lead preventative maintenance
Troubleshooting
Monitoring

# Job needs:

- Irradiance meter/PV 1
  - Digital multimeter
    - Clamp meter

Irradiance meter/PV tester

Job needs:

Digital multimeter Clamp meter

- O Temperature/Thermal
- O Temperature/Thermal
- Insulation and power quality
- ★ Battery analyzer Insulated hand tools



Learn how Fluke solutions can save you time and money while increasing your productivity at www.fluke.com Solar energy solutions



Solar energy and electric vehicle charging infrastructure are expanding worldwide at a fast pace. From grid-tied and off-grid, to hybrid and backup systems, critical infrastructure must be maintained for reliability and efficiency.

The growth of the solar energy industry requires new solar testing equipment solutions for electricians, PV installers, and technicians. From solar clamp meters, solar irradiance meters and photovoltaic testers for residential needs, to commissioning a new PV array or routine maintenance on a solar farm or photovoltaic power station, Fluke testing equipment has you covered.



# **Irradiance and Temperature**

Fluke Irradiance Meters have been designed from the ground up to simplify the installation, commissioning, and troubleshooting of photovoltaic arrays, measuring irradiance, temperature, inclination and direction of the solar array in a single handheld tool.

Whether working on a roof-mounted system or on a large field installation, Fluke Irradiance Meters are the single-handed solution that every solar installer and technician needs in their tool bag.

See pages 72



# **Multifunction Tests and I-V Curve Tracing**

Test that PV systems are performing to their optimal power output as well as operating safely. Designed for PV professionals that provide installation, commissioning and maintenance services, you can rely on Fluke to provide a complete PV testing solution that conforms to IEC 62446-1 standards.

Fluke's multifunction PV tester includes a full sequence of safety and performance tests quickly and accurately to save you time and money with features like auto testing, instant on-screen I-V curve results, and a unique "Keep the Leads" system which allows for multiple tests through a one-time setup of test leads.

See page 73





# **Solar Data Management and Reporting Software**

See page 74



# **Electric Vehicle Charging Station Operation**

Test the safety and performance of type 1 or connector for Tesla™ station, level 1 or level 2 electric vehicle AC charging stations (EVSEs) with Fluke's EVSE testing solutions. Verify an EVSE is working properly after install, during periodic maintenance or troubleshooting.

You can perform a variety of tests including ground fault checks, insulation of wires, measuring voltage and duty cycle to see max current available for charging all with one adapter. The adapter acts as an electric vehicle when connected to an EVSE for easy performance and maintenance testing. See page 75



Whether you are analyzing panel efficiency through I-V curves, or safety testing the system through the Category 1 test regime in conformance to IEC 62446-1, proper data management is critical for producing easy-to-understand reports for clients. TruTest™ enables solar testing, asset management, data storage and reporting on a single software platform that covers certification and documentation needs.



# Fluke IRR1-SOL Solar Irradiance Meter



Fluke IRR1-SOL



# One easy-to-use tool for testing solar panels and PV systems.

The Fluke IRR1-SOL Irradiance Meter has been designed from the ground up to simplify the installation, commissioning and troubleshooting of photovoltaic arrays and solar panels. Whether surveying, installing, executing maintenance, or checking the performance of solar panels or photovoltaic systems there are four critical measurements that technicians require, and that the Fluke IRR1-SOL Irradiance Meter delivers:

- · Solar irradiance: Make instantaneous measurements to determine the watt per square meter solar irradiation, required by the IEC 62446-1 standard
- Ambient and PV module temperature: Measure temperature by either placing the meter directly on the panel or by connecting the external probe
- Array orientation: Find cardinal direction with the built-in compass
- Tilt angles: Verify inclination of a roof or panel with the tilt function

# Built to go where you go

With a rugged, compact design, a protective carrying case, and an easy-to-read, high contrast LCD screen to read measurements in direct sunlight, the IRR1-SOL can go where you go. The simple user interface, instantaneous solar irradiation measurements, and built-in temperature sensor make it easy to meet the IEC 62446-1 requirements for testing, documenting, and maintaining photovoltaic systems.

Key Features	IRR1-SOL	
Irradiance		
Measuring Range	50 to 1400 W/m2	
Resolution	1 W/m2	
Measuring Accuracy	±(5% + 5 Digit)	
Temperature Measureme	ent	
Measuring Range (° C)	-30° C to 100° C (-22 °F to 212 °F)	
Resolution	0.1 °C (0.2 °F / 1 °F @>100 °F)	
Measuring Accuracy	±1° C (±2 °F) @ -10° C to 75° C (14 °F to 167 °F) ±2° C (±4 °F) @ -30° C to -10° C (-22 °F to 14 °F) ±2° C (±4 °F) @ 75° C to 100° C (167 °F to 212 °F)	
Note: Temperature measu	rement response time: ~ 30 seconds	
Inclination Angle		

Measuring Range	-90° to +90°
Resolution	0.1°
Measuring Accuracy	±1.5° @ -50° to +50°, ±2.5° @ -85° to -50° and +50° to +85°, ±3.5° @ -90° to -85° and +85° to +90°
Compass	
Measuring Range	0° to 360°
Resolution	1°
Measuring Accuracy	±7°

Note:

a) Compass Measurements valid for device inclination between -20° and +20° to horizontal. Measurements taken outside that range appear as "---" b) Result is referred to magnetic North

Protec rress Protection

Ingress Protection	IEC 60529: IP40
<b>General Specifications</b>	
Battery Life (typical)	50 hour (≤9000 readings)
Weight	231 g (8.14 oz)

# The IRR1-SOL features:

- A high precision monocrystalline solar sensor for irradiance measurements up to 1400 W/m2
- Two options for temperature measurement – a built-in sensor and an external suction mount probe
- An integrated compass

fluke.com/sea.solar

• An inclination sensor for the tilt function

## Learn more





fluke.com/sea.solar

# Work in the Solar Industry? Visit the link to learn how Fluke tools

can help with the future of power.



# Included Accessories

FLK-80PR-IRR External Temperature Probe with Suction Cup, C250 Carrying Case with Shoulder Strap, Four AA Alkaline Batteries and User Manual.

# **Ordering Information**

FLK-IRR1-SOL Solar Irradiance Meter

# Fluke SMFT-1000 Multifunction PV Tester and Performance Analyzer, I-V Curve Tracer Kit



# All-in-one test solution to verify PV system performance and safety, expedite client reporting

Test that PV systems are performing to their optimal power output as well as operating safely with the Fluke SMFT-1000 multifunction tester with I-V curve tracing. Designed for PV professionals that provide installation, commissioning and maintenance services to systems that operate at 1000 V DC or under, the SMFT-1000 provides a complete PV testing solution that conforms to IEC 62446-1 standards. Through Fluke's TruTest™ Software, measurement data from solar site installation and commissioning testing can be easily imported, organized and analyzed for effortless reporting without having to bring a laptop on-site.

# **Critical testing features for periodic inspection** of PV systems

Full sequence safety testing - IEC 62446-1 Category 1:

- Protective resistance earth (RLO)
- Voltage on open circuit, including polarity (VOC)
- Short circuit current (ISC)
- Insulation resistance (RINS)
- ROI and system performance testing IEC 62446-1 Category 2:
- I-V Curve tracing and software analysis with TruTest<sup>™</sup>
- Irradiance, temperature, tilt, cardinal direction

Specifications		SMFT-1000	
Protective conductor res	istance (RLO)		
Display range	Measuring range	Resolution	
0.00 Ω - 19.99 Ω	0.20 Ω - 19.99 Ω	0.01 Ω	
20.0 Ω- 199.9 Ω	20.0 Ω - 199.9 Ω	0.1 Ω	
200 Ω - 2000 Ω	200 Ω - 2000 Ω	1 Ω	
Test current	≥ 200 mA (≤ 2Ω + Rcomp	b)	
Test voltage	4 V DC 10 V DC		
Polarity reversing	Yes		
Test lead zero (Rcomp)	Up to 3 Ω		
PV module/PV string, or	en-circuit voltage (Voc)		
0.0 V - 99.9 V	5.0 V - 99.9 V	0.1 V	:
100 V - 1000 V	100 V - 1000 V	1 V	
Polarity test		Yes	
General Specifications			
Weight		1.4 kg (3.09 lb)	
Battery		6 AA IEC LR6	
Operating temperature	0	°C to 50 °C (32 °F to 122 °	F)
Storage temperature	-30 °C to 60	°C (-22 °F to 140 °F) batte	ries r
Operating altitude		up to 2000 m	
Storage altitude		up to 2000 m	

Valid in selected countries. Check with your local Fluke representative on availability.



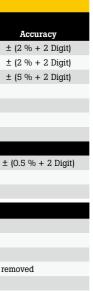
**Renewable Energy** 



- Fluke SMFT-1000-BP Professional Tool Backpack
- SMFT-1000 Multifunction PV Analyzer
- Carry Strap
- Fuse Pack
- Adapter Cable IRDA Optical-to-USB
- · Zero Adapter
- IRR2-BT Wireless Solar Irradiance Meter Pro
- 80PR-IRR External Temperature Probe
- Mounting Bracket for solar panel Carry Case
- i100 AC/DC Current Clamp 100 A TPAK Magnet Set
- TP1000 Test Probe with Remote Test Button
- TL1000 Test Lead Set
- TL1000-MC4 Test Lead Set
- TL1000/30M Test Lead
- on Reel
- Coupler set
- (6) AA Batteries

# Learn more





# **Recommended tools for use with** the SMFT-1000

- TruTest<sup>™</sup> Data Management and Reporting Software
- 393 FC CAT III 1500 V Solar Clamp Meter
- 87V MAX True-rms Digital Multimeter
- 1587 FC Insulation Multimeter
- Ti480 PRO Infrared Camera
- 1625-2 GEO Earth Ground Tester
- 500 Series Battery Analyzers
- Pomona PVLEAD3 MC4 Solar Clamp Test Lead Set

# **Ordering Information**

# SMFT-1000\*

Multifunction PV Tester and Performance Analyzer, I-V Curve Tracer

\* Also available as a kit with Advanced TruTest™ oftware and MC4 Solar Clamp Test Lead Set



# Fluke TruTest<sup>™</sup> Solar Data Management and **Reporting Software**



# The easy-to-use data management solution

Fluke TruTest<sup>™</sup> Software is designed to eliminate the hassle associated with traditional solar system data management and reporting. Whether you are analyzing panel efficiency through I-V curves, or safety testing the system through the Category 1 test regime in conformance to IEC 62446-1, proper data management is critical for producing easy-to-understand reports for clients. Compatible with the Fluke SMFT-1000 Multifunction PV Tester and Performance Analyzer, TruTest™ Software allows you to quickly and easily import measurement results directly from your solar multifunction tester to computer, organize and analyze the data, compare individual asset data against previous measurements imported and provide a comprehensive and visual client report.

- With a streamlined user interface and intuitive workflow, measurement data can be easily formatted into printable test certificates and reports complete with your company logo and electronic signature.
- Easily manage measurement data
- Quickly create test certificates and reports
- Free updates for 5 years after installation
- Easy data collection and database transfers
- Enables manual data entry
- Intuitive user interface
- Fast and simple operations

# **System Requirements**

Туре	Requirement
Operating system	<ul> <li>Microfoft Windows 10, 64-bit and 32-bit (recommended)</li> <li>Microfoft Windows 8/8.1, 64-bit and 32-bit</li> <li>Microfoft Windows 7 with Service Pack 1, 64-bit and 32-bit</li> </ul>
System memory	Minimum 4 GB RAM (64-bir) or 2 GB RAM (32-bit)
Hard disk space	Minimum 2 GB available hard disk space
Display resolution	Minimum screen resolution 1366 x 768
Communication interfaces	USB

**Comprehensive reporting** 

Fluke TruTest<sup>™</sup> Software simplifies the

reporting process so you can produce

reports as quickly as possible, saving

you time and money. Easily visualize

the status of assets with clear pass/

fail results. Tests in accordance with

standards such as IEC 62446-1 and EU

directive 2009/104/EC (BetrSichV) are available at the touch of a button, and a

pre-configured template ensures that no

matter your testing standards TruTest™

Software has you covered.

easy-to understand test certificates and

# **Streamlined data management**

Manage test results, client and site data with ease, and create reports guickly using the intuitive, modern user interface and custom-report builder.

# Single solar platform

TruTest<sup>™</sup> enables solar testing, asset management, data storage and reporting on a single software platform that covers certification and documentation needs.

# **Dashboard interface**

On-screen intuitive dashboard interface allows the user to see the status of all their clients instantly and navigate to further levels of detail if desired.

# Valid in selected countries.

Check with your local Fluke representative on availability.

# Demo software and software packages

Free demonstration software is available at www.fluke.com/ trutestsoftware. After downloading start the installation by double clicking on the software file. The setup program will guide you through the installation procedure. Please follow the installation instructions displayed on the screen.

After purchasing TruTest<sup>™</sup> Lite or TruTest<sup>™</sup> Advanced, vou will be provided with a code that will give you full access to the features purchased.





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rdering Informa	tion
LK-TRUTEST- TE Software	TruTest Lite Software Package license code
LK-TRUTEST- DV Software	TruTest Advanced Software Package with enhanced functionality license code
LK-TRUTEST- D Software Disc	TruTest Software disc (if unable to download from website). License code sold

Contact your local distributor for price and availability. fluke.com/findus

# Fluke FEV300 Adapter Kit for Electric Vehicle **Charging Stations**



Test the functionality and safety of electrical vehicle charging stations, easily and reliably

Test the safety and performance of type 1 or connector for Tesla<sup>™</sup> station, level 1 or level 2 electric vehicle ac charging stations (EVSEs) with the Fluke FEV300. This test adapter simulates the presence of an electrical vehicle, allowing the user to conduct tests in combination with appropriate test instruments such as a digital multimeter or oscilloscope. Use the FEV300 to verify an EVSE is working properly after install and during periodic maintenance or troubleshoot an EVSE if it is not delivering the appropriate charge.

# Use the FEV300 to:

- Check that an electric vehicle charging station including protective earth is correctly wired and functioning properly with the PE pre-test feature
- Perform GFCI troubleshooting of an EVSE and verify if it is operating within safety standards
- Test different charging states of an EVSE with CP state simulation
- · Verify charging voltage and maximum available current using a digital multimeter

# **Available Measurements:**

- PE grounding system pre-test (verifies that there is no presence of dangerous voltage at the ground terminal)
- Phase indicator (presence of voltage)
- CP State simulation (A, B, C, D) for Control Pilot
- CP and PE Error simulation (Control Pilot CP signal short-circuited to PE) (interruption of PE conductor)
- GFCI ground fault circuit interrupter test
- · Measurements on live conductors (L1, L2/N) and on PE ground conductor

# Features:

- PE Pre-Test for grounding protection against dangerous voltage
- CP Control Pilot for vehicle simulation
- PE and CP Error notification
- GFCI testing
- · Compatibility with the Fluke portfolio to measure voltage, waveform, loop impedance and resistance
- Complies with SAE J1772 standards

# **Simplicity & Convenience**

Perform a variety of tests including ground fault checks, insulation of wires, measuring voltage and duty cycle to see max current available for charging all in one adapter. The adapter safely integrates with the Fluke portfolio of test and measurement tools. No need to bring an electric vehicle onsite for EVSE testing: the adapter acts as an electric vehicle when connected to an EVSE for easy performance and maintenance testing

# The FEV300 is also available in several Fluke eMobility kits:





**Renewable Energy** 



FEV300/TY1 & TSL

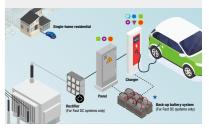
Included in the FEV300 Electrical Vehicle Charging Station Test **Adapter Kit** 

- Fluke FEV300/BASIC Test Adapter
- Fluke FEV-COM/TY1 Type 1 Connector & Cable
- Soft Carrying Case

# Work in the eMobility eMobility and EVSE solutions industry?

Visit us to learn how Fluke tools can help with eMobility and EVSE solutions.

fluke.com\sea.emobility



# The FEV300 is compatible with the Fluke portfolio of test and measurement tools.

# **Becommended tools:**

- 87V Industrial Multimeter
- 376 FC True-RMS Clamp Meter with iFlex
- 1587 FC Insulation Multimeter
- 1738 Three-Phase Power Quality Logger
- 1630-2 FC Earth Ground Clamp
- BT521 Advanced Battery Analyzer
- 1664 FC Installation Multifunction Testers
- 125B Industrial ScopeMeter® Handheld Oscilloscope

# **Ordering Information**

FLK-FEV300

Adapter Kit for Electric Vehicle **Charging Stations** 



Indoor Air Quality Meter Selection Guide

	5232 1000				
Models	Fluke 971	Fluke 972	Fluke 922	Fluke 985	Fluke CO-220
Record storage	99	99	99	10000	
Downloadable data	No	No	No	USB or Ethernet	No
Battery type	(4) AAA	(2) AAA	(4) AA	Rechargeable Li-Ion 7.4 V 2600 mAh	(1) 9V
Warranty	2 years	1 years	2 years	1 year	1 year
Indoor air diagnostic application	ns				
Air velocity			•		
Air pressure			•		
Air flow (volume)			•		
Carbon dioxide					
Carbon monoxide					•
Temperature	•	•	•		
Humidity Dew point/wet bulb	•	•	•		
Particle concentration counting	•	•			
Air pressure/air velocity/air flow	W			, in the second s	
Air pressure range			±4000 Pascals/±16 in H20/±400 mm H20/±40 m bar/±0.6 psi		
Air pressure accuracy			±1% + 1 Pascal/±1% + 0.01 in H2O/±1% + 0.1 mm H2O/±1% + 0.01 m bar/±1% + 0.001 psi		
Air velocity range			250 to 16000 fpm/1 to 80 m/s		
Air velocity accuracy			±2.5% of reading at 2000 fpm (10.00 m/s)		
Air flow (volume) range			0 to 99,999 cfm		
Air flow (volume) accuracy			Accuracy is a function of velocity and duct size		
Temperature relative humidity			allu uuci size		
Temperature range	-20° C to 60° C (-4°F to 140°F)	-30.0 °C to 70.0 °C (internal sensor)-40.0 °C to 100 °C (external sensor)	0° C to 50° C (32°F to 122°F)		
Temperature accuracy	0° C to 45° C (±0.5° C); -20° C to 0° C and 45° C to 60° C (±1.0° C)	Internal sensor: ±0.4 °C (-30 °C to 70 °C)External sensor: ±0.4 °C (-40 °C to 90 °C);±0.5 °C (90 °C to 100 °C	0° C to 50° C (±0.01° C)		
Relative humidity range	5% to 95% RH	0% to 99.9% RH	0% to 90% RH		
Relative humidity accuracy	10% to 90% RH @ 23° C (±2.5% RH); < 10% or > 90% RH @ 23° C (±5.0% RH)	±3% RH (20% RH to 80% RH @ 25 °C);±5% RH (< 20% RH, > 80% RH @ 25 °C)	0% to 90% RH @ 23° C (±2.0% RH)		
Carbon dioxide/carbon monoxid	de				
Carbon dioxide range					
Carbon dioxide accuracy					
Carbon monoxide range					0 to 1000 ppm
Carbon monoxide accuracy					5% or ±2 PPM
Particle counting					
Flow rate				2.83 L/min (0.1 cfm)	
Particle size range Count modes				0.3 μm - 10.0 μm (6 channel) Raw counts, #/m3, #/ft3, #/liter in Cumulative or Differential mode	
Counting efficiency				50% @ 0.3 μm; 100% for particles > 0.45 μm (per ISO 21501)	
Concentration limits				10% @ 4000000 particles per ft3 (per ISO 21501)	

# **Environmental Testing**



# Fluke 922 Airflow Meter/Micromanometer

# Fluke 985 Airborne Particle Counter



# The Fluke 922 helps you analyze airflow easily

The Fluke 922 makes airflow measurements easy by combining three functions-differential pressure, airflow, and velocity-into a single, rugged meter. The 922 was designed and built for how (and where) you do your job. Its performance, ruggedness and ease of use set the Fluke 922 apart from the competition. The bright white display and ruggedized holster and wrist strap let you take the Fluke 922 into less than ideal environments. Color-coded hoses help you keep track of where your readings are coming from. The simple, intuitive interface means you can measure pressure, velocity, or airflow at the push of a button.

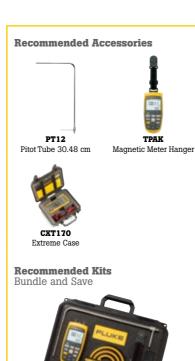
- Powerful meter provides differential and static pressure, air velocity and flow readings
- Convenient color-coded hoses help proper interpretation of pressure readings
- Easy to use without sacrificing performance
- Bright, backlit display for clear viewing
- User-defined duct shape and size for maximum airflow accuracy
- Resolution down to 0.001 in H20
- 99 point data storage capacity
- Min/Max/Average/Hold functions for easy data analysis
- Auto power off saves battery life
- Two-year warranty

# Use the Fluke 922 Micromanometer to:

- · Measure pressure drops across key HVAC equipment to drive peak performance and extend equipment life
- Match ventilation to occupant loads
- Monitor indoor vs. outdoor pressure relationships and manage the building envelope
- Promote indoor comfort and quality
- Perform duct traversals for accurate airflow readings

Specifications	922
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-40°C to 60°C (-40°F to 140°F)
Operating Relative Humidity	Non condensing (<10°C (50° F)) 90% RH (10° C to 30° C (50° F to 86° F)) 75% RH (30° C to 40° C (86° F to 104° F)) 45% RH (40° C to 50° C (104° F to 122° F)) without Condensation
Ingress Protection (IEC 60529)	IP40
Operating Altitude	2000 m (6,561 ft)
Storage Altitude	12000 m (39,370 ft)
EMC	Meets requirements for IEC 61326-1
Vibration	MIL-PREF-28800F, Class 3
Max Pressure at Each Port	10 psi
Data storage	99 readings
Weight	0.64 kg (1.41 lb)
Battery	Four AA batteries
Battery Life	375 hours without backlight, 80 hours with backlight

	Range	Accuracy
Air pressure	±4000 Pa ±16 inH20 ±400 mmH20 ±40 mbar ±0.6 psi	$\pm 1\% + 1$ Pa $\pm 1\% + 0.01$ inH2O $\pm 1\% + 0.1$ mmH2O $\pm 1\% + 0.01$ mbar $\pm 1\% + 0.001$ psi
Air velocity	1 to 80 m/s (250 fpm to 16000 fpm)	10.00 m/s (±2.5% of reading at 2000 fpm)
Air flow (volume)	0 to 99,999 cfm 0 to 99,999 m3/hr 0 to 99,999 l/s	Accuracy is a function of velocity and duct size
Temperature	0° C to 50° C (32°F to 122°F)	0.1° C (0.2° F)







## **Included Accessories**

Fluke 922: Two Rubber Hoses, Wrist Strap, four AA Batteries 1.5 V Alkaline, User Manual and Soft Carrying Case. Fluke 922 Kit: Fluke 922 Airflow Meter, 30 cm (12 in) Pitot Tube, ToolPak, Two Rubber Hoses, Wrist Strap, four AA Batteries, User Manual and Hard Carrying Case.

## **Ordering Information**

FLUKE-922 Airflow Meter FLUKE-922/KIT Airflow Meter Kit

Contact your local distributor for price and availability. fluke.com/findus



# Troubleshooting indoor air guality made easy

The Fluke 985 Particle Counter is ideal for troubleshooting and monitoring indoor air quality issues and verifying HVAC filter performance in critical locations. With its easy to read and fully configurable channel display, lightweight yet rugged form, and highly accurate measurements, the Fluke 985 is the perfect tool for the maintenance, HVAC, and IAQ professional.

- Six channels and particle size range of 0.3 µm to 10.0 µm: Assures accurate measurements even for critical locations requiring ISO Class 5 - 9 certification
- Ultra-lightweight and ergonomic design: Promises easy single-hand operation in tight or awkward spaces with less operator fatigue
- Long battery life: Ten hours of standard-use battery life to last a full work day
- Large 8.9 cm (3.5 inch) QVGC color display: Easy navigation and viewing with the intuitive icons and large font options
- 10000 record storage: Quick access to historical data
- On-screen data presentation: Data can be viewed in a traditional tabular or trend graph view at the user's preference
- Personalized setting and configurations: Customizable settings for the display, sample methods, and alarm settings for sample count
- Data export options: Download data to a PC using a USB memory stick, USB cable or Ethernet connection. No special software is required to download or view data
- Optional password control: Confirms security when required
- USB/Ethernet charge cradle: Assures device is always ready to go when needed
- One-year warranty

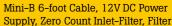
Specifications	985
Channels	0.3 µm, 0.5 µm, 1.0 µm, 2.0 µm, 5.0 µm, 10.0 µm
Flow rate	2.83 L/min (0.1 cfm)
Light source	775 nm to 795 nm, 90mW class 3B laser
Count modes	Raw counts, #/m3, #/ft3, #/liter in Cumulative or Differential mode
Counting efficiency	50% @ 0.3 μm; 100% for particles > 0.45 μm (per ISO 21501)
Zero count	1 count/5 minute (JIS B9921)
Concentration limits	10% at 4 000 000 particles per ft3 (per ISO 21501)
Data storage	10 000 records (rotating buffer)
Alarms	Counts, low battery, sensor fail
Delay time	0 to 24 hours
Sample inlet	Isokinetic probe
Security	Administrator password control (optional)
Communication mode	USB or Ethernet
Calibration	PSL particles in air (NIST traceable)
Size (HxWxD)	27.2 × 9.9 × 5.3 cm (10.7 x 3.9 x 2.1 in)
Weight	0.68 kg (1.5 lb)
Power adapter	100 V AC to 240 V AC, 12 V DC, 2.5 A
Rechargeable battery	Li-ion 7.4 V 2600 mAh; 10 hours typical use (5 hours continuous sampling) / 3.5 hours)
Operating environment	10° C to 40° C (50°F to 104°F) / < 95% RH, non-condensing
Storage environment	-10° C to 50° C (14°F to 122°F) /Up to 98% RH, non-condensing

# Specialty Models CO-220 Carbon **Monoxide** Meter

- Measures CO levels in industrial environments and commercial or residential buildings where accumulation
- of combustion gas is possible. • Stand-alone CO meter that does not require a digital multimete
- Large backlit LCD displays CO levels from 0 ppm to 999ppm
- Beeper triggers with increasing frequency as CO levels rise
- MAX hold function stores and displays the maximum CO level
- Automatic sensor zeroing and self-test upon startup

# **CO-205 Aspirator Kit**

- The CO-205 flue gas sampling accessory kit contains all the components necessary to provide a clean sample for the Fluke family of gas measuring devices.
- The CO-205 Accessory Kit includes
- Stainless steel sampling tube • Industrial-grade hand operated aspirator to
- draw flue sample
- Easily replaceable particulate filter
- Specially designed nose cap for connection to the Fluke CO-220 -



Included Accessories

Adapter, Sample Inlet Protective Cap, Hard Case, Getting Started Manual and User Manual (CD). Fluke CO-220: C50 Soft Carrying Case

Fluke 985: Cradle for charging and

**USB** and Ethernet Communications, ENET Cat5e 7-foot Cable, USB A to

and Battery.

**Ordering Information** 

FLUKE-985
FLUKE-CO-220
FLUKE-CO-205

Particle Counter Carbon Monoxide Meter Aspirator Kit

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 971 Temperature Humidity Meter

# Fluke 972B/972ES Temperature Humidity Meter



Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. Quickly and conveniently take accurate humidity and temperature readings with the Fluke 971.

It is invaluable for facility maintenance and utility technicians, HVAC-service contractors, and specialists who assess indoor air quality (IAQ). Lightweight and easy to hold, it's the perfect tool for monitoring problem areas. With a rugged holster and protected sensor, the Fluke 971 is built to perform and made to last.

- New and improved digital sensor for faster response times
- Backlit dual display of humidity and temperature
- Measures dew point and wet bulb temperatures
- 99 record storage capacity
- Ergonomic design with belt clip and protective holster
- Compact and lightweight at 188 g (6.63 oz)
- Temperature range from -20° C to 60° C (-4° F to 140° F)
- Relative humidity from 5% to 95%
- Min/Max/Avg/Hold functions
- Low battery indicator
- One-year warranty

# Fluke RLD2 UV Refrigerant Leak Detector Flashlight

- Leak detection made easy. The compact, easyto-use, RLD2 UV flashlight uncovers refrigerant leaks
- instantly. Use the UV light to find the leakage area, then, use the laser pointer to pinpoint the exact leak location. With 100 000 hours of life, and four operating modes, this versatile leak detector is a must have for HVAC technicians.
- Six UV LEDs (395 nm
- wavelength) detect leak detection dyes
- Laser pointer clearly locates center of the UV field for accuracy
- Three LED flashlight with 100 000 hour LED life Four operating modes: flashlight, UV light, laser light, UV/laser light combination
- Convenient detachable key chain carabiner and AAA battery included

## **Recommended Accessories**



872 972-200 -Fluke 972B

# Measure-and-view, industrial design, necessity for inspection.

Temperature and humidity are two important items for comfort test of indoor air and environment. The Fluke 972 Series Temperature Humidity Meter can quickly and easily collect accurate humidity and temperature data. It features streamlined industrial design and is comfortable to hold. Simplified buttons require no complicated operations. The selected high-precision sensors ensure that reliable data is collected. The Fluke 972 Series is an indispensable environmental monitoring tool for facility maintenance and engineering technicians, HVAC service contractors, R&D and manufacturing engineers, and professionals involved in indoor air quality (IAQ) assessments.

Specifications	971
Temperature range	-20° C to 60° C (-4° F to 140° F)
Temperature accuracy 0° C to 45° C (32°F to 113°F) -20 °C to 0° C and 45° C to 60° C (-4°F to 32°F and 113°F to 140°F)	±0.5° C (±1.0°F) ±1.0° C (±2.0°F)
Resolution	0.1° C ( 0.1° F)
Response time (temperature)	500 ms
Temperature sensor type	NTC
Relative humidity range	5% to 95% R.H.
Relative humidity accuracy 10% to 90% R.H. @ 23° C (73.4°F) <10%, >90% R.H. @ 23° C (73.4°F)	±2.5% R.H. ±5.0% R.H.
Humidity sensor	Electronic capacitance polymer film sensor
Data storage	99 points
Response time (humidity)	For 90% of total range - 60 sec with 1 m/s air movement

Operating temperature	Temperature: -20° C to 60° C (-4° F to 140° F) Humidity: 0° C to 60° C (32° F to 140° F)
Storage temperature	-20° C to 55° C (-4° F to 131° F)
Battery life	4 AAA alkaline, 200 hours
Safety	Complies with EN61326-1
Size (HxWxD)	194 mm × 60 mm × 34 mm
Weight	0.18 kg (6.63 oz)

# **Included Accessories**

Fluke 971: Four AAA Alkaline Batteries, Operation Manual. Fluke RLD2: Chain Carabiner and Batteries.

# **Ordering Information**

FLUKE-971	Temperature Humidity Meter
FLUKE-RLD2	Refrigerant Leal Detector

Contact your local distributor for price and availability. fluke.com/findus





Ordering Information		
FLUKE-972B	The Fluke 972B Fluke 972ES external sensor Black soft case	
FLUKE-972ES	Fluke 972ES external sensor	





# Insulation Testers

Whether you work on motors, generators, cables, or switch gear, Fluke digital insulation resistance testers deliver advanced performance and noise-free, reliable results. And they are designed to be safe, simple to use and gimmick-free. A perfect solution for insulation testing, troubleshooting, commissioning and preventive maintenance applications.

# **Insulation Tester Selection Guide**

		<b>G</b>	Est.	85		
Insulation Test Functions	1503	1507	1577	1587 FC	1550C	1555
Test Voltages	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V	250 V, 500 V, 1000 V, 2500 V, 5000 V	250 V, 500 V, 1000 V, 2500 V, 5000 V, 10 000 V
Insulation Resistance Test Range	0.1 MΩ - 2 GΩ	0.01 MD - 10 GD	0.1 MΩ - 600 MΩ	0.01 MΩ - 2 GΩ	200 ku - 1 Tu	200 ku - 2 Tu
Polarisation Index/Dielectric Absorption Ratio		•		•	•	•
Auto Discharge	•	•	•	•	•	•
Time Ramp test (Breakdown)						•
Pass/Fail Comparison		•				
Estimated Number of Insulation resistance Tests	1000	1000	1000	1000	1000 @ 5000 V	1000 @ 10 000 V
Voltage >30 V Warning	•	•	•	•	•	•
Memory				•	(99 locations)	(99 locations)
Remote Test Probe	•	•	•	•		
Lo Ohms	•	•				
Display	Digital LCD	Digital LCD	Digital LCD	Digital LCD	LCD / Analog Bar Graph	LCD / Analog Bar Graph
Continuity	(200 mA)	(200 mA)	•	•		
<b>Multimeter Functionality</b>						
AC/DC Volts	•	•	•	•		
Current			•	•		
Resistance	•	•	•	•		
Temperature (contact)				•		
Temperature Compensation				•		
Lo-Pass Filter				•		
Capacitance				•	•	•
Diode Test				•		
Frequency				•		
MIN/MAX				•		
Fluke Connect <sup>rss</sup> enabled				•	ŧ	ŧ
Other						
Hold/Lock	•	•	•	•	•	•
Backlight	•	•	•	•		
Software					1	1
Warranty (in years)	1	1	ю	ę	ę	ы
Battery	4 × AA (NEDA 15A or EC LR6)	4× AA (NEDA 15A or IEC LR6)	4× AA (NEDA 15A or IEC LR6)	4 × AA (NEDA 15A or IEC LR6)	Rechargeable	Rechargeable
+ With Fluke IR FC Connector.						

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**Insulation Testers** 



# Fluke 1587 FC and 1577 Insulation Multimeters



Fluke 1577



# Two powerful tools in one.

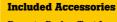
The Fluke 1587 FC and 1577 Insulation Multimeters combine a digital 1 kV insulation tester with a fullfeatured, true-RMS digital multimeter in a single compact, handheld unit, which provides maximum versatility for both troubleshooting and preventive maintenance.

- Insulation test (1587 FC: 0.01 M $\Omega$  to 2 G $\Omega$ ) (1577: 0.1 MΩ to 600 MΩ)
- Insulation test voltages (1587 FC: 50 V, 100 V, 250 V, 500 V, 1000 V), (1577: 500 V, 1000 V) for many applications
- Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection
- Auto-discharge of capacitive voltage for added user protection
- Filter for motor drive measurements (1587 FC only) • AC/DC voltage, DC millivolts, AC/DC milliamps,
- resistance  $(\Omega)$ , and continuity • Capacitance, diode test, temperature, Min/Max, and frequency (Hz) (1587 FC only)
- Auto power off to save battery power
- Large display with backlight and large digits
- Included accessories: Remote probe, test leads and probes, alligator clips, (Type K thermocouple, 1587 FC only)
- Accepts optional Fluke TPAK magnetic hanging system to free your hands for other work
- Rugged, utility hard case allows you to bring everything you need for the job
- Three-year warranty

# The Fluke 1587 FC Insulation Multimeter adds four powerful diagnostic functions through the Fluke Connect<sup>™</sup> Measurements app:

- PI/DAR timed ratio tests with TrendIt<sup>™</sup> graphs identifies moisture and contaminated insulation problems faster
- Memory storage through Fluke Connect<sup>™</sup> eliminates writing down results, reduces errors and saves data for historical tracking over time
- Temperature compensation through app for establishing accurate baselines and relevant historical comparisons

Insulation test voltages 50 V, 100 V, 250 V, 500 V, 1000 V	•	
<b>v</b>		
Insulation test voltages 500 V, 1000 V		•
Insulation resistance	0.01 MΩ to 2.0 GΩ	0.1 M $\Omega$ to 600 M $\Omega$
Auto-discharge of capacitive voltage	•	•
Insulation test smoothing reading	•	
Frequency	•	
Capacitance	•	
Diode test	•	
Temperature	•	
Min/Max	•	
Low-pass filter (for work on VSDs)	•	
AC/DC voltage	•	•
DC millivolts	•	•
AC/DC milliamps	•	•
Resistance	0.1 Ω to 50 MΩ	0.1 Ω to 50 MΩ
Continuity	•	•
Remote probe, test leads, alligator clips	•	•
Type K thermocouple	•	
Rugged, utility hard case	•	•
Auto power off	•	•

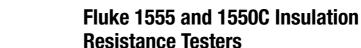


Troubleshooting Kit

Remote Probe, Test Leads, Alligator Clips, K-type Thermocouple (1587 FC only), Hard Case, User Documentation.

Ordering Inform	ation
LUKE-1577	Insulation Multimeter
FLUKE-1587FC	Insulation Multimeter with Fluke Connect™
ELUKE-1587/ MDT FC Kit	FC 2-in-1 Adv Motor & Drive Kit w/ 9040, i400
ELUKE-1587/ 400 FC KIT	FC 2-in-1 Insulation Multimeter with i400
I 587KIT/ 52MAX+FC	FC 2-in-1 Adv Elec Kit w/62MAX+ i40

Contact your local distributor for price and availability. fluke.com/findus



i410

AC/DC Current Clamp

TL27

Heavy Duty Test Leads

dO

**PVLEAD3** 

MC4 Solar Clamr

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Fluke 1587/i400 Current Clamp FC Kit

Fluke 1587 FC Advanced Electrical

Fluke 1587 FC/MDT Advanced Motor

and Drive Troubleshooting Kit

Test Lead Set

**Recommended Accessories** 

TPAK

Magnetic Meter Hange

C101

Hardy Case

**PVLEAD**1

MC4 to 4 mm Test Lead

Bundle and Save

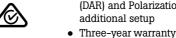
**Recommended Kits** 



# Powerful troubleshooting and predictive maintenance tools.

The Fluke 1555 and redesigned Fluke 1550C Insulation Resistance Testers offer digital insulation testing up to 10 kV, making them ideal for testing a wide range of high voltage equipment including switchgear, motors, generators and cables.

- Capacitance and leakage current measurement
- Ramp function for breakdown testing • Warning function alerts the user that line voltage is present and gives a voltage reading up to 600 V AC or DC for increased user safety
- Measurements can be stored in up to 99 memory locations, and each location is assigned a unique, defined label for easy recall



The tester's accuracy is specified for one year after calibration at operating temperatures of 0° C to 35° C (32° F to 95° F). For operating temperatures outside the range (-20° C to 0° C and 35° C to 50° C) (-4° F to 32° F and 95° F to 122° F), add ±.25% per ° C, except on the 20% bands add  $\pm 1\%$  per ° C.

Insulation resistance measu	irement	
Test voltage (DC)	Range	Accuracy (±re
250 V	< 250 kΩ 250 kΩ to 5 GΩ 5 GΩ to 50 GΩ > 50 GΩ	unspecified 5% 20% unspecified
500 V	< 500 kΩ 500 kΩ to 10 GΩ 10 GΩ to 100 GΩ > 100 GΩ	unspecified 5% 20% unspecified
1000 V	< 1 MΩ 1 MΩ to 20 GΩ 20 GΩ to 200 GΩ > 200 GΩ	unspecified 5% 20% unspecified
2500 V	< 2.5 MΩ 2.5 MΩ to 50 GΩ 50 GΩ to 500 GΩ > 500 GΩ	unspecified 5% 20% unspecified
5000 V	< 5 ΜΩ 5 ΜΩ to 100 GΩ 100 GΩ to 1 ΤΩ > 1 ΤΩ	unspecified 5% 20% unspecified
10 000 V (1555 only)	< 10 MΩ 10 MΩ to 200 GΩ 200 GΩ to 2 TΩ > 2 TΩ	unspecified 5% 20% unspecified
Functions	Range	Accuracy (±r
I UIIUIIII	nange	mooundby (11

Functions	Range	Accuracy (±re
Leakage current	1 nA to 2 mA	±(5% + 2 nA)
Capacitance measurement	0.01 uF to 15.00 µF	±(15% rdg + 0
Live circuit warning	30 V to 600 V AC/DC, 50/60 Hz	±(15% + 2 V)

Combine the ir3000 FC connector and Fluke Connect™, to perform advanced insulation testing for preventive and PdM tasks through:

- PI (polarity index) and DAR (dielectric absorption ratio) tests with TrendIt<sup>™</sup> graphs to identify problems faster
- Wireless transfer of test results from the tool to Fluke Connect<sup>™</sup> eliminates error-prone paperwork and saves your technician's time
- Temperature compensation through Fluke Connect<sup>™</sup> App helps establish accurate baselines and relevant historical comparisons

Fluke Connect (FC) available in selected countries.

Contact your local Fluke distributors to find out more.



Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

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FVF-Basic

FlukeView<sup>™</sup> Forms Software

IR189USB

USB-IR Cable

• Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI) with no

reading)

# **Recommended Accessories**





Pelican Carrying Case



ir3000FC 1550 Fluke Connect™ ir3000 Connector

**Recommended Kits** Bundle and Save

Fluke 1550C 5 kV Insulation Tester Kit

Fluke 1550C FC 5 kV Insulation **Tester Kit with IR 3000FC** 

Fluke 1555 10 kV Insulation Tester Kit

Fluke 1555 10 kV Insulation Tester Kit with IR 3000FC

# **Included Accessories**

Test Cables with Alligator Clips (red, black, green), Infrared Adapter with Interface Cable, FlukeView<sup>™</sup> Forms Basic CD, AC Power Cord, Soft Carrying Case, User Manual, Quick Reference Card, Software License Agreement, Registration Card, FlukeView<sup>™</sup> Forms Installation Guide, USB-IR Cable Installation Guide, IP67 Hard Case (Kit only), Certificate of Calibration (Kit only), Ruggedized Alligator Clips (Kit and 1555 only), IR3000FC 1550 Connector (FC models only).

# **Ordering Information**

FLUKE-1550C	5 kV Insulation Tester
FLUKE-1550C	5 kV Insulation Tester
FC	with IR 3000FC
FLUKE-1555	10 kV Insulation Tester
FLUKE-1555 FC	10 kV Insulation Tester with IR 3000FC
FLUKE-1550C	5 kV Insulation Tester
KIT	Kit
FLUKE-1550C	5 kV Insulation Tester
FC KIT	Kit with IR 3000FC
FLUKE-1555	10 kV Insulation Tester
KIT	Kit
FLUKE-1555	10 kV Insulation Tester
FC KIT	Kit with IR 3000FC

Insulation Testers



0.03 μF)



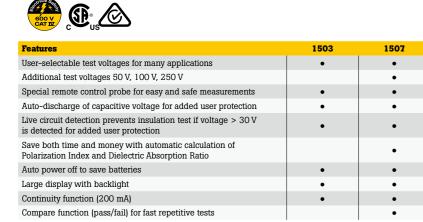
# Fluke 1507 and 1503 Insulation **Resistance Testers**



Fluke 1503

These lightweight, affordable insulation testers are perfect for troubleshooting, commissioning and preventive maintenance applications. • Automatic calculation of polarization index and dielectric absorption ratio (1507 only) • Multiple test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V (1507 only)

- Remote test probe for rapid testing
- Insulation test range 0.01 M $\Omega$  to 10 G $\Omega$  (1507), 0.1 MΩ to 2000 MΩ (1503)
- Compare (Pass/Fail) function for repetitive tests (1507 only)
- Live circuit detection prevents insulation test if voltage > 30 V is detected
- Auto-discharge of capacitive voltage
- AC/DC voltage: 0.1 V to 600 V
- Lo ohms/Earth-bond continuity (200 mA) for checking connections and motor windings
- Resistance: 0.01  $\Omega$  to 20.00  $\Omega$
- One-year warranty



Insulation	1503	1507
Insulation test range	0.1 MΩ to 2000 MΩ	0.01 MΩ to 10 GΩ
Test voltages	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V
Test voltage accuracy	+ 20%, - 0%	+ 20%, - 0%
Insulation test current	1 mA nominal	1 mA nominal
AC/DC Voltage measurement	600 V (0.1 V resolution)	600 V (0.1 V resolution)
Resistance measurement range	0.01 Ω to 20 kΩ	0.01 Ω to 20 kΩ
Auto discharge	Discharge time < 0.5 second for C = 1 $\mu$ F or less	Discharge time < 0.5 second for $C = 1 \ \mu F$ or less
Maximum capacitive load	Up to 1 µF	Up to 1 µF
Open circuit test voltage	> 4 V, < 8 V	> 4 V, < 8 V
Short circuit current	> 200 mA	> 200 mA
Maximum capacitive load Open circuit test voltage	= 1 µF or less Up to 1 µF > 4 V, < 8 V	C = 1 μF or less Up to 1 μF > 4 V, < 8 V

aonora	
Battery life	Meter: 1000 hours Insulation Test: >1000 tests
Size (H x W x L)	5.0 x 10.0 x 20.3 cm (1.97 x 3.94 x 8.00 in)
Weight	550 g (1.2 lb)



**Recommended Accessories** 



- all in one spot

**Included Accessories** TL224 Test Leads, TP74 Test Probes, Clips PN 1958654 (red) and PN 1958646 (black), Holster, Remote Probe and User Manual. **Ordering Information** FLUKE-1507 Insulation Tester

FLUKE-1503 Insulation Tester

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 1535 and 1537 2500V Insulation **Resistance Meter**



# Fluke 1535 features:

- Fast-measurement design, faster & stable resistance reading, higher efficiency • Automatic calculation of polarization index (PI) and dielectric absorption ratio (DAR) • Low power design meets the requirements of high-intensity work: up to 1300 times of 2500 V measurement, and up to 6500 times of 250 V measurements\*

- are tested for 30,000 mating test

# features:

- AC/DC voltage and resistance measurement

- Step mode with linear increment test voltage (100 V/s), breakdown voltage indication • Automatic calculation of dielectric discharge rate (DD), find insulation problems that are not easily detectable in multilayer insulation
- 3 years warranty

Specifications					sulation resistanc			
Range	< 200kΩ	200 k $\Omega$ to 500k $\Omega$	0.50 MΩ to 5.00 MΩ	5.0 MΩ to 50.0 MΩ	50 MΩ to 500 MΩ	0.5 GΩ to 5.00 GΩ	5.0 GΩ to 50.0 GΩ	50 G $\Omega$ to 500 G $\Omega$
Resolution	Not specified	1 kΩ	10 kΩ	100 kΩ	1 MΩ	10 MΩ	500 MΩ	5 GΩ
Accuracy	Not specified	5 %	5 %	5 %	5 %	5 %	5 to 20%	20%
Leakage curren	t measuremen	t						
Range				1 n	A to mA			
Accuracy				±(09	6 + 2 nA)			
Capacitance me	asurement							
Range				0.01 μ	F to 2.00 μF			
Accuracy				±(15 % r	dg + 0.03 μF)			
Test voltage for	insulation res	istance						
Range				250 V	to 2500 V			
Accuracy				±(3	% + 3 V)			
Timer								
Range				0 to	99 min			
Resolution				Setting: 1 n	nin Alert: 1 s			
Warning for ene	Varning for energized circuit							
Warning range								
* Shortage current	1535 >	2 mA 1537 > 5 mA						
	ACV/DCV/resistance measurement (1537 only)							
VAC								
Range					0 V to 600.0	V		
Resolution					0.1 V			
Accuracy, ±(% r	dg + digit)			±	(2 % +10) (45 Hz to	500 Hz)		
VDC								
Range					0 V to 600.0	V		
Resolution					0.1 V			
Accuracy, ±(% r	dg + digit)				±(2 % +10)			
Resistance								
Range			0 $\Omega$ to 600.0 $\Omega$		600 Ω to 6000	Ω	6.00 Ω to 6	0.00 kΩ
Resolution			0.1 Ω		1 Ω		10	2
Accuracy, ±(% r	dg + digit)				±(2 % +10)			

**Insulation Testers** 

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**Insulation Testers** 

- Up to 500 G $\Omega$  insulation resistance measurement range
- High-safety design with dangerous voltage alarm function, and complies with CAT IV 600V standard and China power industry specifications DLT845
- The new high-reliability design, all specifications are met even under the
- environment of 50 °C temperature and 80% RH; all probes and corresponding ports

# Fluke 1537 adds the following features based-on the above

- Short-circuit current >5 mA, faster and more accurate
- Fine-tunable test voltage: 250 V to 2500 V,100 V step/li>
- User-defined label, timing test, measurement results storage
- · Download data with provided PC software





# **Earth Ground Testers**

Poor grounding contributes to unnecessary downtime, but a lack of good grounding is dangerous and increases the risk of equipment failure.

Without an effective grounding system, you could be exposed to the risk of electric shock, instrumentation errors, harmonic distortion issues, power factor problems and a host of possible intermittent events. If fault currents have no path to the ground through a properly designed and maintained grounding system, they will find unintended paths that could include people.

Good grounding is more than a safety measure—it also prevents damage to industrial plants and equipment. A good grounding system will improve the reliability of equipment and reduce the likelihood of damage due to lightning or fault currents.

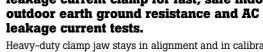
# Fluke 1630-2 FC Earth Ground Clamp Meter



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Dimensions (L x W x H)

Weiaht



Heavy-duty clamp jaw stays in alignment and in calibration even in every day, on-the-job industrial environments. Test the grounding components of equipment in hardto-reach spaces, including areas that are indoors or fully paved and do not permit driving auxiliary test stakes. Stay on line-identify ground loop resistance without the need to disconnect then reconnect the earth electrode from the system.

# **Stakeless measurement**

The 1630-2 FC clamp measures earth ground loop resistances for multi-grounded systems using the dualclamp jaw. This test technique eliminates the dangerous and time-consuming activity of disconnecting parallel grounds, as well as the process of finding suitable locations for auxiliary test stakes. You can also perform ground tests in places that were previously difficult: inside buildings, on power pylons or anywhere you don't have access to soil to place auxiliary test stakes. With this test method, a two-process measurement is made around the earth ground wire or bus bar using the specially-designed jaw of the 1630-2 FC clamp. Auxiliary test stakes are not used at all. A known voltage is induced by the source in the clamp, and the current is measured by the sensor in the clamp. The tester automatically determines the earth loop resistance for this section of the earthing system. One-year warranty.

Electrical sp	ecifications				
Maximum voltage to earth ground		1000 V			
Battery type		AA alkaline IEC/EN LR6	6 (x4)		
Battery life		More than 15 hours			
Frequency rar	ige	40 Hz to 1 kHz			
Ingress protec	tion	IEC 60529: IP30 with j	aw closed		
LCD	Digital reading	9999 counts			
LOD	Refresh rate	4 Hz			
Reference ten	nperature	23 °C ±5 °C (73 °F ±9	°F)		
Display Readi Loop Resistan	ng Specification with ce Standard	Input (Ω)	Minimum	Maximum	
		0.47	0.41	0.53	
		0.5	0.44	0.55	
		10	9.55	10.45	
		100	96	104.0	
Data logging o	capacity	Minimum of 32 760 me	easurements		
Safety	General	IEC 61010-1: Pollution	Degree 2, IEC 61557-1		
ballety	Measurement	IEC 61010-2-032: CAT	TIV 600 V / CAT III 1000	V	
Current clamp measurements	for leakage current	IEC 61557-13: Class 2	, ≤30 A/m		
Resistance to	Earth	IEC 61557-5			
Effectiveness measures	of the protective	IEC 61557-16: cutoff fr	requency 20 kHz (-3 dB)		
General spec	ifications				
Conductor size		40 mm (1.57 in) appro	ximately		

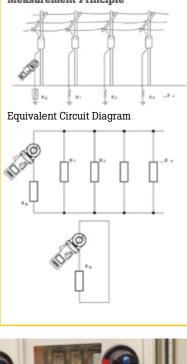
283 x 105 x 48 mm (11.1 x 4.1 x 1.9 in)

880g (31 oz)

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

# Stakeless earth ground loop and AC leakage current clamp for fast, safe indoor/







# **Ground Resistance Measurement Principle**



Hard Case, Loop Resistance Standard,

**Included Accessories** 

Four AA Batteries, Safety Information Guide and Quick Reference Guide.

# **Ordering Information**

Fluke-1630-2 FC Fluke-1630-2

Earth Ground Loop and Leakage Clamp Earth Ground Loop and Leakage Clamp



# Fluke 1620-2 Series Geo Earth Ground Testers

testing time.



Fluke 1625-2



Fluke 1623-2







ground would see • Adjustable limits - for quicker testing

The Fluke 1623-2 and 1625-2 Earth Ground Testers offer data storage and download

capabilities via USB port, a large display, and world class accessories that simplify and speed up

all four types of earth ground measurement:

• Stakeless testing (using 2 clamps only)

In addition, the Fluke 1625-2 offers these

• R\* measurement – calculates earth ground

identifies existing interference and chooses a

measurement frequency to minimize its effect, providing more accurate earth ground value

• Automatic Frequency Control (AFC) -

• IP56 rated for outdoor use

• Professional carrying case • USB data storage and transfer

• Two-year warranty

advanced features:

• 3 and 4-Pole Fall-of-Potential (using stakes) • 4-Pole Soil Resistivity testing (using stakes) • Selective testing (using 1 clamp and stakes)

These unique earth ground testers that can perform

# Earth ground resistance and soil resistivity should be measured when:

- Designing earth ground systems
- Installing new ground system and electrical equipment
- Periodically testing ground and lightning protection systems
- Installing large electrical equipment such as transformers, switchgears, machines, etc.

Features	1623-2	1625-2
One-button measurement concept	•	
3- and 4-pole Fall of Potential, earth resistance loop testing	•	•
4-Pole soil resistivity testing	•	•
2-Pole resistance measurement AC		•
2-and 4-pole resistance measurement DC		•
Selective testing, no disconnection of ground conductor (1 clamp)	•	•
Stakeless testing, quick ground loop testing (2 clamps)	•	•
Measuring frequency 128 Hz	•	
Earth impedance measurement at 55 Hz		•
Automatic frequency control (AFC) (94 - 128 Hz)		•
Measuring voltage switchable 20/48V		•
Programmable limits, settings		•
Continuity with buzzer		•
Dust/water resistance	IP56	IP56
Safety rating	CAT II 300 V	CAT II 300 V

1623-2	1625-2
0 to 20 kΩ	0 to 300 kΩ
±10%	±5%
48 V	20 / 48 V
> 50 mA	250 mA
1.1 kg (2.43 lb) (including batteries)	1.1 kg (2.43 lb) (including batteries)
250 x 133 x 187 mm	(9.75 x 5.25 x 7.35 in)
AA alkaline IE	C/EN LR6 (x6)
	0 to 20 kΩ ±10% 48 V > 50 mA

These products are for unpowered installations measuring grounding connections



EI-162BN 320 mm Split Core Transforme for use with Fluke

Ground/Earth Cable Reel 1625

CABLE REEL

**Recommended Kits** Bundle and Save



**Ground Tester Kit** 



**Ground Tester Kit** 

# **Included Accessories**

Fluke 1623-2: Protective Holster, 2 Test Leads, 2 Alligator Clips, User Manual.

Fluke 1623-2 Kit: Same as above plus Stake/Reel, Set 4 Pole and Selective/Stakeless Clamp Set. Fluke 1625-2: Protective Holster,

2 Test Leads, 2 Alligator Clips, User Manual. Fluke 1625-2 Kit: Same as above

plus Stake/Reel, Set 4 Pole and Selective/Stakeless Clamp Set.

# **Ordering Information**

FLUKE-1623-2	Basic GEO Earth Ground Tester
FLUKE-1623-2 KIT	Basic GEO Earth Ground Tester Kit
FLUKE-1625-2	Advanced GEO Earth Ground Tester
FLUKE-1625-2 KIT	Advanced GEO Earth Ground Tester

# Installation Testers

Safety and performance are two of the most critical requirements for any electrical system. Good quality insulation, a properly working grounding system and active protection assure the safety of people, electrical systems and buildings, and protect them against electrocution, fire and other equipment damage.

# impedance at 55 Hz to more accurately reflect the earth ground resistance that a fault-to-earth Fluke 1623-2 GEO Earth



**Earth Ground Testers** 



# Fluke 1660 Series Multifunction Installation Testers



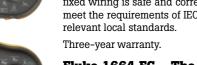
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-58E

Fluke 1662

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Fluke 1663



# Fluke 1664 FC – The complete tester for advanced users

The Fluke 1664 FC is the only installation tester that protects connected appliances from damage during insulation tests, and allows you to share your test results wirelessly by smartphone with coworkers or customers. Fluke's patented Insulation PreTest stops you from performing tests with appliances that are connected to the system during test. This helps eliminate accidental damage and keeps your customers happy.

In addition, the Fluke 1664 FC offers you the power of Fluke Connect<sup>™</sup>. Now you can send test results straight from your Fluke 1664 FC to your smartphone, and transmit those results to

# Fluke 1663 - The ideal tester for professional troubleshooters

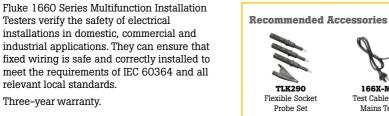
This instrument is ideal for professional users' high-end functionality, advanced measurement capability, yet it is still easy to use.

# Fluke 1662 - A solid, basic installation tester

The Fluke 1662 gives you Fluke reliability, simple operation and all the testing power you need for basic installation testing.

Measurement function	1664 FC	1663	1662
Insulation PreTest safety function	•	-	-
Insulation at L-N, N-PE inputs	•	-	-
Auto Test sequence	•	-	-
Loop and line resistance $-m\Omega$ resolution	•	-	-
Continuity at L-N, N-PE inputs	•	•	-
Test smooth dc sensitive RCDs (Type B/B+)	•	•	-
Earth resistance	•	•	-
Wiring polarity checker, detects broken PE and N wires	•	•	•
Insulation resistance	•	•	•
Continuity and resistance	•	•	•
Measure motor windings with continuity test (@ 10 mA)	•	•	•
Loop and line resistance	•	•	•
Prospective earth fault current (PEFC/IK)	•	•	•
Prospective short-circuit current (PSC/IK)	•	•	•
RCD trip time	•	•	•
RCD trip current (ramp test)	•	•	•
Measures trip time and current for RCD type A and AC in one test	•	•	•
Automatic RCD test sequence	•	•	•
Phase sequence test	•	•	•
Other features			
Fluke Connect™ compatibility	•	-	-
ShareLive™ calling	•	-	-
On/Off switchable auto-start for RCD and Looptest	•	•	•
Self-test	•	•	•
Memory, interface			
Z Max memory	•	•	-
Memory	•	•	•
IR-USB and BLE interface (when used with optional FVF software)	IR-USB/BLE	IR-USB	IR-USB

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.



other members of your team.

# Fluke FVF-SC2 Software

TLK290

Flexible Socket

Probe Set

TP165X

TP165X

Remote Control Probe

FVF-SC2

FlukeView<sup>™</sup> Forms Software (Fluke 1662)

**Complete Package with** 

Î

166X-MTC-AU

Test Cable Assembly

Mains Test Lead

ES165X

Earth Spike Test Kit

(Fluke 1663 and 1664 FC)

Zero Adapter Null Adapter

1

To address the increasing demands for reporting and documentation, we've added FlukeView<sup>™</sup> Forms Software to the Fluke 1663 and 1664 FC Testers.

# **Included Accessories**

Six AA (IEC LR6) Batteries, C1600 Hard Carrying Case, Zero Adapter, Heavy Duty Mains Cord, STD Standard Test Lead Set, Padded Carrying and Waist Strap, Quick Reference Guide, TP165X Remote Control Probe and Lead Set, User Manual on CD.

# **Ordering Information**

Fluke 1664 FC	Multifunction Installation Tester with Auto Test, Insulation PreTest, Fluke Connect™ compatibility with FlukeView™ Forms Software
Fluke 1663	Multifunction Installation Tester with FlukeView™ Forms Software
Fluke 1662	Multifunction Installation Tester

Contact your local distributor for price and availability. fluke.com/findus





# Power Quality

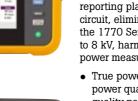
Whether you work in an industrial plant, manufacturing facility or a utility, Fluke Power Quality and energy management tools make it easy to record and analyze the power quality and energy data necessary to maintain the best performance and reliability.

# **Power Quality Tools Selection Guide**

		Single-Phase				<b>Three-Phase</b>			
Basic measurements	Application use	VR1710	1732/34	1736/38	1742	1746/1748	1773	1775	1777
Energy studies									
Measure V, I, kW, Cos/DPF, kWhr	Get detailed power and energy consump-		•	•	•	•	•	•	•
Measure MIN/MAX and AVG values	tion profiles during energy audits and		•	•	•	•	•	•	•
Waste energy monetization	pinpoint savings opportunities								
Basic harmonics study									
THD measurement (V & I)	Discover the source of distortion in your	•	•	•	•	•	•	•	•
Harmonics 1 to 25 for V & I	installation, so that you can filter those loads or move them to separate circuits	• (V only)		•		•	•	•	•
Advanced harmonics study									
Full harmonic spectrum	If distorting loads are causing problems in			•		•	•	•	•
Power harmonics	your installation, you need comprehensive data to identify the source and create a solution						•	•	•
Basic industrial PQ troubleshooting									
Oscilloscope function	When troubleshooting in the field, graphi-			•			•	•	•
Voltage dips and swells	cal data enables you to trace the source of the problem at hand	•		•		•	•	•	•
Advanced industrial PQ troubleshooting									
Comprehensive logging capability	Complex installations often require a			•	•	•	•	•	•
Transient capture	deeper dive into measurement data. Mul-	•		•			•	•	•
Flicker		•			•	•	•	•	•
Event capture and transients with waveforms	ms							•	•
8kV transients								1 MHz	20 MHz
Features									
Inrush				•		•	•	•	•
Flicker					•	•	•	•	•
Transients								•	•
Mains signaling						•	•	•	•
Event waveform capture				•			•	•	•

# NEW Fluke 1770 Series Power Quality Analyzers





equipment.



- areas
- Real time data: At-a-glance "Advanced Power Quality Health" summary screen with graphical representation, allows you to analyze real time data and zoomed views while all your recording needs are taken care of
- Simple guided setup functionality: Auto-detection of system type (WYE/Delta/ Frequency 50-60 Hz/Nominal voltage) and auto-population of non-system-specific parameters
- · Ease of operation: High resolution capacitive touch-screen and button user interface ensures that gloved operation is simple and easy providing clear results in seconds
- · Power system connection and instrument setup autocorrection: Automatically detect and correct errors in voltage and current wiring, manual correction also available
- Automatic parasitic power from measurement line: Power internal battery with 120/240 VAC adapter or direct connection to measurement line (up to 600 VAC)
- Customized views and reporting: Create custom views to operate more efficiently and simply. Using Energy Analyze Plus software custom reporting templates can be created
- Highest safety rating in the industry: CAT III 1000 V / CAT IV 600 V rated for use at service entrance
- · Easy access to data: with 8 GB of internal memory, expandable to 32 GB, continual powering of measurement circuits and advanced communication options such as WIFI and LTE communication, no event or data will be missed
- Two-year warranty

	1773	
Applications		
Harmonic surveys	•	
Basic power and power quality studies	•	
Energy surveys and load testing	•	
Nuisance circuit breaker tripping		
Advanced power and power quality studies		
Discovery of equipment failures caused by transients		l
Jtility power quality surveys		Ι
Diagnose electronic equipment damage with capture of high speed, high magnitude (8 kV) voltage transients		
Features		
Event capture with table	•	Γ
Event capture and transient with waveforms		
High speed transient capture with waveshape analysis in FEA+ application software		

Learn more



fluke.com/sea.1777

**Power Quality** 

# The faster, easier way to perform power quality studies.

Fluke 1770 Series Three-Phase Power Quality Analyzers eliminate the complexities of power quality logging, troubleshooting, and analysis. Engineered to be the faster, easier way to perform power quality studies, the 1770 Series offers automatic measurements, a straightforward user interface and setup, best-in-class specifications, and a simplified reporting platform. The instrument can also be powered directly from the measurement circuit, eliminating the need to find a power outlet or use a lengthy extension cord. With the 1770 Series you'll never miss a critical power quality event-from fast transients up to 8 kV, harmonics up to 30 kHz, dips and swells, as well as the voltage, current, and power measurements that enable you to characterize your electrical system.

• True power quality tool: Captures all the key measurements you need to determine power quality health automatically without additional setup, including key power quality parameters harmonics, dips, swells, unbalance, inrush etc.

AC/DC applications: Measure AC up to 6000 A and DC up to 2000 A

• High speed transients: 20 MS/s (1777) & 1 MS/s sampling up to 8 kV to enable capture of high voltage, high speed transients that can cause physical damage to

• Class A compliant: Perform tests knowing you are fully compliant with stringent international IEC 6100-4-30 Class A standards

· Power quality health summary: Automatically evaluate power quality inputs against the EN 50160 electrical standard, providing detailed troubleshooting of problem

1775	1777
•	•
•	•
•	•
•	•
•	•
•	•
•	•
	•
•	•
•	•
1 MHz	20 MHz



Captures all the key measurements you need to determine power quality health.



Log up to 10 sessions of 8 weeks with 1-minute intervals and 100 events.





Fluke 1777 Power Quality Analyzer kit with included iFlex<sup>™</sup> and Alligator clips.

FLUKE ®

Fluke 1770	Series Pow	ver Quality Analyzers	
Voltage inpu	ts		
Number of inp	outs	4 inputs, 3 phases and neutral referenced to PE (5 connectors)	
Measurement	category	CAT III 1000 V / CAT IV 600 V	
Maximum inp	ut voltage	1000 V rms / 1000 V DC (1700 Vpk)	
Nominal volta	ige range	Wye and single phase: variable (50 V - 1000 V) Delta: Variable (100 V - 1000 V) IEC 61000-4-30 Class A compliance for the nominal voltages (Vdin) 100 V - 690 V	Recommended Accessories
Input impeda	nce	10 M $\Omega$ between P-P and P-N, 5 M $\Omega$ between P-PE and N-PE	
Bandwidth		DC to 30 kHz for PQ measurements, excluding transients	
Resolution		24-bit synchronous sampling	i40s-EL/3pk i400s
Sampling free	quency	80 kS/s at 50/60 Hz	40 A Clamp-on AC Current Clamp
Scaling		1:1, variable for use of potential transformers	Current Transformer (individual or 3pk)
Voltage trans	sients		
Measurement		±8 kVpk	
Sampling rate	)	1775: 1 MS/s 1777: 1 MS/s, 20 MS/s	
Bandwidth		DC to 1 MHz	
Trigger		Adjustable trigger level. Triggers on high-frequency components > 1.5 kHz	
Resolution		14-bit synchronous sampling	
Current inpu	ts		
Number of inp	outs	4 inputs 3 phases and Neutral, range selected automatically to attached sensor	
Range	AC	1 A to 1500 A with i17XX-FLEX1500 12 1 A to 1500 A with i17XX-FLEX1500 24 3 A to 3000 A with i17XX-FLEX3000 24 6 A to 6000 A with i17XX-FLEX3000 36 40 mA to 40 A with clamp i40s-EL 4 A to 400 A with clamp i40s-EL	
	DC	20 A to 2000 A with 80i-2010-EL clamp	
Bandwidth		DC to 30 kHz	Included Accessories
Resolution		24-bit synchronous sampling	
Sampling free	quency	80 kS/s at 50/60 Hz	17XX iFlex <sup>™</sup> 1500 A 24 IN, Voltage
Scaling		1:1, variable	Test Lead 3-Phase+N, 4x AC285
Input voltage		Clamp: 50 mV / 500 mV rms; CF 2.8 Rogowski Coil: 15 mV / 150 mV rms at 50 Hz, 18 mV / 180 mV rms at 60 Hz; CF 4 all at nominal probe range	Black Alligator Clips, 1x AC285 Green Alligator Clip, USB-C Cable, Line Cord FLK-17XX 0.18 M Test Lead Set, Gree
Input impeda	nce	11 kΩ	Test Lead, Cable Marker Set, WiFi/
Aux inputs			BLE Module (1775, 1777), Magnet
Wired connec	tion with 1	7xx-AUX adapter	Probe (1775, 1777), Hanger Kit (1775, 1777), Black Soft Case (1775)
Number of inp	outs	2	Hardcase (1777)
Input range		Direct: 0 V DC to ±10 V DC or 0 V to ±1000 V DC	<b>PQ400:</b> Enclosure, 4× Male-Male
Input impeda	nce	Direct: 2.92 MΩ	Cable 2 m for iFlex <sup><math>M</math></sup> Current Probes,

# Fluke P0400 Electrical Measurement Window



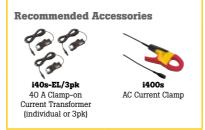
Fluke PQ400



# **Compliance without compromise. Safety** without sacrifice.

The Fluke PQ400 Electrical Measurement Window enables the connection of three-phase measurement equipment to energized panels, without the need to open the panel door, or wear supplemental personal protective equipment (PPE).

- Permanently connected voltage and current sensors located inside the electrical panel allow you to make power quality and energy measurements using the external access points without opening the panel door
- Automatic probe detection for Fluke 1740, 1730 and 1770 series power quality analyzers and energy loggers and compatible clamps
- Full 360 degree rotation allows the PQ400 window to be oriented in any direction
- Simple installation using a step drill bit and electrohydraulic hole punch
- IP67 with cover closed, IP50 with cover opened and all connectors attached
- Five-year warranty



FLUKE-1773

FLUKE-1773/

FLUKE-1775

FLUKE-1775/

FLUKE-1777

FLUKE-1777/

FLUKE-PQ400

price and availability.

fluke.com/findus

Contact your local distributor for

BASIC

BASIC

BASIC

Ties, Instruction Sheet.

**Ordering Information** 

Three-Phase Power

**Quality Analyzer** w/ Accessories

Three-Phase

**Power Quality** 

Analyzer Only

Three-Phase Power

Quality Analyzer

w/ Accessories

Three-Phase

**Power Quality** 

Analyzer Only

Three-Phase Power

**Quality Analyzer** 

w/ Accessories

Three-Phase

**Power Quality** 

Analyzer Only

**Power Quality** 

Window

Cable Marker Set 3P+N+PE, Cable

# Fluke 1732 and 1734 Three-Phase **Electrical Energy Loggers**



**.** 

**Energy logging is now within** your reach — discover where you're wasting energy, optimize your facility's energy use and reduce your bill

The Fluke 1732 and 1734 Three-Phase Electrical Energy Loggers introduce a new simplicity to discovering sources of electrical energy waste. Discover when and where energy in your facility is being consumed-from the service entrance to individual circuits. Access and share data remotely with your team via the Fluke Connect<sup>™</sup> app so you can maintain safer working distances and make critical decisions in real-time, reducing the need for protective equipment, site visits and check-ins.

Profiling energy use across your facility helps you identify opportunities for energy savings, and provides you with the data you need to act on them. The new Energy Analyze software package allows you to compare multiple data points over time to build a complete picture of energy use, which is the first step to reduce the cost of your energy bill.

- Key measurements: Automatically capture and log voltage, current, power, power factor, energy and associated values
- Fluke Connect<sup>™</sup> compatible: View data locally on the instrument, via Fluke Connect<sup>™</sup> mobile app and desktop software or through your facilities' WiFi infrastructure
- Convenient instrument powering: Power instrument directly from the measured circuit • Highest safety rating in the industry: CAT IV 600 V / CAT III 1000 V rated for use at the service entrance and downstream
- Measure all three-phases: With included three flexible current probes
- Fully integrated logging: Connect other Fluke Connect<sup>™</sup> devices to the Fluke 1734 to simultaneously log up to two other measurement parameters, virtually any parameter available on a Fluke Connect<sup>™</sup> wireless digital multimeter or module
- Energy Analyze Plus application software: Download and analyze every detail of energy consumption with our automated reporting
- One-year warranty

Specifications				
Paramet	er	Range	Max resolution	Intrinsic accuracy at reference conditions (% of reading +% of full scale)
Voltage		1000 V	0.1 V	±(0.2% + 0.01%)
	i17xx-flex 1500 12"	150 A 1500 A	0.1 A 1 A	±(1% + 0.02%) ±(1% + 0.02%)
Current	i17xx-flex 3000 24"	300 A 3000 A	1 A 10 A	±(1% + 0.03%) ±(1% + 0.03%)
current	i17xx-flex 6000 36"	600 A 6000 A	1 A 10 A	±(1.5% + 0.03%) ±(1.5% + 0.03%)
	i40s-EL clamp	4 A 40 A	1 mA 10 mA	±(0.7% + 0.02%) ±(0.7% + 0.02%)
Frequen	zy	42.5 Hz to 69 Hz	0.01 Hz	±(0.1%)
Aux inpu	t	±10 V DC	0.1 mV	±(0.2% + 0.02%)
Voltage 1	nin/max	1000 V	0.1 V	±(1% + 0.1%)
Current r	nin/max	defined by accessory	defined by accessory	±(5% + 0.2%)
THD on v	roltage	1000%	0.1%	±0.5
THD on o	current	1000%	0.1%	±0.5
Voltage l	narmonics 2nd 50th	1000 V	0.1 V	≥ 10 V: ±5% of reading < 10 V: ±0.5 V
Current 1	narmonics 2nd 50th	defined by accessory	defined by accessory	≥ 3% of current range: ±5% of reading < 3% of current range: ±0.15% of range
Unbalan	ce	100%	0.1%	±0.2

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

1000 V CAT II 600 V CAT II	



Power Quality







i17XX-FLEX 1500 1500 A 12 inch iFlex<sup>T</sup> Current Clamps (Purchase as individual, 3pk or 4pk)



i17XX-FLEX 6000 6000 Å 36 inch iFlex™ Current Clamps (Purchase as individual, 3pk or 4pk)



0.1M Test Lead Set, 1000V CAT III, Non-stackable connectors: 0.1 m: Red/Blk



1730-Hanger Hanging Strap Kit





117XX-FLEX 3000 3000 A 24 inch iFlex<sup>1</sup> Current Clamps (Purchase as individual 3pk or 4pk)



i40s-EL/3pk 40 A Clamp-on Current Transformer 3 pack (Purchase as individual or 3pk)



1.5M Test Lead Set, 1000V CAT III, Non-stackable connectors; 1.5 m; Red/Blk



MP1-Magnet Probe Magnet Probes for 4mm banana. Set of 4

-



# **Included Accessories**

Power Supply, Voltage Test Leads, 4× Alligator Clips, 3× 12 inch 1,500A Flexible Current Probe, Soft Case, Energy Analyse Plus Software, Line Cords, Colour Coding Set and Documentation on USB Flash Drive, Magnetic Hanging Strap (1734) and Magnetic Voltage Probes (1734).

# **Ordering Information**

LUKE 1732/B	Energy Logger, Basic Version (excl
	current probes)
LUKE 1732/ NTL	Energy Logger (incl current probes)
LUKE 1734/B	Energy Logger, Basic Version with Fluke Connect™

FLUKE 1734/ INTL

# bes) ger (incl. bes) aer. on with

lect™ rent excl. cui probes)

Energy Logger (incl. current probes)

**Power Quality** 



# Fluke 1736 and 1738 Three-Phase **Power Loggers**



Fluke 1736





Fluke 1738



# More visibility, reduced uncertainty

The Fluke 1736 and 1738 Three-Phase Power Loggers built with Fluke Connect<sup>™</sup> mobile app and desktop software compatibility give you the data you need to make critical power quality and energy decisions in real-time. The ideal test tools for conducting energy studies and basic power quality logging, the 1736 and 1738 automatically capture and log over 500 power quality parameters so you have more visibility into the data you need to optimize system reliability and savings.

- Measure all three-phases and neutral with included 4 flexible current probes.
- Comprehensive logging: More than 20 separate logging sessions can be stored on the instruments. In fact, all measured values are automatically logged so you never lose measurement trends.
- Capture dips, swells, and inrush currents: Includes event waveform snapshot and high resolution RMS profile, along with date, timestamp and severity to help pinpoint potential root causes of power quality issues
- Optimized user interface: Capture the right data every time with guick, guided. graphical setup and reduce uncertainty about your connections with the intelligent verification function
- Complete "in-the-field" setup through the front panel or Fluke Connect<sup>™</sup> App: No need to return to the workshop for download and setup or to take a computer to the electrical panel.
- Energy Analyze Plus application software: Download and analyze every detail of energy consumption and power quality state of health with our automated reporting.
- One-year warranty

	Three-Phase Energy Loggers		Three-Phase E	nergy Loggers
	1732 Energy Logger	1734 Energy Logger	1736 Power Logger	1738 Advanced Power Logger
Load studies	•	•	•	•
Energy assessments	•	•	•	•
Neutral Current Measurement (four current channels)	-	-	•	•
Harmonics measurements	-	-	•	•
Voltage event capture	-	-	•	•
Advanced analysis: Waveform and Inrush event capture PQ Health (EN 51060)	-	-	Upgrade package*	•
Fully integrated logging with Fluke Connect™	Upgrade package*	•	Upgrade package*	•
WiFi	Optional	•	•	•
Wi-Fi / Bluetooth	Optional	•	Optional	•
Magnetic probe set	Optional	•	Optional	•
Magnetic hanger	Optional	•	Optional	•
Connection via WiFi router		software license oduct registration.	Requires FREE s available upon pr	software license oduct registration.

\*Upgrade packages are available to upgrade existing 1732 Energy Loggers with the same features of the 1734 Energy logger, and to upgrade existing 1736 Power Loggers with the same features and capabilities of the 1738 Advanced Power Logger. Please note that 1732 and 1734 Energy Loggers cannot be upgraded with the functionality of 1736 and 1738 Power Loggers

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

## **Recommended Accessories** 000 i17XX-FLEX 1500 117XX-FLEX 3000 1500 A 12 inch iFlex<sup>T</sup> 3000 A 24 inch iFlex<sup>1</sup> Current Clamps Current Clamps (Purchase as individual (Purchase as individual 3pk or 4pk) 3pk or 4pk) 9 300 9 0 P. 0

i17XX-FLEX 6000 6000 Å 36 inch iFlex™ Current Clamps (Purchase as individual, 3pk or 4pk)

Clips

**17XX AUX** 

Input adapter

STEFF

i40s-el/3pk 40 A Clamp-on Current Transformer (Purchase as individual or 3pk) 1 D

0

17XX-TL 2M 17XX-TL 1.5M Test Lead Set, 1000V Blue, Non-stackabl Plug and 2x Alligator CAT III, Non-stackable connectors: 1.5 m: Red/Blk



4mm banana, Set of 4 -C17XX

Soft case

1736/UPGRADE Upgrade Kit for 1736 to 1738

# **Included Accessories**

Power Supply, Voltage Test Leads, 4× Alligator Clips, 4× 12 inch 1500A Flexible Current Probe, Soft Case, Energy Analyze Plus Software, WiFi Adapter, Line Cords, Color Coding Set and Documentation on USB Flash Drive, Magnetic Hanging Strap (1738) and 4× Magnetic Voltage Probes (1738).

# **Ordering Information**

FLUKE 1736/ B	Power Logger, Basic Version (excl. current probes)
FLUKE-1736/ INTL	Power Logger, (excl. current probes)
FIUKE 1738/ B	Power Logger, Advanced Version (excl. current probes)
FLUKE-1738/ INTL	Power Logger, Advanced Version (excl. current probes)

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 1742, 1746 and 1748 Three-Phase **Power Quality Loggers**



usage and perform quality of service surveys easier than ever

The Fluke 1742, 1746 and 1748 Three-Phase Power Quality Loggers give you fast, easy access to the data you need to make critical power quality and energy decisions in real time, and with the included Energy Analyze Plus software package you can easily create detailed reports.

Fully compliant with international power guality standards such as IEC 61000-4-30 Class A including local compliance to a variety of national and international standards and capable of simultaneously logging up to 500 parameters while also capturing events, the Fluke 1740 Series helps uncover intermittent and hard-tofind power quality issues more easily than ever. Energy Analyze Plus software quickly assesses the quality of power at the service entrance, substation, or at the load, according to national and international standards.

- "In-workshop" or "in-the-field" setup and download through PC application software using USB memory stick, Wi-Fi download, wired ethernet connection or via USB cable
  - One-touch reporting: Create standardized reports or export data in PQDIF or NeQual compatible format for use with third-party software
  - Capture dips, swells and interruptions

fluke.com/sea.1748

 Measures harmonics and interharmonics for voltage and current; also includes unbalance, flicker and rapid voltage changes Two-vear warranty (battery not included)

Measure all power quality and power paramaters	1742 Power Quality Logger	1746 Powe Quality Logg
Functions		
Energy	•	•
Basic Power Quality	Optional	•
Advanced Power Quality	Optional	Optional

<ul> <li>Two-year warranty (battery not included)</li> </ul>			
Measure all power quality and power paramaters	1742 Power Quality Logger	1746 Power Quality Logger	1748 Power Quality Logger
Functions			
Energy	•	•	•
Basic Power Quality	Optional	•	•
Advanced Power Quality	Optional	Optional	•
Selection Guide	1742 Power Quality Logger	1746 Power Quality Logger	1748 Power Quality Logger
Functions			
Voltage, current, power, power factor, frequency	•	•	•
Energy forward/reverse	•	•	•
Peak Demand	•	•	•
THD	•	•	•
Voltage and current harmonics (to 50th)	-	•	•
Flicker	•	•	•
Unbalance	-	•	•
Rapid voltage change events	-	•	•
Interharmonics (to 50th)	-	•	•
$\ensuremath{\text{Dips}}$ , swells, interruption and transient events tables	-	•	•
Mains signaling	-	•	•
Inrush current	-	•	•
Transients (low frequency)/Waveform deviation events	-	-	•
Recording	-	-	-
Trend	•	•	•
Waveform snapshots	-	-	•
RMS profile	-	-	•
Communication	-	-	-
Ethernet	•	•	•
USB (mini B)	•	•	•
WiFi download Instrument to device	•	•	•
Wifi download via WiFi hub (requires registration)	Opt.	Opt.	Opt.

# **Troubleshoot, guantify energy**

# **Recommended Accessories**



IP65 iFlex™ 1.5KA 60 cm (24") Current Probes (Purchase as individual, 3pk or 4pk)



i17XX-FLEX6KIP IP65 iFlex™ 6KA 90 cm (36") Current Probes (Purchase as individual 3pk or 4pk)



**IP65 VOLT CONN** IP65 Rated Voltage Connector



3PHVL-1730-5M Cable Assembly Voltage Test Lead 3-Phase+N 5 m





IP65 iFlex<sup>™</sup> 3KA 60 cm (24") Current Probes (Purchase as individua 3pk or 4pk)



i40S-EL/3PK 40 A Clamp-On Current Transformer (P11 chase as individual or 3pk)



Magnet Probe 1 (3× Red, 1× Black)



17XX AUX Auxiliary Input Adapter



Upgrade Kit 1742 to 1746/1748 & 1746 to 1748

# **Included Accessories**

4× Flexible Current Probes, USB Stick, USB Cable, 3PHVL-1730 3-Phase + Neutral Voltage Test Lead, Test Lead Set Red/Black 0.18m, Test Lead Set Red/Black 1.5m, 4× Alligator Clips, 173x/174x Soft Case, Cable Marker Kit, MP1-3R/1B-Magnet Probe 1 Set (3 Red, 1 Black) and Hanger Kit (1748).

# **Ordering Information**

Three-Phase Power Quality Logger
Three-Phase Power Quality Logger

Contact your local distributor for price and availability. fluke.com/findus



# Power Quality

FLUKE ®

**Power Quality** 

# Fluke Norma 6000 Series **Portable Power Analyzers**



Fluke Norma 6003+



Fluke Norma 6004



The Fluke Norma 6000 Series Portable Wide-band Precision Power Analyzers gives you more freedom than ever before to make high accuracy power measurements wherever you need. Designed for portability the lightweight, battery powered Fluke 6000 Series eliminates the need to carry large analyzers into the field, allowing you to make measurements directly at the load in nearly any environment. By measuring directly at the load. you can discover how the equipment operates under real-world conditions, with real-world variables, not just at a test bench or in the lab.

- Measure three-phase power and DC output power at the same time (available in 3 or 4 channel), with voltage and current inputs on each channel
- Make mechanical torque and speed measurements using the included inputs and outputs of the Fluke 6003+ and 6004+
- 0.1% accuracy, 500 kHz bandwidth, 200 kS/ s sample rate so you can rely on the power conversion system measurements you take no matter what distortion may be present
- Take precision power measurements almost anywhere - highly portable, battery powered analyzer weighing only 3.5 kg and 9.3 cm depth with up to 10 hours of battery life
- View critical data in the field on the main display meter, including waveform, harmonics up to the 100th, vector and trend
- Ensure high common-mode rejection and allow flexible configurations according to measurement requirements using the electrically isolated channels
- User-adjustable measurement rate from 100 ms to 1 s with continuous logging via 32 GB of onboard storage
- Easy in-field set up using the large 5.7" front LCD screen or a remote PC connection (USB or RS485),
- Online measuring, data download and analysis with included PC software (Fluke NormaView Software)
- Three-year warranty

	Norma 6003	Norma 6003+	Norma 6004	Norma 6004+		
Number of channels for voltage/current	3/3 3/3		4/4	4/4		
Motor speed/torque measurement	-	Yes	-	Yes		
Basic accuracy		0.1	1%			
Channel-to-channel isolation	Yes					
Main Function	Meter, Scope, Harmonic, Phasor, Trend					
Measuring Parameters *Available in N6003+ and N6004+ only	RMS, DC Component, AC Component, Rectified Mean, Peak Value, Peak-Peak, Crest Factor, Form Factor, Fundamental Component, Fundamental Content, Harmonic Distortion, Harmonic Content, Harmonic Factor for voltages and currents, Active Power, Reactive Power, Apparent Power, Power Factor, Phase Shift, Efficiency, Impedance, Electric Energy, Charge/Discharge capacity (Ah), Frequency, Motor Speed*, Torque*, Mechanical Power*, Mechanical Energy*					
Ingress Protection (IEC 60529)	IP50					
Safety Compliance (IEC 61010-2-030)	CAT III 1000 V, CAT IV 600 V					
Color screen	14.48 cm (5.7 in), backlight, 4:3					
Lithium battery	10.8 V/5000 mAh, 54 Wh					
Communication Interface	USB/RS485					
PC Software	Fluke NormaView Software					
Storage Capacity	32 GB					





# **Included Accessories**

Battery BP291, Power Supply Adapter (18V DC, CAT IV 600V Adapter), Power Line Cord, Soft Case, Mains Adapter Set, Test Lead Set, USB (mini B) Cable, RS-485/Synchrony Adapter (3.81 mm, black, 3 pin), Speed / Torque Adapter (3.81 mm, black, 6 pin), USB Flash Drive for PC SW and User Manual.

3-Channel Models: Test leads, 1.5 m, 3× red, 3× black, 6× blue, Alligator clips, 3× Red, 3× Black, 6× Blue

4-Channel Models: Test Leads, 1.5 m, 4× Red, 4× Black, 8× Blue, Alligator Clips, 4× Red, 4× Black, 8× Blue

# **Ordering Information**

3-Channel Portable Power Analyzer
3-Channel Portable Power Analyzer with Speed/Torque Inputs
4-Channel Portable Power Analyzer
4-Channel Portable Power Analyzer with Speed/Torque Inputs

Contact your local distributor for price and availability. fluke.com/findus

# Fluke VR1710 Single Phase Voltage **Quality Recorder**



# Easy-to-use solution for detecting and recording voltage guality problems

The Fluke VR1710 is a single-phase, plugin voltage quality recorder that provides fast and easy recording of voltage trends, dropouts, harmonics and general power quality-including dips and surges-to help maintenance and facilities management personnel easily pinpoint the root cause of voltage problems. Voltage quality parameters including RMS average, transients, flicker, and harmonics up to the 32nd are recorded using a user-selected average period from 1 second to 20 minutes.

- · Fast and easy recording of voltage trends, dropouts and power quality: Easily pinpoint the root cause of single-phase voltage problems
- mains power socket and capture data Quickly see what happened and when: Min,
- Max, average RMS values (1/4 cycle) with time stamp and transient display (>100 µs) with time stamp
- Easily identify problems: Power quality or equipment related Flicker recording to EN 61000-4-15, individual harmonic and THD values with trends
- Includes PowerLog software: For guick download, analysis and automatic reporting • Save time: Generate power quality reports
- automatically with pre-set templates • One-year warranty

Voltage recording

Distortion measurement

Flicker measurement

Voltage transients

Specifi

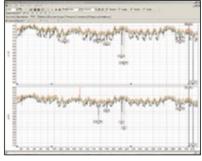
# Monitors and records supply voltage; measures RMS average, minimum and maximum values, and checks whether the socket outlet is providing voltage within tolerance Measure frequency and harmonics; check whether the distorting loads (UPS systems, drives, etc.) are affecting your other equipment Quantify the affects of switching loads on lighting systems. Capture those intermittent, momentary events that may be affecting your equipment: the full waveform is captured with date, timestamp, and duration.

specifications	
Operating voltage	70 V to 300 V 0.5% of range
Min/Max/Avg RMS value	Resolution 0.12 V
Number of events	175 000
Dips/Interruptions	Yes
Time resolution	5 ms
Voltage resolution	0.12 V
Over-voltages	Yes
Frequency	Yes
Harmonics measurement	IEC 61000-4-7 (up to 32nd)
Flicker measurement	IEC 61000-4-15
Number of recording channels	1 Phase to Neutral, 2 Phase/Neutral to Ground
Recording time	1 day to 339 days depending on average time from 1 se
Transients	Yes
Frequency range	50 Hz $\pm$ 1 Hz and 60 Hz $\pm$ 1 Hz
Safety Compliance (IEC 61010-2-030)	CAT II 300 V

**Power Quality** 



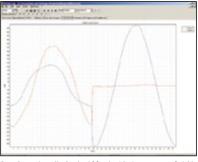
• Extremely easy to use: Plugs directly into the

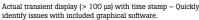




PowerLog Setup - Simple set up of internal clock, logging periods, and intervals with default values for quick result

PowerLog View - Data presentation showing RMS voltage and harmonic trends, actual transients, summary information and statistics in accordance with EN50160.







Includes PowerLog software

econd to 20 minutes

# **Included Accessories**

USB Cable, PowerLog Software CD, Power Cord Adapter.

# **Ordering Information**

FLK-VR1710

Voltage Quality Recorder

Contact your local distributor for price and availability. fluke.com/findus



**Power Quality** 

# Portable Oscilloscopes

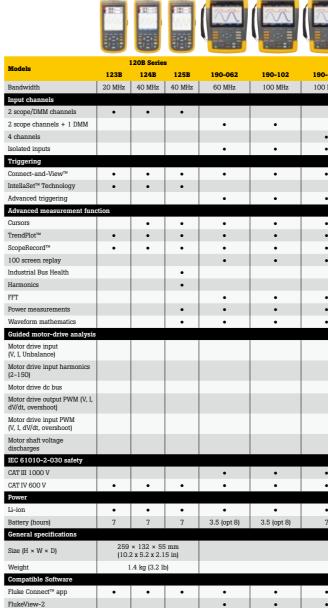
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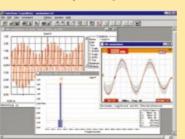
D ME CONT

ScopeMeter<sup>™</sup> Portable Oscilloscopes take you into territory that standard bench oscilloscopes can't readily withstand — harsh, hazardous and dirty industrial environments. These hand-held instruments combine the performance of a bench oscilloscope with a multimeter and paperless recorder for installing, commissioning and maintaining industrial and electronic equipment out in the field.

# **Portable Oscilloscope Selection Guide**



# FlukeView 2<sup>™</sup> ScopeMeter<sup>®</sup> Software for Documenting, Archiving and Analyzing Waveforms Get more out of your ScopeMeter with FlukeView2 ScopeMeter SW90W software for Windows™



• Use cursors for parameter measurement reference and instructions

	190 Series III				MDA Series III
-104	190-202	190-204	190-502	190-504	MDA-550-III
MHz	200 MHz	200 MHz	500 MHz	500 MHz	500 MHz
	•		•		
•		•		•	•
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7	3.5 (opt 8)	7	7	7	7
	270 × 100 × 70	mm (10.5 × 7.5	v 2 9 inl		
		mm (10.5 × 7.5	^ 2.0 IIIJ		
	2.2	2 kg (4.8 lb)	_		
•	•	•	•	•	•
•	•	•	•	•	•

FLUKE ®

- Copy screen images into your reports and documentation
- Store instrument's screen copies on the PC, in color
- Capture and store waveform data from your ScopeMeter on your PC
- Record your current waveform online
- Create and archive waveform references for easy comparison
- Copy waveform data into your spreadsheet for detailed analysis
- Export data to another analysis program
- · Add user text to instrument setups and send them to the instrument for operator



# NEW Fluke MDA-550 Series III Motor Drive Analyzer



Fluke MDA-550-III

**Key Features** 

<u> ()</u>

# Simplify complex motor-drive troubleshooting

The Fluke MDA-550 Motor Drive Analyzer simplifies the troubleshooting process for variable frequency drives. Onscreen step-by-step guided measurements to show you where to make voltage and current connections. Preset measurement profiles ensure you capture all the data you need for each critical motor-drive section, from the input to the output, the DC bus, and the motor itself.

- Measure key motor-drive parameters including voltage, current, DC Bus voltage level and AC ripple, voltage and current unbalance and harmonics. voltage modulation, and motor shaft voltage discharges
- Perform extended harmonics measurements to identify the effects of low and high order harmonics on your electrical power system
- Conduct guided measurements for motor-drive input, DC bus, drive output, motor input and shaft measurements with graphical step-by-step voltage and current connection diagrams
- Preset measurement profiles collect data based on the chosen test procedure and reduce the need for complex configuration
- Capture additional parameters with full 500 MHz oscilloscope, meter and recording capability
- USB & WIFI connectivity for quick and easy data transfer
- Three-year warranty

Recommended Acc	essories
	11
SVS-500 Shaft Voltage Measurement Kit	SB–500 Shaft Voltage Brush Set
BP291 4500 mAh capacity Li-ion Battery	



Motor Drive Input	Test Points
Phase - Phase	V-A-Hz
Phase - Ground	V pk, Vmax, Vmin, V pk-to-pk, Crest factor
Voltage Unbalance	V ac+dc unbalance, V pk-to-pk
Current Unbalance	A ac+dc unbalance, A pk-to-pk
Motor Drive DC Bus	
DC	V dc, V pk-to-pk, V pk max
Ripple	V ac, V pk-to-pk, Hz
Motor Drive Output	
Voltage and Current (filtered)	V-A-Hz, V PWM, V/Hz
Voltage Unbalance	V PWM unbalance, V pk-to-pk
Current Unbalance	A ac+dc unbalance, A pk-to-pk
Voltage Modulation	Phase-phase, Phase-ground, Phase-DC+, Phase-DC- : V pwm, V pk-to-pk, Hz, V/Hz, Delta V, Delta V/s, Risetime peak, Overshoot
Motor Input	
Voltage and Current (filtered)	V-A-Hz, V PWM, V pk, A ac+dc, A pk, V/Hz, Crest factor
Voltage Unbalance	V PWM unbalance, V pk-to-pk
Current Unbalance	A ac+dc unbalance, A pk-to-pk
Voltage Modulation	Phase-phase, Phase-ground: V PWM, V pk-to-pk, Hz, V/Hz, Delta V, Delta V/s, Risetime peak, Overshoot
Motor Shaft	Shaft voltage events: V pk-to-pk, Delta V, Rise/fall time, Delta V/s, Events/s
Motor Drive Input Output and	Voltage and Current Harmonics:

## Motor Drive Input Output and Voltage and Current Harmonics: V and A fundamental, Hz fundamental, %THD, %THD/TDD Motor Input

# **Included Accessories**

BP291 Li-Ion Battery Pack, BC190 Charger/Power Adapter, 3x VPS421 100:1 High Voltage Probes with Alligator Clips, VPS410-II-R 10:1 500 MHz Voltage Probe, 3x i400s AC Current Clamp, 1x SVS-500 Shaft Voltage Set (3x brush, Probe Holder, Two-Piece Extension Rod and Magnetic Base), Large Size, Protective Carrying Case with Rollers (C437-II), FlukeView-2 PC Software (Full Version) and WiFi Dongle

# **Ordering Information**

FI

-	
UKE-MDA-	Motor Drive
50-III	Analyzer 4CH
	PRO

LR

Contact your local distributor for price and availability. fluke.com/findus

# NFW

# Fluke ScopeMeter<sup>®</sup> 190 Series III **Portable Oscilloscopes**



Fluke 190-504 Series III

Fluke 190-204

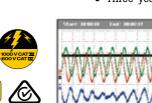
Series III

NFW

**ISO 9001** 

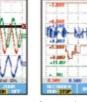
Fluke ScopeMeter 190 Series III Portable Oscilloscopes are high-performance scopes built for harsh industrial environments. These high-performance portable oscilloscopes come with 2 or 4 independently insulated input channels, an IP51 dust and drip proof rating and a CAT III 1000 V/CAT IV 600 V safety rating. Choose from 500 MHz, 200 MHz, 100 MHz or 60 MHz bandwidth models. Now plant maintenance engineers can take a 2- or 4-channel scope into the harsh world of industrial electronics.

- to 1000V • Up to 5 GS/s real time sampling (depending on
- model and channels used) • Deep memory: 10000 points per trace waveform
- capture
- CAT III 1000 V/CAT IV 600 V safety rated instrument for industrial environments
- Up to seven hours of battery operation using BP291 • Security slot: lock down oscilloscope with
- Kensington<sup>™</sup> lock while unattended
- IP51 rating, dust and drip-proof
  - Connect-and-View<sup>™</sup> triggering for intelligent, automatic triggering on fast, slow and even complex signals
  - Automatic capture and REPLAY of 100 screens
- ScopeRecord<sup>™</sup> Roll mode gives 30 000 points per NEW input channel for low frequency signal analysis • USB & WIFI connectivity for quick & easy data
  - transfer • Three-year warranty



uke 190-102

Series III



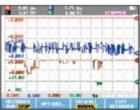
Use the 27000 points memory of ScopeRecord and zoom in for maximu detail

Cursors and zoon
Series III help you
TrendPlot.

190-062	190-102	190-202	190-502	190-104	190-204	190-504
60	100	200	500	100	200	500
2	2	2	2	4	4	4
1	1	1	1	-	-	-
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-	-	-	-	•	•	•
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•	•	•	•	•	•	•
1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
600 V	600 V	600 V	600 V	600 V	600 V	600 V
4 hr Li-ion (8 hr Opt)	4 hr Li-ion (8 hr Opt)	7 hr Li-ion	7 hr Li-ion	7 hr Li-ion	7 hr Li-ion	7 hr Li-ion
-	-	-	-	-	-	-
•	•	•	•	•	•	•
•	•	•	•	•	•	•
	60 2 1 • • • • 1000 V 600 V 600 V 4 hr Li-ion (8 hr Opt) -	60         100           2         2           1         1           •         •	60         100         200           2         2         2           1         1         1           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           •         •         •           1000 V         1000 V         1000 V           600 V         600 V         600 V           4 hr         4 hr         7 hr           Li=ion         (8 hr Opt)         (8 hr Opt)	60         100         200         500           2         2         2         2           1         1         1         1           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           •         •         •         •           1000 V         1000 V         1000 V         1000 V           600 V         600 V         600 V         600 V $4 hr         Li-ion         Zi-ion         Zi-ion           ·         ·         ·         ·         ·  $	60         100         200         500         100           2         2         2         2         4           1         1         1         1         -           •         •         •         •         -           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           1000 V         1000 V         1000 V         1000 V         1000 V           1000 V         1000 V         1000 V         1000 V         600 V           600 V         600 V         600 V         600 V         600 V           600 V         600 V         600 V         600 V         600 V	60         100         200         500         100         200           2         2         2         2         4         4           1         1         1         1         -         -           •         •         •         •         -         -           •         •         •         •         •         -           •         •         •         •         •         •           •         •         •         •         •         •           •         •         •         •         •         •           •         •         •         •         •         •         •           •         •         •         •         •         •         •         •           •         •         •         •         •         •         •         •           •         •         •         •         •         •         •         •           •         •         •         •         •         •         •         •           •         •         •         •         •         1000 V



• Up to four independent floating isolated inputs, up



m features of the Fluke 190 to analyse the captured

# **Included Accessories**

Fluke 190 4-Channel Models: VPS410-II (200/500 MHz models) or VPS421 (60/100 MHz models) Voltage Probes, Double Capacity BP291 Liion Battery, BC190 Battery Charger, Hanging Strap, Adjustable Hand Strap User Manual on CD-ROM, FlukeView<sup>TT</sup> Demo Package and USB Interface Cable for PC connectivity.

Fluke 190 2-Channel Models: VPS410-II (200/500 MHz models) or VPS421 (60/100 MHz models) Voltage Probes, 1 blue), Single Capacity BP290 Li-ion Battery, TL175 Test Leads.

Fluke /S (SCC-290 Kit) Models: FlukeView<sup>™</sup> ScopeMeter<sup>™</sup> Software and C290 Hard Carrying Case.

# **Ordering Information**

-	
FLUKE-	ScopeMeter 60MHz,
190-062	2 Channel
FLUKE- 190-062/S	ScopeMeter 60MHz, 2 Channel with SCC- 290 Kit
FLUKE-	ScopeMeter 100MHz,
190-102	2 Channel
FLUKE- 190-102/S	ScopeMeter 100MHz, 2 Channel with SCC- 290 Kit
FLUKE-	ScopeMeter 100MHz,
190-104	4 Channel
FLUKE- 190-104/S	ScopeMeter 100MHz, 4 Channel with SCC- 290 Kit
FLUKE-	ScopeMeter 200MHz,
190-202	2 Channel
FLUKE- 190-202/S	ScopeMeter 200MHz, 2 Channel with SCC- 290 Kit
FLUKE-	ScopeMeter 200MHz,
190-204	4 Channel
FLUKE- 190-204/S	ScopeMeter 200MHz, 4 Channel with SCC- 290 Kit
FLUKE-	ScopeMeter 500MHz,
190-502	2 Channel
FLUKE-	ScopeMeter 500MHz,
190-502/S	2 Channel with SCC-

Contact your local distributor for price and availability. fluke.com/findus



290 Kit

# Fluke ScopeMeter<sup>®</sup> 120B Series Industrial Hand-Held Oscilloscopes



Fluke 125B



# Simplified testing, more insight and faster electro-mechanical troubleshooting

The compact ScopeMeter 120B Series, is the rugged oscilloscope solution for industrial electrical and electro-mechanical equipment troubleshooting and maintenance applications. It's a truly integrated test tool, with oscilloscope, multimeter and highspeed recorder in one easy-to-use instrument. The ScopeMeter 120B Series also integrates with Fluke Connect<sup>™</sup> mobile app and FlukeView<sup>™</sup> for ScopeMeter software to enable further collaboration, data analysis and archiving of critical test information.

The 120B Series Industrial ScopeMeter Test Tools include innovative functions designed to help technicians troubleshoot faster and get the answers they need to keep their systems up and running. Display Waveforms with Connect-and-View<sup>™</sup> trigger and setup technology, and automatically view related numerical measurements using Fluke IntellaSet™ technology, all without making manual measurement adjustments.

- Dual-input digital oscilloscope and multimeter
- 40 MHz or 20 MHz oscilloscope bandwidth
- Two 5000-count true-RMS digital multimeters
- Connect-and-View<sup>™</sup> trigger simplicity for hands-off operation • IntellaSet<sup>™</sup> technology automatically and intelligently adjusts numerical readout based on the
- measured signal • Dual-input waveform and meter reading recorder for
- trending data over extended periods
- With Recorder Event Detect capabilities and expandable micro SD memory, recording can be performed for up to 14 days
- The ScopeMeter 125B Bus Health Test analyzes the electrical signals on the Industrial Network Bus and gives a clear "Good", "Weak" or "Bad" indication mark for each of the relevant parameters used in CAN-bus, Profi-bus, Foundation Field, RS2-232 and more
- Three-year warranty

Specifications	123B	124B	125B
Full function dual input scope and meter	•	•	•
Oscilloscope bandwidth (MHz)	20	40	40
Meter and Scope Recorder	•	•	•
Scope cursor measurements	-	•	•
Power and harmonics measurements	-	-	•
Bus health	-	-	•
10:1 Voltage Probe	-	•	•
i400s AC Current Clamp	-	-	•



# **Included Accessories**

Fluke 120B: Li-Ion Battery Pack, Charger/Power Adapter, 10:1 Voltage Probe (124B, 125B), i400s AC Current Clamp (125B), 2 Shielded Test Leads with Ground Leads, Black Test Lead, Red and Blue Hook Clips, Banana to BNC Adapter, USB Angled Adapter and WiFi USB Adapter.

Fluke 120B/S: Also include Soft Carry Case, FlukeView<sup>™</sup> for Windows<sup>™</sup> Software, Magnetic Hanger and Screen Protector.

# Ordering Information

Ordering morma	ation
FLUKE-123B	Industrial 20MHz ScopeMeter Kit
FLUKE-123B/S	Industrial 20MHz ScopeMeter Kit
FLUKE-124B	Industrial 40MHz ScopeMeter Kit
FLUKE-124B/S	Industrial 40MHz ScopeMeter Kit
FLUKE-125B	Industrial 40MHz ScopeMeter Kit
FLUKE-125B/S	Industrial 40MHz ScopeMeter Kit

Contact your local distributor for price and availability. fluke.com/findus

# Process Calibration Tools

20.010

Whether you're calibrating pressure, temperature, mA loop, or a combination of these, Fluke process calibration tools are easy to use and deliver the accuracy and rugged reliability you need for bench or field use.

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

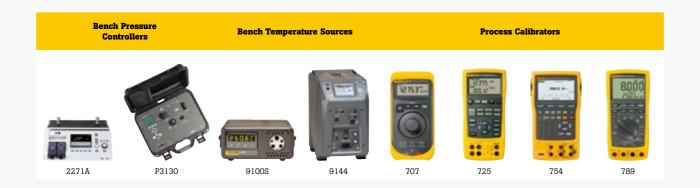




# **Process Calibration Solutions**

Get more information on Fluke Process Calibration solutions at **www.fluke.com/en-sg/products/calibration-tools** Based on you. **Built by Fluke.** 

\* Diagram is not intended to be an exact representation. Diagram components are not to scale and are for illustration purposes only.



# **Maintenance Manager**

# Focus: Maintaining plant uptime and maintenance efficiency

# What issues do you face?

- Ensuring continuous uptime
- Maintaining good ROI for equipment
- Compliance
- Process improvement

# Fluke solutions:

- Temperature
- Pressure
- Standards
- A Process tools
- Software

# **Field Calibration Technician**

Focus: Calibrating and verifying measurement devices

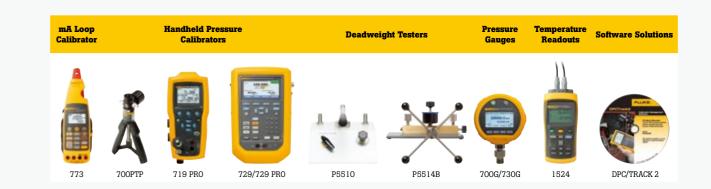
# What issues do you face?

- Making accurate measurements
- Documenting procedures
- Increasing throughput

# Fluke solutions:



- Pressure
- Standards
- A Process tools
- Software
- Field Metrology Wells





# **Quality Manager**

Focus: Maintaining and documenting product quality

# What issues do you face?

- Complying with quality regulations
- Maintaining documentation of processes

# Fluke solutions:

- Temperature
- Pressure
- Standards
- A Process tools
- Software

# **Instrumentation Technician**

# Focus: Maintaining and verifying instrumentation throughout the plant

# What issues do you face?

- Monitor and maintain sensors and transmissions
- Accurate measurements

# Fluke solutions:

- Temperature
- Pressure
- 🔹 Standards
- A Process tools
- Software
- Field Metrology Wells



Working in a process environment such as pharmaceutical manufacturing, refining, or other industrial areas can be challenging. Whether you're working at a bench, out in the plant, or in the field, you need accurate tools that you can count on.

Finding the right tools for the specific challenges you face every day is important, so we've provided an 'at-a-glance' guide to the wide range of multifunction, mA loop, pressure and temperature calibrators that we carry.



# **mA Loop Calibration**

Loop calibrators are essential tools for working with 4-20 mA current loops. Fluke loop calibrators provide mA sourcing, simulation and measurement, readouts in both mA and % of span, 24 V loop supply, simple operation, and accuracy you can count on. Fluke offers the widest variety of mA calibration and test tools in the industry to address virtually all types of mA loop testing.

See pages 72



# **Electrical and Multifunction Calibration** Fluke Multifunction Calibration Tools are designed to calibrate almost anything. These

calibration tools source and measure almost all process parameters, and documenting models even document the results.

Fluke offers a broad range of field and bench calibrators to source, simulate and measure pressure, temperature and electrical signals, to help you verify and adjust your equipment for almost any process measurement or control parameter.

See pages 72



# **Temperature Calibration**

Fluke Temperature Calibrators simulate process sensors for testing temperature instrumentation. Specifically designed for the field, these lightweight compact tools are EMI tolerant and offer an easy-to-use single push button interface. When paired with a temperature sensor they can take high accuracy temperature measurements to verify process temperatures and ensure the highest product quality and safety.

Fluke offers a variety of bench and field temperature calibrators designed for your unique calibration and testing requirements.

See pages 72



# **Pressure Calibration**

Instrumentation is found in virtually every process plant. Periodic calibration of these instruments is required to keep plants operating efficiently and safely. Fluke offers a wide range of pressure calibration tools with precision pressure measurement from 15 psi/1 bar to 10000 psi/690 bar boasting 0.02% full-scale accuracy to help you quickly and reliably calibrate your pressure instruments.

You'll find everything from simple test gauges to calibrators with built in electric test pumps. All are easy to use and feature rugged and reliable construction and an industry best 3-year warranty.

See pages 72

# **Process Calibration Tools Selection Guide**

	Documenting Process Calibators	Multifunction Process Calibrators	on Process ators	Tempe	Temperature Calibrators	ttors		Pres	Pressure Calibrators	5		Automatic Pressure Calibrator			Loop Calibrators	b rators			Process- Meters <sup>TM</sup>
	754 / 753	725	726	724	714B	712B	718 / 718Ex	717	719	719Pro	721	729	715	705	70 <i>7</i>	709 / 709H / 710	771	772 / 773	7895 / 787B
Voltage DC	300 V	30 V	30V	30 V	75 mV					30 V	30 V	30 V	10 V	28 V	28 V	30 V		- / 30 V	1000 V
Voltage AC (True RMS)	300 V																		1000 V
Resistance	10 kΩ	3200 Ω	4000 Ω	3200 Ω		4000 Ω													40 MΩ
Current DC	110 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	100 mA	100 mA	30 mA, 1 A
Current AC																			•
Frequency	50 kHz	10 kHz	15 kHz																20 kHz
Pressure	ī.	•	- <b>.</b>				-12 to 300 psi <sup>2</sup> (4 ranges)	-12 to 10,000 psi <sup>2</sup> (10 ranges)	-12 to 100 psi <sup>2</sup> (2 ranges)	-12 to 300 psi <sup>2</sup> (3 ranges)	input 1: -0.97 bar to 2,48 bar input 2: -0.83 bar to 345 bar <sup>3</sup>	-12 to 300 psi <sup>2</sup> (3 ranges)							
Temperature						ı				-50° C to 10	$-50^{\circ}$ C to $150^{\circ}$ C <sup>4</sup> ( $-58^{\circ}$ F to $302^{\circ}$ F <sup>4</sup> )	302° F4)							
Temperature: RTD types	æ	7	œ	7		13													
TC types	13	12	12	12	17														
Source/Simulate																			
Voltage DC	15 V	10V	20 V	10V	75 mV							30 V	10 V					- / 10 V	
Resistance	10 kΩ	3200 Ω	4000 Ω	3200 Ω		4000 Ω													
mA DC/% scale	22 mA	24 mA	24 mA						•	•		24 mA	24 mA	24 mA	24 mA	•		24 mA	24 mA
mÅ source; auto step, auto ramp	•	•	•									•	•	•	•	•		•	•
Frequency	50 kHz	10 kHz	15 kHz																
Temperature: RTD types	80	7	80	7		13													
Temperature: TC types	13	10	10	10	17														
Record																			
Min/Max	•						•	•	•	•	•	•							•
							•	•	•								•	•	•
As Found/ As Left results	•											•							
Log data	•											•				•/-			
Upload data to PC	•											•				•/-			•
Remote operation		-/•	•									•							
reatures																			
Loop supply	26 V	24 V/ 12 V	24 V	24V			24 V / -	24V	24 V	24V	24V	24 V	24 V	24 V	24 V	24 V		24 V	24 V/-
HART <sup>TM</sup> communication	754 only											•				•/-			
Integrated hand pressure pump							•												
Electric Pump									•	•	•	•							
Intrinsically safe (ATEX)							718 Ex				721Ex								
Ttraceable certification	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Warranty in years	ю	3	ю	3	e	ю	8	3	e	ю	ю	e	e	e	e	e	ę	ю	ы
<sup>1</sup> Fluke 750 Pressure Modules Required <sup>2</sup> Ranges for the internal sensor <sup>3</sup> Ranges depending on version	Required or 1																		
nd ontional 720 RTD P	Tobe accessory																		



**Process Calibration Tools** 

789 & 787B

# Fluke 787B and 789 ProcessMeter<sup>™</sup>



Fluke 787B



# **Double the troubleshooting power so** you can do more, while carrying a lot less

The Fluke 787B and 789 ProcessMeter<sup>™</sup> double troubleshooting capabilities by combining the power of a safety-rated digital multimeter and mA loop calibrator into a single, compact test tool. Whether you only need to source and simulate mA, or need a 24 V loop power supply, Fluke has a ProcessMeter™ test tool designed specifically to meet your needs.

# Fluke 787B and 789 key features

- 20 mA DC current source/measure/simulate
- Simultaneous mA and % of scale readout
- IEC 61010-2-030: CAT III 1000 V, CAT IV 600 V
- Fluke Connect<sup>™</sup> compatibility for wireless data logging (with ir3000FC module)
- Precision 1000 V, 440 mA true-RMS digital multimeter
- Frequency measurement to 20 kHz
- Min/Max/Average/Hold/Relative modes
- Diode test and continuity beeper
- Manual step mA output (100%, 25%, Coarse, Fine)
- plus Auto Step and Auto Ramp • Externally accessible battery for easy battery changes
- Three-year warranty Fluke 789 additional features
- 24 V loop power supply
- HART mode setting with loop power (adds 250 ohm resistor)

Measurement Function	Range and Resolution	Best Accuracy (% of reading + LSD)
V DC	400.0 mV, 4.00 V, 40.00 V, 400.0 V, 1000 V	0.1% + 1
VAC (True-rms)	400.0 mV, 4.00 V, 40.00 V, 400.0 V, 1000 V	0.7% + 2
mA DC	30.00 mA	0.05% + 2
A DC	1.00 A (0.44 A continuous)	0.2% + 2
A AC	1.00 A (0.44 A continuous)	1% + 2
Resistance	400.0 Ω, 4.00 kΩ, 40.00 kΩ, 400.0 kΩ, 4.0 MΩ, 40 MΩ	0.2% + 1
Frequency (0.5 Hz to 20 kHz)	199.99 Hz, 1999.9 Hz, 19.99 kHz	0.005% + 1
Diode Test	2.00 V (shows diode voltage drop)	2% + 1
Continuity	Beeps for resistance < approx. 100 ohms	

Output Function	Range and resolution	Drive capability	Accuracy
DC Current Output (Internal Battery Operation)	0.00 to 20.00 mÅ or 4.00 to 20.00 mA, (selectable at power-up) Over-range to 24.00 mÅ	24 V compliance or, 1200 ohms, @ 20 mA	0.05%
DC Current Simulate (Ext. 15 V to 48 V loop supply)	0.00 to 20.00 mÅ or 4.00 to 20.00 mÅ, (selectable at power-up) Over-range to 24.00 mÅ	1000 ohms, @ 20 mA	0.05%
24 V Loop Supply*	Minimum 24 V	250 ohms @ 20 mA	> 24 V
Current Adjustment Modes	Manual: Coarse, Fine, 25% and 100% step Automatic: Slow Ramp, Fast Ramp, 25% step		

\*24 V Loop Supply available on 789 ProcessMeter™ only

Fluke Connect (FC) available in selected countries.

Contact your local Fluke distributors to find out more.

# **Recommended Accessories** Д, ir3000 FC TPAK Fluke Connect<sup>™</sup> ir3000 ToolPak Meter Connector Hanging Kit 80T-150UA TL220 Universal SureGrip<sup>™</sup> Industrial Test Lead Set Temperature Probe

C37XT



**Recommended Kits** Bundle and Save



ProcessMeter<sup>™</sup> and Temperature Kit

# **Included Accessories**

TL71 Test Lead Set, AC72 Alligator Clips, Four AA Alkaline Batteries, User Manual and Quick Reference Guide.

Ordering Inform	ation
FLUKE-787B	ProcessMeter™
FLUKE-789	ProcessMeter™
FLUKE-789/ T3000FC	Fluke Connect 789 ProcessMeter™ & Temperature Kit
FLUKE-IR3000 FC	Fluke Connect™ Infrared Connector
FVF-SC2	FlukeView™ Forms Software (incl. Interface Cable)

# Contact your local distributor for price and availability. fluke.com/findus

# 

# Fluke 771, 772 and 773 mA Process Clamp Meters



# measurements and save time with the Fluke 771, 772 and 773 Milliamp Process Clamp Meters.

Three-year warranty, (one-year provided on mA clamp assembly and cable).

# Use the Fluke 772 and 773 to:

- Source 4-20 mA signals for testing control system I/O or I/Ps
- Simulate 4-20 mA signals for testing control system I/O
- Measure 4-20 mA signals with in-circuit measurement • Power a transmitter with the 24 V loop
- power supply • Automatically ramp and step change the

# Use the Fluke 773 to:

- Measure DC voltage to verify 24 V power supplies or voltage I/O signals
- Source DC voltage to test voltage input devices
- Scaled mA output signal enables a logging DMM (289) to record 4-20 mA signal without breaking the loop
- mA in/out: simultaneously source a mA signal while measuring a mA signal with the clamp

	mA measure w/jaw	mA measure in circuit	mA source	mA e sim	Loop power 24 V	V DC source 0-10 V	V DC measure 0-30 V	Scaled mA output to mA input	mA in/ out
771	•	-	-	-	-	-	-	-	-
772	•	•	•	•	•	-	-	-	-
773	•	•	•	•	•	•	•	•	•
Specifi	ications	Function		Resoluti	on and rang	ge Accu	acy	Notes	
771 7	22 772	mA measurer		0 to 20.9	9 mA	0.2%	+ 5 counts	Measured b	y clamp
111, 1	72, 773	IIIA IIIeasurei		21.0 mA to 100.0 mA		1% +	5 counts	-	
772 an	nd 773	mA measurei	nent	0 to 24.0	00 mA	0.2%	+ 2 counts	Measured in with test jac	
								Maximum n	nA drive:

Specifications	Function	<b>Resolution and range</b>	Accuracy
771, 772, 773	mA measurement	0 to 20.99 mA	0.2% + 5 counts
111, 112, 113	IIIA IIIeasureiiieiit	21.0 mA to 100.0 mA	1% + 5 counts
772 and 773	mA measurement	0 to 24.00 mA	0.2% + 2 counts
772 and 773	mA source	0 to 24.00 mA	0.2% + 2 counts
772 and 773	mA simulate	0 to 24.00 mA	0.2% + 2 counts
773	Voltage source	0 to 10.00 V DC	0.2% + 2 counts
773	Voltage measure	0 to 30.00 V DC	0.2% + 2 counts
	771	770	
	771	772	

Battery	Two 1.5 V, Alkaline, IEC LR6	Four 1.5 V, Alkaline, IEC L
Working hours	40 hours typical	12 hours @ 12 mA source
Size (H×W×L)	59 mm × 38 mm × 212 mm (2.32 in × 1.5 in × 8.35 in)	43.7 mm × 70 mm × 246 (2.87 in × 5.75 in × 11.6
Weight	260 g (9.17 oz)	410 g (14.46 oz)
Operating temperature	-10° C to 50°C (14° F to 122° F)	
Ingress Protection (IEC 60529)	IP40	
60529)		



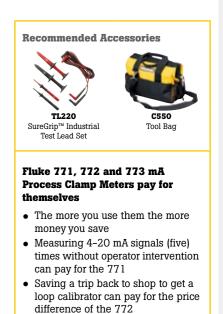
Don't break the loop on 4-20 mA signal

4-20 mA output for remote testing

24 mA into 1000 Maximum voltage 50 V DC 2 mA maximum drive current

# 773

.R6 e into 500 Ω 6.2 mm 62 in)



• Saving a trip back to the shop for a

price difference of the 773

voltage test source can pay for the



# **Included Accessories**

Fluke 771: Soft Carrying Case, User Manual.

Fluke 772/773: Four AA Alkaline Batteries (installed), Soft Carrying Case, TL75 Test Leads, AC 72 Detachable Clip, TL940 Mini-hook Test Leads, Instruction Sheet, Hanging Tool with Hook and Loop Strap.

**Ordering Information** 

FL

FL

FL

UKE-771	Milliamp Process Clamp Meter
UKE-772	Milliamp Process Clamp Meter
UKE-773	Milliamp Process Clamp Meter

Contact your local distributor for price and availability. fluke.com/findus



FLUKE ®



# Fluke 709, 709H and 710 **Precision Loop Calibrators**



Fluke 710

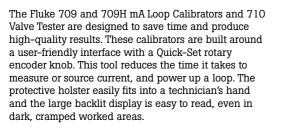


Fluke 709H





HART is a registered trade mark of the HART Communications Foundation.



- Best-in-class accuracy at 0.01% reading • HART<sup>™</sup> Communications (709H, 710) to
- communicate with and test HART smart instruments • Compact rugged design
- Intuitive user interface with quick-set knob for fast setup, easy to use
- 24 V DC loop power with mA measure mode
- Resolution of 1 µA on mA ranges
- Built in selectable 250 Ω resistor for HART communications
- Simple two wire connection for all measurements • Valve test (source and simulate defined mA values with % keys for valve testing)
- Upload logged mA measurements and HART device data using the 709H with optional 709H/TRACK software
- Three-year warranty

# **HART<sup>™</sup> Communication**

The Fluke 709H offers a built-in HART modem to provide the communication capability to perform the following commands:

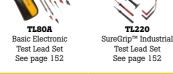
- Read message, tag, descriptor and calibration date
- Read sensor PV information and PV output
- information
- Read long tag
- Write PV ranges (upper and lower)
- Enter/exit fixed current mode and set zero offset • Trim DAC zero (mA output 4 mA) and trim DAC gain (mA output 20 mA)

# **Valve Testing**

The Fluke 710 has powerful valve-testing functions including preconfigured valve signature test, speed test, step test, manual test and bump/partial stroke test. The instrument comes with ValveTrack<sup>™</sup> desktop software where you can upload valve test results, logged measurements and HART device configurations captured in the field.

Key Features	709	709H	710
mA measure (range and accuracy)	0-24 mA @ 0.01%	0-24 mA @ 0.01%	0-24 mA @ 0.01%
mA source/simulate	0-24 mA @ 0.01%	0-24 mA @ 0.01%	0-24 mA @ 0.01%
DC volts measure	0-30 V @ 0.01%	0-30 V @ 0.01%	0-30 V @ 0.01%
DC volts source			
24 V loop power	•	•	•
Auto step/ramp	•	•	•
Documenting and log data		Option	•
HART communication		•	•
Valve testing	Analog	Analog	Analog/HART





 $\checkmark$ 

# **Included Accessories**

709: AC175 Alligator Clip Set, TL75 Test Leads, Soft Case, six AAA Batteries (installed), Product Manual (CD), Quick Reference Guide, Safety Information. 709H: 754-8016 Alligator Clip Set. 75X-8014 Stackable Lead Set, TP220-4201 Test Probes, AC280-5001 SureGrip Hook Clips, Soft Case, six AAA Batteries (installed), Product Manual (CD), Quick Reference Guide, Safety Information

710: Stackable test lead set, Extended tooth alligator clip set, TP220 test probes, AC280 SureGrip<sup>™</sup> hook clips, Lemo to USB cable ValveTrack™ software (free download), Softcase, Six AAA batteries (installed). Note: All models include Traceable Calibration Certificate.

Ordering Inform	nation
FLUKE-709	Precision Loop Calibrator
FLUKE-709H	Precision Loop Calibrator with HART™
FLUKE-709H/ TRACK	HART™ Data- Logging Communications Software
FLUKE-710	Valve Tester

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 715, 707, and 705 Loop Calibrators

Complete family of Volt/mA calibrators

20000

Fluke 705

12.753"

715

0

Fluke 715

 $\bigotimes$ 

# Fluke 715 Volt/mA Calibrator

- Source voltage to 200 mV or 20 V
- Measure loop current (0 to 20 mA, 4-20 mA) signals with 0.01% accuracy and 1  $\mu$ A resolution
- · Measure voltage output process signals from PLCs, transmitters
- Source or simulate 4-20 mA loop current • 24 V loop supply with simultaneous current
- measurement • Ramp and Step Ramp output functions
- Three-year warranty

# Fluke 707 and 705

- Innovative output adjustment dial on 707 provides 1 µA and 100 µA resolution and one-hand operation
- - Simultaneous mA and % readout for quick, easy interpretation of readings
  - mA accuracy of 0.01% on the Fluke 707 and 0.02% on the 705
  - · HART mode on 707 connects 250 ohm resistor in series with 24 V loop for compatibility with HART™ communicators
  - "Span Check" for fast confirmation of zero and span
  - Selectable slow and fast linear step ramp provide ramping outputs for valve slewing, remote testing and loop functional tests
  - 24 V internal loop supply, so you can power and read a transmitter at the same time without carrying a DMM
  - 0 to 20 mA or 4-20 mA default start up modes • Three-year warranty

# Fluke 707

	105/101			
Voltage measurement				
Range	0 V to 28 V	0 mV to 20		
Resolution	1 mV	10		
Accuracy	705: 0.02% Rdg + 1 LSD 707: 0.01% Rdg + 2 LSD	0.01%		
Current measurement				
Range	0 mA to 24 mA	0 m		
Resolution	0.001 mA	0		
Accuracy	705: 0.02% Rdg + 2 LSD 707: 0.01% Rdg + 2 LSD	0.01		
Current sourcing				
Range	0 mA to 20 mA or 4 mA to 20 mA	0 mA to 20 n		
Accuracy	705: 0.02% Rdg + 2 LSD 707: 0.01% Rdg + 2 LSD	0.01%		
Drive capability	705: 1000 Ω @ 24 mA 707: 1200 Ω @ 24 mA	1000		
Loop power while measur- ing mA	24	1 V		
Display current and % of span	Yes	1		
Auto step, auto ramp	Y	es		
Span Check	Y	es		
Battery life	18 hours typical, at	12 mA current so		
Voltage sourcing	-	0 mV to 200		



• Large display and simple interface for ease of use

Push button 25% steps for fast, easy linearity checks

# 715

00 mV / 0 V to 25 V 0 μV / 1 mV % Rdg + 2 LSD

mA to 24 mA 0.001 mA 01% + 2 LSD

mA or 4 mA to 20 mA

% Rdg + 2 LSD

00 Ω @ 24 mA

mA or %

source

00 mV or 0 V to 20 V







Tool Bag



TL220 SureGrip<sup>™</sup> Industrial Test Lead Set



# **Process Calibration Tools** Loop Calibration

# **Included Accessories**

Fluke 705/707: Test Leads, AC175 Alligator Clips, Single 9V Alkaline Battery, Instruction Sheet, Traceable Calibration Certificate.

Fluke 715: Yellow Holster (H8OM excl. TPAK), Test Leads and AC175 Alligator Clips, Single 9V Alkaline Battery, Instruction Sheet, Traceable Calibration Certificate.

# **Ordering Information**

FLUKE-705 FLUKE-707 FLUKE-715

Loop Calibrator Loop Calibrator Volt/mA Calibrator



# Fluke 725 and 726 Multifunction **Process Calibrators**





- Two separate channels; measure, source and view process signals simultaneously
- Measure volts, mA, RTDs, thermocouples, frequency, and resistance to test sensors and transmitters
- Source/simulate volts, mA, thermocouples, RTDs, frequency, and pressure to calibrate transmitters
- Measure pressure using any of 50 Fluke 750Pxx Pressure Modules
- Source mA with simultaneous pressure measurement to conduct valve and I/P tests
- · Perform fast linearity tests with auto step and auto ramp
- · Power transmitters during test using 24 V loop supply and simultaneous mA measurement
- Store frequently-used test setups for later use • Three-year warranty

# 726 additional features:

- More precise measurement and calibration source performance, accuracies of 0.01%
- Transmitter error % calculation
- Memory storage for up to 8 calibration results
- · Frequency totalizer and frequency pulse train source mode • HART mode inserts 250 ohm resistor in mA measure and
- source for compatibility with HART instrumentation
- Integrated pressure switch test
- Custom RTD curves, add calibration constants for certified RTD probes for enhanced temperature measurement



**Recommended Accessories** 

C125

Soft Case

700PRV

Kit

re Relief Valve

TL220

SureGrip™ Industrial

Test Lead Set

80PK-27

Industrial Surface

Temperature Probe

**750PXX** 

Pressure Module

200

Function or Source	Range or Type	Resolution	Accuracy	Notes
Voltage	0 to 100 mV 725: 0 to 10V (source) <b>0 to 20V (source)</b> 725/726: 0 to 30V (measure)	0.01 mV 0.001 V 0.001 V 0.001 V	<b>0.01%</b> 0.02% Rdg + 2 LSD	Max load, 1 mA
mA	0 to 24	0.001 mA	0.01%; 0.02% Rdg +2 LSD	Max load, 725/726: 1000 Ω
mV (TC terminals)	-10.00 mV to +75.00 mV	0.01 mV	0.01% 0.02% of range + 1 LSD	
Ohms	15 Ω to 3200 Ω <b>5 Ω to 4000 Ω</b>	0.01 Ω to 0.1 Ω	0.10 Ω to 1.0 Ω 0.01%	
Hz - CPM	2.0 to 1000 CPM 1 to 1000 Hz 1.0 to 10.0 kHz <b>10.0 to 15.0 kHz</b>	0.1 CPM 1 Hz 0.1 kHz <b>0.1 kHz</b>	±0.05% ±0.05% ±0.25% <b>±0.05%</b>	Source; 5 V p-p <b>1 V - 20 V p-p</b> squarewave, -0.1 V offset
Loop Supply	725/726: 24 V DC	N/A	10%	
T/C	J, K, T, E, L, N, U, XK	0.1°C	to 0.7°C to 0.2°C	
T/C	B, R, S, BP	1°C	to 1.7°C to 1.2°C	
RTDs	<b>Cu (10)</b> , Ni 120 (672) Pt 100, 200, 500, 1000 (385)	0.01°C	to 0.15°C	

Simultaneous function capability	Channel A	<b>Channel B</b>
24.00 mA DC	М	M or S
24.00 mA DC with 24 V loop supply	М	-
100.00 mV DC	-	M or S
30.00 V DC measure	М	-
20.00 V DC measure; 10.00 V DC source; 20.00 V DC source	-	M or S
15 to 3200 Ohms (725); 5 to 4000 Ohms (726)	-	M or S
Thermocouple J, K, T, E, R, S, B, M, L, U, N, XK, BP	-	M or S
RTD <b>Cu 10</b> , Ni120; Pt100 (392); Pt100 (JIS); Pt100, 200, 500, 1000 (385), XK and BP	-	M or S
Pressure (requires Fluke 750PXX Modules)	М	M used as S
Frequency; 10 kHz; (15 kHz)	-	M or S
M = Measure S = Source/Simulate		

0.1°C

to 0.2°C

Unique 726 features are in bold

**Process Calibration Tools** 

Pt 100 (3916),

Pt 100 (3926)

RTDs

need to carry. 0.00000 Vm . . . E 5 ...... 121 0 --Fluke 753



Fluke 754

HART is a registered trade mark of the HART Communications

Foundation

- and more Control the temperature of selected HART<sup>™</sup> Scientific Dry Blocks
  - Handle fast pulsed RTD transmitters and PLCs in RTD source mode with 1 ms response time
- Three-year warranty

# Fluke 753: A complete Documenting Calibrator

The Fluke 753 is a complete multifunction documenting calibrator. It includes a PC interface that lets you load procedures, lists and instructions created with softwareor unload data for printing, archiving, and analysis. The 753 can hold a full week of calibrations and procedures.

etc

transmitters

50 pressure modules

# Fluke 754: Get HART-ability™

The Fluke 754 offers all of the capabilities of the 753, plus the ability to calibrate, maintain and troubleshoot HART instrumentation. Integrated HART communication functions permit you to monitor, control and calibrate HART instrumentation. It handles fast pulsed instruments such as RTD transmitters and PLCs responding to pulses within 1 ms.

# **Instrumentation Management Software**

The Fluke 753 and 754 are compatible with Fluke 750SW DPC/TRACK2 software and with software from Cornerstone, Emerson, Honeywell, On Time Support, Prime Technologies, Yokogowa, Intools, Meridium.

For more information, visit www.fluke.com

Functions	Measure	Sourcing
DC voltage	0.02% reading + 0.005% full scale	0.01% output + 0.0
DC current	0.01% reading + 5 µA	0.01% output + 0.0
Resistance	0.05% reading + 50 mΩ	0.01% output + 24
Frequency	0 to 50kKHz, ±0.5 Hz to 1100 Hz	0 to 50 kHz, ±0.1 H
Thermocouples	0.3° C (0.54° F)	0.2° C (0.36° F)
RTDs	0.3° C (0.54° F)	0.1° C (0.18° F)
Pressure	To 0.02% of full scale, per pressure module	e specifications

## **General Specifications** Typically over eight hours Battery life Internal battery pack Li ion 4400 mAh Battery replacement Via twist lock fastener without opening calibrator Weight 1.2 kg (2.7 lb) Size (HxWxD) 136 x 245 x 63 mm (5.4 x 9.6 x 2.5 in) 0.3° C RTDs To 0.02% of full scale, per pressure module specifications - see page 124 Pressure

fluke.com/findus

Contact your local distributor for

**Included Accessories** 

**Ordering Information** 

Certificate.

FLUKE-725

FLUKE-726

price and availability.

TL75 Test Lead Set (TL75), AC70A

Test Clip Set (725), AC72 Test Clip Set

(726), Stackable Test Lead Set, four

AA Batteries, Traceable Calibration

Multifunction Calibration

Multifunction Process Calibrator

Multifunction

Process Calibrator

Precision

# Fluke 750 Series Documenting Process Calibrators

Whether you're calibrating instruments, troubleshooting a problem or running routine maintenance, Fluke's 753 and 754 Series Process Calibrators can help you get the job done faster. They do so many different tasks, so quickly and so well and they are the only process calibrators you

• Measure volts, mA, RTDs, thermocouples, frequency, and ohms to test sensors, transmitters

• Source/simulate volts, mA, thermocouples, RTDs, frequency, ohms, and pressure to calibrate

 Power transmitters during test using loop supply with simultaneous mA measurement Measure pressure using any of Fluke's

• Measure and source simultaneously with one compact, rugged, reliable tool

 Create and run automated as-found/asleft procedures to satisfy quality programs or regulations and record and document results. Advanced features like autostep, custom units, user entered values during test, one-point and two-point switch testing, square root DP flow testing, programmable measurement delay

.005% full scale 003 mA 40 m0 Hz to 1099.9 Hz

# **Recommended Accessories**

750SW

C799

Field Soft Case

754HCC

Communication Cable

Smart Instrun

DPC/TRACK2 Soft







700HTP-2 Hydraulic Test Pump

**Recommended Kits** Bundle and Save



Fluke 754/750SW 754DPC and 750SW DPCTRACK2 Bundle Package

Purchase the Fluke 754 with the Fluke DPC/TRACK2<sup>™</sup> software at a special bundle package price.

For more information, go to fluke.com/754

# Included Accessories

Stackable Test Leads (3 sets), TP220 Test Probes (3 sets) with extended Tooth Alligator Clips (3 sets), AC280 Hook Clips (2 sets), BP7240 Liion Battery Pack, BC7240 Battery Charger, C799 Field Soft Case, USB Communication Cable, Getting Started Guide, Instruction Manual on CDROM, Traceable Certificate of Calibration, DPCTrack<sup>™</sup>2 Sample Software that enables upload and printing of calibration records, HART™ Communication Cable (754 only).

## Ordering Informatio

ordering morn	
FLUKE-753	Documenting Process Calibra
FLUKE-754	Documenting Process Calibra HART™
FLUKE-754/ 750SW	754DPC and 750SW DPCTRACK2 Bundle Packag
FLUKE-750SW	DPC/TRACK2



Software



Fluke 154



HART<sup>™</sup> Calibration assistance at your fingertips. Combine with a Fluke Calibrator for a total HART Calibration Solution.

The Fluke 154 puts HART device configuration at your fingertips. An Android<sup>™</sup> based tablet user interface makes HART configuration easy. The external wireless modem allows you to connect the modem to the transmitter being tested so you can communicate to the device remotely. HART transmitters can often be found in confined spaces that are difficult to access, or are out of reach. The Fluke 154 helps reduce the need to stand right next to the device being tested or configured so you can work from a safer, more convenient location.



When you combine the Fluke 154 Communicator with a Fluke 750 Series Documenting Process Calibrator, or a Fluke 720 Series Multifunction Process Calibrator you have a complete HART calibration and configuration solution.

- Full HART Device Description (DD) support of all HART devices
- Configure HART devices
- Perform HART trim on HART devices when used with a Fluke 750 or 720 series calibrator
- Monitor device PV, SV, TV, QV and other measured HART variables
- Quarterly HART DD updates for free
- Convenient wireless connectivity to HART modem
- Easy to use, fast connect and view HART data
- Store HART device configurations
- Long range wireless communication up to 76.2 m (250 ft)
- Three-year warranty

Operating systemAndroid 5.0 or newerProcessorARM or AtomMemory RAM1 GBMemory ROM2 GBScreen960 × 540 qHDCommunication portBluetoothHART** ModemEnclosureIo.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberInterfaceCapacitive couplingOutput600 mVppLeakage< 10 uAConnectionsAcross loop resistor or HART field deviceSpecificationsHART 4, HART 5, HART 6, HART 7HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionHumidity0% to 90% (non-condensing)	Tablet	
Nemory RAM1 GBMemory ROM2 GBScreen960 × 540 qHDCommunication portBluetoothHART" ModemEnclosureDimensions (LxWxH)10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsMini-GrabberHART cable score (1 and 1 an	Operating system	Android 5.0 or newer
Memory ROM2 GBScreen960 × 540 qHDCommunication portBluetoothHART" ModemEnclosureDimensions (LxWxH)10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsCapacitive couplingOutput600 mVppLeakage< 10 uA	Processor	ARM or Atom
Screen960 × 540 qHDCommunication portBluetoothHART" ModemEnclosureDimensions (LxWxH)10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsCapacitive couplingOutput600 mVppLeakage< 10 uA	Memory RAM	1 GB
Communication portBluetoothHART" ModemEnclosure10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Dimensions (LxWxH)10.16 kg (0.36 lbs)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsCapacitive couplingOutput600 mVppLeakage< 10 uA	Memory ROM	2 GB
HART" ModemEnclosureI0.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Dimensions (LxWxH)10.16 kg (0.36 lbs)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsCapacitive couplingOutput600 mVppLeakage< 10 uA	Screen	960 × 540 qHD
EnclosureInterfaceDimensions (LxWxH)10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsMineFraceCapacitive couplingOutput600 mVppLeakage< 10 uA	Communication port	Bluetooth
Dimensions (LxWxH)10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART cable connectorsMini-GrabberHart cable connectorsCapacitive couplingOutput600 mVppLeakage< 10 uAConnectionsAcross loop resistor or HART field deviceSpecificationsHART 4, HART 5, HART 6, HART 7HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	HART™ Modem	
Total unit weight0.16 kg (0.36 lbs)HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART** InterfaceCapacitive couplingOutput600 mVppLeakage< 10 uA	Enclosure	
HART cable length1.2 m (4 ft)HART cable connectorsMini-GrabberHART** InterfaceCapacitive couplingOutput600 mVppLeakage< 10 uA	Dimensions (LxWxH)	10.16 x 2.5 x 6.9 cm (4 x 1 x 2.75 in)
HART cable connectorsMini-GrabberHART "InterfaceCapacitive couplingOutput600 mVppLeakage< 10 uA	Total unit weight	0.16 kg (0.36 lbs)
HART"" InterfaceInterfaceCapacitive couplingOutput600 mVppLeakage< 10 uA	HART cable length	1.2 m (4 ft)
InterfaceCapacitive couplingOutput600 mVppLeakage< 10 uA	HART cable connectors	Mini-Grabber
OutputGoO mVppLeakage< 10 uAConnectionsAcross loop resistor or HART field deviceSpecificationsHART 4, HART 5, HART 6, HART 7HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	HART™ Interface	
Leakage< 10 uAConnectionsAcross loop resistor or HART field deviceSpecificationsHART 4, HART 5, HART 6, HART 7HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	Interface	Capacitive coupling
ConnectionsAcross loop resistor or HART field deviceSpecificationsHART 4, HART 5, HART 6, HART 7HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	Output	600 mVpp
SpecificationsHART 4, HART 5, HART 6, HART 7HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	Leakage	< 10 uA
HART physical layer specHCF_SPEC-54SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	Connections	Across loop resistor or HART field device
SpecificationBluetooth v2.0Frequency2.4 GHzClass 1 master distance83.8 m (275 ft)Battery TypeRechargeable Li-ionBattery Life19 hours continuous use	Specifications	HART 4, HART 5, HART 6, HART 7
Frequency     2.4 GHz       Class 1 master distance     83.8 m (275 ft)       Battery Type     Rechargeable Li-ion       Battery Life     19 hours continuous use	HART physical layer spec	HCF_SPEC-54
Class 1 master distance     83.8 m (275 ft)       Battery Type     Rechargeable Li-ion       Battery Life     19 hours continuous use	Specification	Bluetooth v2.0
Battery Type     Rechargeable Li-ion       Battery Life     19 hours continuous use	Frequency	2.4 GHz
Battery Life 19 hours continuous use	Class 1 master distance	83.8 m (275 ft)
	Battery Type	Rechargeable Li-ion
Humidity 0% to 90% (non-condensing)	Battery Life	19 hours continuous use
	Humidity	0% to 90% (non-condensing)

Available in limited regions only.

# 

# Fluke 712B, 714B and 724 **Temperature Calibrators**



Fluke 714B

300.0

20.002 -4

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Fluke 712B

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The Fluke 712B and 714B are designed for both simplicity, ease of use and high accuracy. They are a powerful combination of temperature and loop calibration.

Accuracy and simplicity

# Fluke 714B Thermocouple Calibrator

- · Measure and simulate 17 different thermocouple types and millivolts
- Measure 4-20 mA signals while simultaneously sourcing a temperature signal
- Hanging tool designed in and included with every unit
- Configurable 0% and 100% source settings for quick 25% linearity checks
- · Linear ramp and 25% step auto ramp based on 0% and 100% settings
- Dual inputs and backlit display for easy interpretation of measurements
- · Power-down settings remembered at power up for easy restart of tests
- 1 and 2 year specifications and traceable certificate of calibration
- Three-year warranty

# Fluke 712B RTD Calibrator

- Measure and simulate 13 different RTD types and resistance
- Measure 4-20 mA signals while simultaneously sourcing a temperature signal
  - Configurable 0% and 100% source settings for guick 25% linearity checks
  - Linear ramp and 25% step auto ramp based on 0% and 100% settings
  - Dual inputs and backlit display for easy interpretation of measurements

# · 1-year and 2-year specifications and traceable certificate of calibration • Three-year warranty

General specifications	712B
Operating temperature	-10° C to 50° C (14° F to 122° F)
Operating altitude	2000 m (6561 ft)
Relative humidity (% RH operating without condensation)	Non condensing 90% (10° C to 30° C (14° F to 86 75% (30° C to 40° C (86° F to 104° F)), 45% (40° C to 50° C (104° F to 122° F)) (Without
Vibration requirements	MIL-T-28800E, Class 2
Drop test requirements	1 m (3.28 ft)
Ingress Protection	IEC 60529: IP52
Safety	IEC 61010-1, Max 30 V to earth, Pollution Degree
Power supply	Four AA NEDA 15A IEC LR6 batteries
DC mA measurement	
Resolution	0-24 mA
Range	0.001 mA
Accuracy (% of reading + counts)	0.01% + 2 μA
Ohms measurement	
Ohms range	0.00 Ω to 400.00 Ω, 400.0 Ω to 4000.0 Ω
Accuracy (% of reading +counts)	0.01% + 0.05 Ω, 0.01% + 0.5 Ω
Ohms source	
Ohms range	1.0 Ω to 400.0 Ω, 1.00 Ω to 400.00 Ω, 400.0 Ω to 1500.0 Ω, 1500.0 Ω to 4000.0 Ω
Accuracy (% of reading + counts)	0.01% + 0.1 Ω, 0.01% + 0.05 Ω, 0.01% + 0.5 Ω, 0.01% + 0.5 Ω
Resolution	
0.00 Ω to 400.00 Ω	0.01 Ω
400.0 $\Omega$ to 4000.0 $\Omega$	0.1 Ω
Millivolt measurement & source	
Resolution	
Range	
Accuracy (% of reading +counts)	

	Process	Calibration	Tools

HART Calibration

Assistant

**Included Accessories** 

**Ordering Information** 

Contact your local distributor for

on Tablet.

Fluke 154

price and availability.

fluke.com/findus

Tablet Charger and USB, Micro-

cable, Fluke HART™ App (installed),

HART Modem, USB Mini-Cable, Hook

Test Clips, Alligator Clips, Magnetic

Hanging Strap, Case, Manual installed







714B



# **Included Accessories**

C101

Meter Hard Case

Fluke 714B/712B: Magnetic Hanging Tool, Batteries, Manual, Traceable Calibration Certificate and Test Leads. Fluke 724: TL75 Test Leads, AC175 Test Clips, Stackable Test Leads (1 pair), Spare Fuse, User Manual and Traceable Certificate of Calibration.

# **Ordering Information**

FLUKE-714B	
FLUKE-712B FLUKE-724	

Thermocouple Temperature Calibrator **RTD** Calibrator

C25

Large Soft Case

Temperature Calibrator







# Fluke Calibration 1523 and 1524 **Reference Thermometers**



an accurate and repeatable substitute for mercury-in-glass thermometers. Whether working outdoors in environments where potentially explosive gases may be present or on the floor of a processing plant, these intrinsically-safe, battery operated, portable reference thermometers are designed to go where you work.

- User-configurable temperature Trend/Stability indicator
- Optional data logging to internal memory
- 300-hour battery life
- NVLAP-accredited, NIST-traceable calibration included
- Accuracy of ±0.05° C (±0.09°F) over full range
- Intrinsically safe (ATEX and IECEx compliant)
- Ex ib IIB T4 Gb - Two models to choose from (-50° C to 160° C (-58° F to
- 320° F)) or -80° C to 300° C (-112° F to 572° F)) • One-year warranty

## Models Included accessories 1551A Ex Thermometer, Fixed RTD, -50° C to 160° C (-58° F to 320° F), 1551A-9\* 4.8 mm × 229 mm (0.18 in × 9.01 in) 1551A Ex Thermometer, Fixed RTD, -50° C to 160° C (-58° F to 320° F), 1551A-12\* 6.35 mm × 305 mm (0.25 in × 12 in) 1551A Ex Thermometer, Fixed RTD, -50° C to 160° C (-58° F to 320° F), 1551A-20\* 6.35 mm × 508 mm (0.25 in × 20 in) 1552A Ex Thermometer, Fixed PRT, -80° C to 300° C (-112° F to 572° F), 1552A-12\* 6.35 mm × 305 mm (0.25 in × 12 in)

\*Datalogging option models also available as -DL

Fluke 1552A Ex

XX XX

# Fluke 1523/1524 5610-9-P Precision Thermisto 3.2 mm × 229 mm $(0.12 \text{ in } \times 9.01 \text{ in})$ 2384-P, 2384-T INFO-CON Connectors PRT (gray cap) or TC blue cap Fluke 1551AEx/2AEx 1551-CBL Cable, RS-232 Fluke Calibration 7526A Precision Process Calibrator

The Fluke Calibration 7526A Precision Process Calibrator offers the best balance of economy and accuracy for benchtop calibration of temperature and pressure process instrumentation. Easily calibrate RTD and thermocouple readouts, pressure gauges, temperature transmitters, digital process simulators, data loggers,

multimeters and more Sources and measures DC voltage,

- current, resistance, RTDs and thermocouples
- Precision pressure measurement using Fluke 750P Series Pressure Modules
- Measures 4-20 mA loop current
- Includes certificate of calibration traceable to national standards
- Thermocouple output/input: -10 mV to 75 mV ±(30 ppm of reading +2 uV)
- Transmitter output: 0 mA to 24 mA (input with loop power)  $\pm$ (100 ppm +1 μA)
- Resistance output: 5  $\Omega$  to 400  $\Omega$ ±0.01 Ω

Contact your local distributor for price and availability. fluke.com/findus

**Temperature Calibration** 



Fluke 9100S

35060

•

# The Fluke Calibration 9100S and 9102S are the world's smallest, lightest and most portable dry-wells. With an easy-to-use interface and temperature range to 375° C (707° F) the 9100S is ideal for checking RTDs, thermocouples, and small bimetal thermometers in the field. For work in the temperature range of -10° C to 122° C (14° F to 251° F) the 9102S is ideal for dial gauges, digital thermometers, bulb switches, and other sensors that need calibration below ambient.

# 9102S Handheld Dry-Well

Fluke Calibration 9100S and 9102S

- Smallest dry-wells in the world
- Interchangeable and customizable inserts available • Ranges from -10° C to 122° C (14° F to 251° F)
- Accuracy to ±0.25° C (±0.45° F)
- Stability of ±0.05° C (±0.09° F) at 0° C (32° F)
- One-year warranty

# 9100S Handheld Dry-Well

- High performance, convenience and easy-to-use
- Ranges from 35° C to 375° C (95°F to 707°F) • Accuracy: ±0.25° C at 50° C; ±0.25° C at 100° C;
- ±0.5° C at 375° C (±0.45° F at 122° F; ±0.45° F at 212° F; ±0.9° F at 707° F)
- NIST traceable calibration
- One-year warranty

# Fluke Calibration 1586A Data Acquisition System

# **1586A Super DAQ Precision Temperature** Scanner

The 1586A Super DAQ automates calibration when connected to a Fluke Calibration temperature source. It is a powerful thermometer readout and the most accurate and flexible temperature data acquisition system on the market.

- Measure thermocouples, PRTs, thermistors, DC voltage, DC current, and resistance
- Best-in-class temperature measurement accuracy
- PRTs: ±0.005° C (±0.009° F)
- Thermocouples: ±0.3° C (±0.54° F) (Type K,T,J w/ internal CJC)
- Thermistors: ±0.002° C (±0.004° F)
- One-year warranty

Optional: ISO I7025 Accredited Calibration available for 1586A models (add "/C" to the model number)









# Handheld Dry-Well Temperature Calibrators

# **Recommended Accessories** Fluke 9100S/9102S





Carrving Case (1586A Super DAQ)

FLUKE

Calibration

Ordering Infor	mation
9100S-A-256	HDRC Handheld Dry- Well, Block A, High- Temp
9100S-B-256	HDRC Handheld Dry- Well, Block B, High- Temp
9100 <b>S-C-</b> 256	HDRC Handheld Dry- Well, Block C, High- Temp
9100S-D-256	HDRC Handheld Dry- Well, Block D, High- Temp
9102S-256	HDRC Handheld Dry- Well, Low-Temp
1586A	Super-DAQ Precision Temperature Scanner
1586A/1DS	Super-DAQ Precision Temperature Scanner, 1 DAQ-STAQ Multiplexer
1586A/2DS	Super-DAQ Precision Temperature Scanner, 2 DAQ-STAQ Multiplexers
1586A/DS -HC	Super-DAQ Precision Temperature Scanner, 1 High-Capacity Module, 1 DAQ-STAQ Multiplexer
1586A/1HC	Super-DAQ Precision Temperature Scanner, 1 High-Capacity
	Module
1586A/2HC	Super-DAQ Precision Temperature Scanner,
	2 High-Capacity Modules



# FLUKE

Calibration

# Fluke Calibration 9142, 9143 and 9144 **Field Metrology Wells**



Field temperature calibration with precision and speed

Whether you need to calibrate 4-20 mA transmitters or a simple thermostatic switch, a Fluke Calibration Field Metrology Well is the right tool for the job. With three models covering the range of -25° C to 660° C, this family of Metrology Wells calibrates a wide range of sensor types. The optional process version (models 914X-X-P) provides a built-in twochannel thermometer readout that measures PRTs, RTDs, thermocouples, and 4-20 mA transmitters which includes the 24 V loop supply to power the transmitter.

- Lightweight, portable, and fast
- 9142 –25° C to 150° C ±0.2° C (–13° F to 302° F ±0.4° F) • 9143 33° C to 350° C ±0.2° C (91° F to 662° F ±0.4° F)
- 9144 50° C to 660° C ±0.35° C to 420° C, ±0.5° C to 660° C (122° F to 1,220° F ±0.63° F to 788° F, ±0.9° F to 1,220° F)
- Cool to -25° C (-13° F) in 15 minutes and heat to 660° C (1,220° F) in 15 minutes
- Built-in two-channel readout for PRT, RTD, thermocouple, 4-20 mA current
- True reference thermometry with accuracy to ±0.01° C
- Automate calibration with the Fluke 754 or Fluke 1586A or use on-board automation with process version
- One-year warranty

Models			number to be replaced with A, B, C, D, E, or F or the desired insert.
9142-X	Field Metrology Well, -25° C to 150° C (-13° F to 302°)	9142-INSA 9142-INSB	Insert A, 9142, misc holes Insert B, 9142, comp holes
9142-X-P	Field Metrology Well, -25° C to 150° C (-13° F to 302°), process version	9142-INSC	Insert C, 9142, $6 \times 0.25$ in holes
9143-X	Field Metrology Well, 33° C to 350° C (91° F to 662° F	9143-INSA 9143-INSB	Insert A, 9143, misc holes
9143-X-P	Field Metrology Well, 33° C to 350° C (91° F to 662° F), process version	9143-INSC	Insert B, 9143, comp holes Insert C, 9143, 6 × 0.25 in holes
9144-X	Field Metrology Well, 50° C to 660° C (122° F to 1,220° F)	9144-INSA 9144-INSB	Insert A, 9144, misc holes Insert B, 9144, comp holes
9144-X-P	Field Metrology Well, 50° C to 660° C (122° F to 1,220° F), process version	9144-INSC	Insert C, 9144, 6 × 0.25 in holes

# Fluke Calibration 9103 and 9140 **Field Dry-Well Calibrators**



Fluke Calibration 9103 and 9140 Field Dry-Well Calibrators beat every other comparable dry-well in the industry in performance, size, weight, convenience, ease of calibration, software, and price. The heating and cooling rate of each of these dry-wells is adjustable from the front panel, and thermal switches can be checked for actuation testing. Multiple-hole inserts are available for a variety of probe sizes.

- Lightweight and very portable
- Two models ranging from -25° C to 350° C (-13° F to 662° F)

Specify X, X = A, B, C, or D included insert

- Accuracy to ±0.25° C
- Stability to ±0.02° C
- RS-232 and Interface-it software included
- Easy to recalibrate

Insert A:

Insert B:

Insert C:

Insert D:

9103-X Field Dry-Well Calibrator,
-25° C to 140° C (-13° F to 284° F)

9140-X Field Dry-Well Calibrator, 35° C to 350° C (95° F to 662° F)

1.6 mm (1/16 in), 3.2 mm (1/8 in), 4.8 mm (3/16 in), 6.35 mm (1/4 in) 9.5 mm (3/8 in) and 12.7 mm (1/2 in)2 at 4.8 mm (3/16 in), 2 at 6.35 mm (1/4 in) and 2 at 9.5 mm (3/8 in) Six at 6.35 mm (1/4 in) 2 at 3 mm (0.118 in), 2 at 4 mm (0.157 in) and 2 at 6 mm (0.236 in)



Fluke 754 with 914X Series Field **Metrology Well** 



By combining the automating and documenting capabilities of the Fluke 754 Documenting Process Calibrator (see page 116) with Fluke Calibration's intelligent and stable family of field drywells and micro-baths, you have the capability to test the process sensor and the entire loop.

This combination of equipment allows you to easily verify the characteristics of the temperature sensor and measurement electronics. Using this information, the entire loop can be adjusted to optimize system measurement performance.



# Fluke Calibration 6109A/7109A **Portable Calibration Baths**



Range (a

tempera

Accurac

Display

Stability

Typical

Four times more calibration throughput with twice the accuracy of Micro-Baths and drv-block calibrators

The Fluke Calibration 6109A and 7109A Portable Calibration Baths let process industry professionals calibrate four times more sanitary sensors per batch in less time and with twice the accuracy of other baths in this class. Up to four tri-clamp sanitary sensors fit easily into these baths for calibration at ±0.1° C temperature display accuracy. Throughput is even higher for sanitary RTDs with small or no flanges.

- Calibrate up to four tri-clamp sanitary sensors at the same time
- Wide temperature ranges cover most process applications - 6109A: 35° C to 250° C (95° F to 482°) - 7109A: -25° C to 140° C (-13 ° F to 284° F)
- Excellent display accuracy of ±0.1° C (±0.18° F) provides 4:1
- test uncertainty ratio (TUR) for critical applications • One-year warranty

6109A	7109A
35° C to 250° C (95° F to 482°)	-25° C to 140° C ( (-13° F to 284° F (
0.1° C (0.18° F)	0.1° C (0.18° F)
0.01, 0.001°	0.1,0.001°
0.015° C (0.027° F)	0.01° C (0.018° F)
0.03° C up to 200° C (0.054° F up to 392° F) 0.04° C above 200° C (0.072° F up to 392° F)	0.02° C (0.036° F)
	35° C to 250° C (95° F to 482°) 0.1° C (0.18° F) 0.01, 0.001° 0.015° C (0.027° F) 0.03° C up to 200° C (0.054° F up to 392° F) 0.04° C above 200° C (0.072° F

# Fluke Calibration 1502A/1504 **Tweener Thermometer Readouts**



# Best performance thermometers in their price range

The 1502A and 1504 Tweener Thermometer Readouts are low-cost high-accuracy digital thermometers featuring accuracy of up to  $\pm 0.006^{\circ}$  C ( $\pm 0.011^{\circ}$  F) (Fluke 1502Å) and up to ±0.002° C (±0.004° F) (Fluke 1504).

- The 1502A is designed to be used with 25  $\Omega$  and 100  $\Omega$ RTDs and SPRTs. • The 1504 Thermometer Readout is designed to be used
- with thermistors or RTDs with a nominal resistance of 1000  $\Omega$  or greater.
- One-year warranty.

# Fluke Calibration 1620A Precision **Thermo-Hygrometer**



Fluke 1620A

*R* 

# The most accurate temperature and humidity graphical data loggers on the market

Now you can easily monitor and record conditions throughout your entire facility with the DewK's new Ethernet and wireless capabilities, and set your upgraded LogWare III software to notify you immediately of changing conditions.

The 1620A accepts inputs from up to two sensors, which may be mounted directly on the unit or remotely. Each sensor comes with a NVLAP-accredited certificate of calibration for both temperature and humidity, complete with data and NIST traceability. The 1620A-S reads temperature to ±0.25° C (±0.45° F) over its calibrated range of 15° C to 35° C (59° F to 95° F). Relative humidity readings are to  $\pm 2\%$  RH from 20% RH to 70% RH.

One-year warranty.

Contact your local distributor for

price and availability.

fluke.com/findus

Fluke 1502A





(-15° C cover off) (5° F cover off))

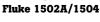
# **Recommended Accessories** Fluke 6109A/7109A



7109-CASE Carrying Case



7109-2051 Single Probe Clamp Kit





9301 Carrying Case, fits ner and 12 in probe



2508 Serial Cable Kit

7109-2027 djustable Prob Holding Fixture

7109-2080 Fluid Overflow Kit



2505 Spare Connector



Spare Power Supply 100 to 240 V AC (1620A)

# **Ordering Information**

UT der mig	
6109A	Portable Calibration Bath, 35° C to 250° C
6109A- P	Portable Calibration Bath with Process Electronics, 35° C to 250° C
7109A	Portable Calibration Bath, -25° C to 140° C
7109A- P	Portable Calibration Bath with Process Electronics, -25° C to 140° C
1502A	Tweener PRT Readout
1502A- 2506	Tweener PRT Readout, with IEEE-488
1504	Tweener Thermistor Readout
1504- 2506	Tweener Thermistor Readout with IEEE-488
1620A- H	The "DewK" Thermo-Hygrometer, High- Accuracy Value Kit
1621A- H	The "DewK" Thermo-Hygrometer, High- Accuracy Value Kit
1620A- S	The "DewK" Thermo-Hygrometer, Standard-Accuracy Value Kit
1621A- S	The "DewK" Thermo-Hygrometer, Standard-Accuracy Value Kit
9936A	LogWare III Software



# FLUKE

Calibration

# Fluke Calibration 9132/9133 Portable Infrared Calibrator



Fluke 9132



 $\bigotimes$ 

Precision when you need it for infrared temperature calibration

Whether you're using in-line or handheld infrared pyrometers, you need good calibration standards to verify their accuracy. Our portable IR calibrators provide stable blackbody targets for calibrating non-contact IR thermometers from -30° C to 500° C (-22°

F to 932° F). These units feature a temperature-controlled measurement

surface with a diameter of 57 mm (2.25 in). The target temperature can be controlled in setpoint increments of 0.1° from -30° C to 500° C (-22° F to 932° F) and a well is located directly behind the blackbody surface for contact calibration.

- Certify IR pyrometers from -30° C to 500° C (-22° F to 932° F)
- Large 57 mm (2.25 in) blackbody target
- RTD reference well for contact temperature measurement
- Small, compact design
- One-year warranty





**General specifications** 9132 9133 50° C to 500° C -30° C to 150° C at 23° C ambient Temperature Range (122° F to 932° F) (-22° F to 302° F at 73° F ambient) ±0.5° C at 100° C (±0.9° F at 212° F) Accuracy ±0.4° C (±0.72° F) ±0.8° C at 500° C (±1.4° F at 932° F) Target Size 57 mm (2.25 in) 57 mm (2.25 in) Target Emissivity 0.95 (±0.02 from 8 to 14 µm) 0.95 (±0.02 from 8 to 14 µm) 30 minutes (50° C to 500° C 15 minutes (25° C to 150° C Heating Time (122° F to 932° F)) (77° F to 302° F)) 30 minutes (500° C to 100° C 15 minutes (25° C to -20° C Cooling Time (932° F to 212° F)) (77° F to -4° F))

# Fluke Calibration 4180/4181 Precision Infrared Calibrators



# Accredited performance for point and shoot calibrations

Now it's easy to increase your IR temperature measurement accuracy with the Fluke Calibration 4180 and 4181 Precision Infrared Calibrators. These infrared temperature calibrators give more consistent, accurate and reliable calibrations because emissivity is radiometrically calibrated, and the target size minimizes size of source effect errors. In addition, these infrared calibrators simplify calibration because they uniquely compensate for errors caused by thermometer emissivity settings.

- Calibrated radiometrically for meaningful, consistent results
- Accurate, reliable performance from −15° C to 500° C (5° F to 932° F)
- Large target size of 152 mm (5.98 in) is required for calibrating most thermometers
- Accredited radiometric calibration report
- One-year warranty

Ordering Infor	mation
9312-256	Portable IR Calibrator 50° C to 500° C
9133-256	Portable IR Calibrator -30° C to 150° C
180	Precision Infrared Calibrator, -15° C to 120° C
181	Precision Infrared Calibrator, 35° C to 500° C

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 750P and 750PEx Series Pressure Modules



Parameter/Range

Precision pressure measurement for Fluke 750 and 720 Series Calibrators

The Fluke 750P Series Pressure Modules are the ideal pressure modules to enable gage, differential and absolute pressure measurement with Fluke 750 and 740 Series DPCs and 725, 726 MPCs to measure pressure.

Covers pressure calibrations from 0 to 1 inH20 to 10000 psi (2.5 mbar to 690 bar).

- 0.02% reference uncertainty
- 6-month and 1-year specifications • Intrinsically safe models are Class I Div 1 Groups A-D
- T4, Ta =  $-10^{\circ}$  C to  $+50^{\circ}$  C (14° F to 122° F), ATEX II 1G Ex ia IIC T4 Ga compliant
- Ships with Traceable Certificate of Calibration • Three-year warranty

Hi Side

Lo Side

Burst

Model	Farameter/Kange	Rating6	Media2	Media2
Differential				
750P00	0 to 1 in H20 (0 to 2.5 mbar)	30X	Dry Air	Dry Air
750P014	0 to 10 in H20 (0 to 25 mbar)	3X	Dry Air	Dry Air
750P02	0 to 1 psi (0 to 70 mbar)	ЗХ	Dry Air	Dry Air
750P22	0 to 1 psi (0 to 70 mbar)	3X	316 SS	Dry Air
750P03	0 to 5 psi (0 to 350 mbar)	ЗХ	Dry Air	Dry Air
750P23	0 to 5 psi (0 to 350 mbar)	4X	316 SS	Dry Air
750P04	0 to 15 psi (0 to 1 bar)	ЗХ	Dry Air	Dry Air
750P244	0 to 15 psi (0 to 1 bar)	4X	316 SS	Dry Air
Gage				
750P054	0 to 30 psi (0 to 2 bar)	4X	316 SS	N/A
750P064	0 to 100 psi (0 to 7 bar)	4X	316 SS	N/A
750P274	0 to 300 psi (0 to 20 bar)	4X	316 SS	N/A
750P07	0 to 500 psi (0 to 35 bar)	4X	316 SS	N/A
750P08	0 to 1000 psi (0 to 70 bar)	ЗХ	316 SS	N/A
750P094	0 to 1500 psi (0 to 100 bar)	3Х	316 SS	N/A
750P2000	0 to 2000 psi (0 to 140 bar)	3X	316 SS	N/A
High				
750P294	0 to 3000 psi (0 to 200 bar)	3X	316 SS	N/A
750P30	0 to 5000 psi (0 to 340 bar)	ЗХ	316 SS	N/A
750P31	0 to 10000 psi (0 to 700 bar)	2X	316 SS	N/A
Absolute				
750PA3	0 to 5 psia (0 to 350 mbar)	4X	316 SS	N/A
750PA44	0 to 15 psia (0 to 1 bar)	4X	316 SS	N/A
750PA5	0 to 30 psia (0 to 2 bar)	4X	316 SS	N/A
750PA6	0 to 100 psia (0 to 7 bar)	4X	316 SS	N/A
750PA27	0 to 300 psia (0 to 20 bar)	4X	316 SS	N/A
750PA7	0 to 500 psia (0 to 35 bar)	4X	316 SS	N/A
750PA8	0 to 1000 psia (0 to 70 bar)	3Х	316 SS	N/A
750PA9	0 to 1500 psia (0 to 100 bar)	ЗХ	316 SS	N/A
Vacuum				
750PV3	-5 psi (-350 mbar)	4X	316 SS	Dry Air
750PV4	-15 psi (-1 bar)	4X	316 SS	Dry Air
Dual				
750PD2	-1 to 1 psi (-70 to 70 mbar)	4X	316 SS	Dry Air
750PD3	-5 to 5 psi (-350 to 350 mbar)	4X	316 SS	Dry Air
750PD10	-10 to 10 psi (-700 to 700 mbar)	4X	316 SS	Dry Air
750PD4	-15 to 15 psi (-1 to 1 bar)	4X	316 SS	Dry Air
750PD5	-15 to 30 psi (-1 to 2 bar)	4X	316 SS	N/A
750PD50	-15 to 50 psi (-1 to 3.5 bar)	4X	316 SS	N/A
750PD6	-15 to 100 psi (-1 to 7 bar)	4X	316 SS	N/A
750PD7	-15 to 200 psi (-1 to 14 bar)	4X	316 SS	N/A
750PD27	-15 to 300 psi (-1 to 20 bar)	4X	316 SS	N/A

- 1. Total uncertainty, % of full span for temperature range 0° C to +50° C, one year interval. Total uncertainty, 1.0% of full span for temperature range  $-10^{\circ}$  C to  $0^{\circ}$  C, one year interval. No 6 month specification available for range  $-10^{\circ}$  C
- 2. "NON-CORROSIVE GASES" indicates dry air or non-corrosive gas as compatible media. "Stainless Steel 316-SS"
- indicates media compatible with Type 316 Stainless Steel.
   Specifications % of Full Span unless otherwise noted.
- 4. Intrinsically Safe pressure module available in this pressure range
- For a complete list of Fluke Pressure Modules, go to fluke.com

130





Reference Uncertainty4
±0.15%
±0.1%
±0.05%
±0.05%
±0.02%
±0.02%
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# Fluke 717, 718 and 719 Pressure Calibrators

Accurate and rugged, temperature calibration tools



common features

# Fluke 717 Pressure Calibrators

- Measure up to 10000 psi/690 bar sensor (10000G model)
- Compatible with non-corrosive gases and liquids • 10 pressure ranges available

# Fluke 718 Pressure Calibrators

- 1, 30, 100 and 300 psi ranges available
- Pump to 300 psi, 20 bar with internal pump
- 718-1G includes special low volume pump and high measurement resolution for low pressure calibration

# **Fluke 719 Electric Pressure Calibrators**

- Electric pump enables one-handed pressure pumping and makes pressure calibration quicker and easier
- Best in class 0.02% pressure measurement accuracy • Programmable pump limit settings can eliminate over-
- pressurization-set 'pump to' pressure values • Two ranges, 30 psi and 100 psi
- Fluke 717, 718 and 719
- Pressure switch test makes a difficult task easy, captures set, reset and deadband values of a pressure switch
- 717 and 718 measure pressure to 0.02% of full scale with internal sensor
- Measure mA with 0.01% accuracy and 0.001 mA resolution. while providing 24 V loop power
- Three-year warranty

7

7



Models	Range	Resolution	Comment
717-1G 718-1G	+/- 1 psi, 27.5 inH20, (-7 - +7 kPa)	+0.001 psi, 0.001 kPa, 0.001 inH20	Fluke 718 dry air only and includes on-board pump
717-15G	–12 to 15 psi, –83 to 103 kPa	0.001 ps1, 0.01 kPa, 0.01 inH20	-
717-30G 718-30G* and 719-30G	-12 to + 30 psi, (-83 to 207 kPa)	0.001 psi, 0.001 kPa, 0.001 inH20	Fluke 718 and Fluke 719 dry air only and includes on-board pump
717-100G 718-100G*	-12 to + 100 psi, (-83 to 690 kPa)	0.01 psi, 0.01 kPa, 0.01 inH20	Fluke 718 and Fluke 719 dry air only and includes on-board pump
717-300G 718-300G* and 719-100G	-12 to +300 psi, (-83 to +2070 kPa)	0.01 psi, 0.01 kPa, 0.01 inH20	Fluke 718 dry air only and includes on-board pump
717-500G	0-500 psi, 0-3450 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids
717-1000G	0-1000 psi, 0-6900 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids
717-1500G	0-1500 psi, 0-10342 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-3000G	0-3000 psi, 0-20700 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-5000G	0-5000 psi, 0-34500 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-10000G	0–10000 psi, 0–69000 kPa	1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
Pressure accuracy	0.03% of range, 1 year. 0. year, 718 and 717-300G		nd 718-1G: 0.05% 6 months, 1 year
mA measurement	0-24 mA range	0.001 mA resolution	Accuracy: ±0.01% + 1 count
Loop power	24 V DC		Accuracy: ±10%
*Intrinsically safe mod	els available, see page 141		

\*Intrinsically safe models available, see page 141



Specialty Models



**Included Accessories** 

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## Fluke 717/718/719: Protective Yellow Holster with Test Lead Storage, Instruction Sheet, 9 V Alkaline Battery (1x 717, 2x 718 & 719), Test Leads and Alligator Clips, Hose Kit (719), Traceable Calibration Report and Data Fluke 718Ex: Protective Red Holster, TL75 Test Leads, AC72 Test Clips, User Manual (CD), Fluke 718Ex CCD, Traceable Calibration Report and Data. **Ordering Information** FLUKE-717 Pressure Calibrator. 10000 PSI - 1 PSI 10000G, 1G (10 models) Pressure Calibrator FLUKE-718 300G, 100G, 30G FLUKE-718Ex Intrinsically Safe 300G, 100G, Pressure Calibrator 30G FLUKE-719 Electric Pressure 100G, 30G Calibrator 100PSI, 30 PSI

# Fluke 721 and 721Ex Precision **Pressure Calibrators**



Fluke 721

# **Pressure calibration and temperature** measurement for custody transfer applications

The Fluke 721 and 721Ex Precision Pressure Calibrators with dual isolated pressure sensors are the ideal tool for gas custody transfer applications allowing you to take simultaneous static and differential pressure measurements with a single tool.

The 721 and 721Ex can be configured by selecting either a 16 PSI (1.1 bar) or 36 psi (2.48 bar) low pressure sensor then adding any of 7 high pressure ranges including 100, 300, 500, 1000, 1500, 3000 or 5000 psi (6.9, 20, 24.5, 69, 103.4, 200, 345 bar).

- Intrinsically Safe (721Ex version only) IECEx and 😥 II 2G ia IIB T3 Gb (Zone 1)
- Ideal for gas flow calibration (custody transfer) applications
- Two isolated, stainless steel, pressure sensors with 0.02% accuracy
- · Switch test on both pressure inputs
- Pt100 RTD input for temperature measurement, (probe optional)
- Measures 4-20 mA signals
- Internal 24 V loop power supply can power a transmitter under test (721 models only) • Three-year warranty

Low Pressure Sensor		High Pressure Sensor				
Model	Range 1	Resolution	Accuracy	Range 2	Resolution	Accuracy
Fluke-721-1601 Fluke-721Ex-1601 16PSIG, 100PSIG				-12 to +100 psi -0.83 to 6.9 bar	0.01 psi 0.001 bar	
Fluke-721-1603 Fluke-721Ex-1603 16PSIG, 300PSIG				-12 to +300 psi -0.83 to 20 bar	0.01 psi 0.001 bar	0.02% of full scale
Fluke-721-1605 16PSIG, 500PSIG	-14 to			-12 to +500 psi -0.83 to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-1610 16PSIG, 1000PSIG	+16 psi -0.97 to			0 psi to +1000 psi 0.00 to 69 bar	0.1 psi 0.001 bar	
Fluke-721-1615 Fluke-721Ex-1615 16PSIG, 1500PSIG	1.1 bar			0 to +1500 psi 0.00 to 103.4 bar	0.1 psi 0.001 bar	
Fluke-721-1630 Fluke-721Ex-1630 16PSIG, 3000PSIG		0.001 psi, of full		0 to +3000 psi 0.00 to 200 bar	0.1 psi 0.01 bar	
Fluke-721-1650 16PSIG, 5000PSIG				0 to +5000 psi 0.00 to 345 bar	0.1 psi 0.01 bar	0.03% of full scale
Fluke-721-3601 36PSIG, 100PSIG				-12 to +100 psi -0.83 to 6.9 bar	0.01 psi 0.001 bar	
Fluke-721-3603 36PSIG, 300PSIG				-12 to +300 psi -0.83 to 20 bar	0.01 psi 0.001 bar	
Fluke-721-3605 36PSIG, 500PSIG				-12 to +500 psi -0.83 to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-3610 36PSIG, 1000PSIG	-14 to +36 psi -0.97 to 2.48 bar			0 to +1000 psi 0.00 to 69 bar	0.1 psi 0.001 bar	0.02% of full scale
Fluke-721-3615 Fluke-721Ex-3615 36PSIG, 1500PSIG				0 to +1500 psi 0.00 to 103.4 bar	0.1 psi 0.01 bar	
Fluke-721-3630 Fluke-721Ex-3630 36PSIG, 3000PSIG				0 to +3000 psi 0.00 to 200 bar	0.1 psi 0.01 bar	
Fluke-721-3650 Fluke-721Ex-3650 36PSIG, 5000PSIG				0 to +5000 psi 0.00 to 345 bar	0.1 psi 0.01 bar	0.03% of full scale



# Specialty Models Fluke 721Ex **Precision Pressure** Calibrator The ideal tool for gas custody

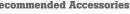
transfer applications in potentially explosive atmospheres





720RTD RTD Probe for 721 & 719Pro







720URTDA Universal RTD Adapte for 721 and 719Pro

# **Included Accessories**

Fluke 721/Ex: Soft Case, four AA Batteries, Manual, Traceable Calibration Certificate, Test Leads.

# **Ordering Information**

ordering morma	1011
FLUKE-721-3650	Dual Sensor Pressure Calibrator
FLUKE-721-3630	Dual Sensor Pressure Calibrator
FLUKE-721-3615	Dual Sensor Pressure Calibrator
FLUKE-721-3610	Dual Sensor Pressure Calibrator
FLUKE-721-3605	Dual Sensor Pressure Calibrator
FLUKE-721-3603	Dual Sensor Pressure Calibrator
FLUKE-721-3601	Dual Sensor Pressure Calibrator
FLUKE-721-1650	Dual Sensor Pressure Calibrator
FLUKE-721-1630	Dual Sensor Pressure Calibrator
FLUKE-721-1615	Dual Sensor Pressure Calibrator
FLUKE-721-1610	Dual Sensor Pressure Calibrator
FLUKE-721-1605	Dual Sensor Pressure Calibrator
FLUKE-721-1603	Dual Sensor Pressure Calibrator
FLUKE-721-1601	Dual Sensor Pressure Calibrator
Intrinsically Safe mo select ranges (add I model numbers).	
FLUKE-720RTD	RTD Probe for Fluke 721 and

719Pro

720RTDUA

FLUKE-

Universal RTD Adapter for Fluke 721 and 719Pro





# Fluke 719Pro Pressure Calibrators



# Integrated electric pump - now to 300 psi/20 bar

The Fluke 719Pro is an exciting enhancement of the popular original 719 pressure calibrators. Notable improvements include expanding the pressure measurement range of the 100 psi model up to 150 psi and the addition of a 300 psi range. The 719Pro adds a backlit display and precision temperature measurement with the addition of an accessory RTD probe available as a new accessory.

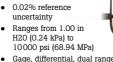
- Electric pump for one-handed pressure calibration
- Best in class pressure measurement uncertainty of 0.02%
- Variable release rate bleed valve for easy pressure adjustment
- 30 psi, 150 psi and the long requested 300 psi (2,10 and 20 bar) pressure ranges
- Programmable pressure calibrator pump limit eliminates over-pressurization and allows the user to program target pressures for pumping
- · Extended pressure measurement range with any of 50 750PXX Pressure Modules
- Source mA with simultaneous pressure measurement to test valves and I/Ps
- Simulate mA signals to troubleshoot 4-20 mA loops
- Test pressure switches with built in switch test function • Power transmitters during test using 24 V loop supply

(Add ±0.004% F.S./° F for temps outside

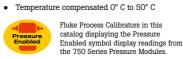
- with simultaneous mA measurement • Three-year warranty
- Pressure measurement Range Resolution Accuracy Fluke-719Pro-30G -12 to 30 psi /-0.8 to 2 bar 0.001 psi, 0.001 bar +0.02% of full -12 to 150 psi /-0.8 to 10 bar 0.01 psi, 0.001 bar Fluke-719Pro-150G scale, 6 months Fluke-719Pro-300G -12 to 300 psi / -0.8 to 20 bar 0.01 psi, 0.001 bar Function Range Resolution Accuracy (1 year) mA DC (simulation & 0-24 mA DC 0.001 mA ±(0.01% of reading + 2 counts) measurement) Volts DC (measurement 0.001 V 30 V DC  $\pm$  (0.01% of reading + 2 counts) only) -50 to 150° C 0.01° C Temperature (measure Temperature ±0.1° C (0.18° F) only, Pt100 RTD) (-58° F to 302° F) (0.02° F) 24 V DC 24 mA at 24 V N/A Loop power supply Add ±0.002% F.S./° C for temps outside Temperature effect (all of 15° C to 35° C

	01 59 1 10 95 1)
Environmental	
Operating temperature	-10° C to 50° C (14° F to 122° F)
Storage temperature (without batteries)	-20° C to 60° C (-4° F to 140° F)
Power requirements	
Battery	8 standard alkaline AA batteries
Battery life	300 pump cycles to 150 psi minimum; 1000 pump cycles to 30 psi; 100 pump cycles to 300 psi minimum
Physical	
Size (HxWxD)	24.1 x 11.2 x 7.0 cm (9.5 x 4.4 x 2.8 in)
Weight	With holster 1.2 kg (2.5 lb)
Connections	
Pressure	1/8 inch female NPT
Electrical	Standard banana jacks
RTD	4 pin miniature circular
External module	6 pin miniature circular

# Pressure Modules Fluke 750 Series **Pressure Modules** 50 Pressure Modules



- Gage, differential, dual range, absolute and vacuum measurement models Rugged cases protect the modules from harsh
- environments







**Included Accessories** 

**Ordering Information** 

30G

150G

300G

TRAP

FLUKE-719PRO-

FLUKE-71X-

Test Leads with Alligator Clips, Printed

User Manual/CD-ROM, Fluid Trap,

Carrying Case, 1/4 inch NPT to 1/4

inch ISO Adapter, Accessory Hose Kit

with (2) 1/8 inch Quick Fit Adapters

FLUKE-719PRO- Electric Pressure

FLUKE-719PRO- Electric Pressure

Calibrator, 30PSIG

Calibrator, 150PSIG

Calibrator, 300PSIG

Liquid & Dirt Trap

for Fluke 718, 719 and 719Pro

Electric Pressure

and 1 meter of hose, Traceable Certificate of Calibration.



n

Fluke 700G

Fluke 700G with 700PTP-1

<u>()</u>

# Pressure Gauges designed to handle all **your Pressure Calibration needs**

With best-in-class accuracy and measurements, the Fluke 700G Series Precision Pressure Test Gauges were designed to handle all of your pressure calibration needs. The 700G Series Gauges are rugged and easy to use, with 23 models ranging from  $\pm 10$  inH2O/20 mbar to 10000 psi/690 bar including absolute pressure ranges.

When combined with the Fluke 700PTPK or 700HTPK you've got a complete pressure testing solution for up to 600 psi (40 bar) with the PTP-1 pneumatic pump and up to 10000 psi (690 bar) with the HTP-2 hydraulic pump.

- Precision pressure measurement from ±10 inH20/20 mbar to 10000 psi/690 bar
- 300 psi • Accuracy to 0.05% of full scale
- Reference class gauge accuracies to 0.04% of reading
- · Easy to use, rugged construction for reliable performance
- CSA; Class 1, Div 2, Groups A-D rating • 😥 II 3G Ex ic IIB T6 Gc
- Combine the Pneumatic Test Pump Kits and Hydraulic Test Pump Kits with any Fluke-700G Series Gauge, 1000 psi (69 bar) or less, to make a complete pressure testing
- · Log up to 8493 pressure measurements to memory (requires 700G/TRACK software)
- Three-year warranty

Specifications	
Size (HxWxD)	12.7 × 11.4 × 3.7 cm (5 × 4.5 × 1.5 in)
Pressure connection	1/4 in NPT Male
Housing/Weight	Cast ZNAL 0.56 kg (1.22 lb) with holster
Display	5.5 digits, 16.53 mm (0.65 in) high 20-segment bar graph,
Power	Three AA alkaline batteries
Dottorry life	1 E00 hours without healtlight (continuous on) 2000 hours

1,500 hours without backlight (continuous on), 2000 hours at slow sample rate Battery life

# **700G/TRACK Logging Software**

The Fluke 700G/Track Data Logging Software (700G only) makes managing your instruments and calibration data easy to do. With the Fluke 700G-Track Software, you can gauge and record (log) multiple data sets, each of which is identified by a sequential run number.Copy screen images into your reports and documentation

most P	INC. 703	Tanal 179040 Vascon (411
Section 1	i Taraki	- (4))
		- 1
Daningerg	Entrat bootbal #	Avaids ecodig/krs 0.2540
Marriel .	Tiecrel	Sangles (Thus, 1910)
Ling Type:	Cormon	Section (Longetonations *)
Log Temperature	[tes	
24	P8 +	Carton Factor: 1.000
101004		NerFacer (620)

# • Use with Fluke 700G Series Gauges to perform real time data logging to a PC

- Download logging configurations to the 700G Series Gauges for a remote logging event
- Configure logging event reading rate, duration and measurement units
- Upload measurements logged remotely and display or export measurements
- · Includes communication cable for connection to a PC

functions

# Fluke 700G Precision Pressure Test Gauges

• Absolute pressure measurement ranges 15, 30, 100,

0 to 100%

## **Recommended Kits** Bundle and Save



# Fluke-700PTPK Pneumatic Test Kit

- Combine with any Fluke-700G Series Gauge, 1000 psi (69 bar) or less, to make a complete pressure testing kit
- Connect the 700G Series gauge directly to the included PTP-1 hand pump



# Fluke 700HTPK Hydraulic Test Kit

- Combine with any Fluke-700G Series Gauge, 1000 psi (69 bar) range or greater, to make a complete pressure testing kit
- Generate pressure up to 10000 psi, 690 bar with the included 700HTP-2 test pump
- Hard case protects pump and gauge and allows gauge to remain connected to the pump



# Fluke-700PTPK2 Premium **Pneumatic Test Pump Kit**

- Pneumatic Hand Pump
- Premium, no tools required gauge connecto
- One premium transmitter test hose kit and adapters



# **Fluke-700HTPK2** Premium Hydraulic Test Pump Kit

- Hydraulic Hand Pump
- Premium, no tools required gauge connector
- One premium transmitter test hose kit and adapters



	cision Pressure Test G			Burst
Model	Range	Resolution	Accuracy	Pressure
Fluke-700G01	-10 to +10 inH20 -20 mbar to 20 mbar	0.001 inH20 0.001 mbar	Positive Pressure ±0.1% of range, Vacuum ±0.1% of range	3 psi 210 mbar
Fluke-700G02	-1 to +1 psi -70 mbar to 70 mbar	0.001 psi 0.001 mbar		5 psi 350 mbar
Fluke-700G04	-14 psi to 15 psi -0.97 bar to 1 bar	0.001 psi 0.001 bar		60 psi 4 bar
Fluke-700G05	-14 psi to 30 psi -0.97 bar to 2 bar	0.001 psi 0.001 bar		120 psi 8 bar
Fluke-700G06	-12 psi to 100 psi -0.83 bar to 6.9 bar	0.01 psi 0.001 bar		400 psi 26 bar
Fluke-700G27	-12 psi to 300 psi -0.83 bar to 20 bar	0.01 psi 0.001 bar		1200 psi 80 bar
Fluke-700G07	-12 psi to 500 psi -0.83 bar to 34 bar	0.01 psi 0.001 bar	Positive Pressure ±0.05% of	2000 psi 138 bar
Fluke-700G08	-14 psi to 1000 psi -0.97 bar to 69 bar	0.1 psi 0.001 bar	range, Vacuum ±0.1% of range	4000 psi 266 bar
Fluke-700G10	-14 to 2000 psi -0.97 bar to 140 bar	0.1 psi 0.01 bar		8000 psi 550 bar
Fluke-700G29	-14 psi to 3000 psi -0.97 bar to 200 bar	0.1 psi 0.01 bar		10000 ps 690 bar
Fluke-700G30	-14 psi to 5000 psi -0.97 bar to 340 bar	0.1 psi 0.01 bar		10000 ps 690 bar
Fluke-700G31	-14 psi to 10000 psi -0.97 bar to 690 bar	1 psi 0.01 bar		20000 ps 1035 bar
Fluke-700GA4	0 to 15 psia 0 to 1 bar absolute	0.001 psi 0.001 bar		60 psi 4 bar
Fluke-700GA5	0 to 30 psia 0 to 2 bar absolute	0.001 psi 0.001 bar	0.05% of range	120 psi 8 bar
Fluke-700GA6	0 to 100 psia 0 to 6.9 bar absolute	0.01 psi 0.001 bar	0.05% of range	400 psi 27 bar
Fluke-700GA27	0 to 300 psia 0 to 20 bar absolute	0.01 psi 0.001 bar		1200 psi 80 bar
Fluke-700RG05	-14 to +30 psi -0.97 to +2 bar	0.001 psi 0.001 bar	Positive Pressure $\pm 0.04\%$ of reading $\pm 0.01\%$ of range, Vacuum $\pm 0.1\%$ of range	90 psi 6 bar
Fluke-700RG06	-12 to 100 psi -0.83 to 6.9 bar	0.01 psi 0.001 bar		400 psi 27 bar
Fluke-700RG07	-12 to 500 psi -0.83 to 34	0.01 psi 0.001 bar	Positive Pressure ±0.04% of reading ±0.01% of range, Vacuum ±0.1% of range	2000 psi 138 bar
Fluke-700RG08	-14 to 1000 psi -0.97 to 69 bar	0.1 psi 0.001 bar		4000 psi 275 bar
Fluke-700RG29	-14 to 3000 psi -0.97 to 200 bar	0.1 psi 0.01 bar		10000 ps 690 bar
Fluke-700RG30	-14 to 5000 psi -0.97 to 340 bar	0.1 psi 0.01 bar		15000 ps 1035 bar
Fluke-700RG31	-14 to 10000 psi -0.97 to 690 bar	1 psi 0.01 bar		20000 ps 1380 bar

steel

**700R Ranges:** Temperature Compensation 0°C to 50°C (32 °F to 122 °F) to rated accuracy For temperatures from  $-10^{\circ}$  C to 0° C and 50° C to 55° C, add 0.005% FS/°C

Media compatibility: 10 inH20, 1, 15, 30 psi: any clean dry non-corrosive gas 100, 300, 500, 1000 psi: any liquids or gases compatible with 316 stainless steel Above 1000 psi: any non-flammable, non-toxic, non-explosive, non-oxidizing liquid or gas compatible with 316 stainless tech

Fluke 700MTH Premium **Transmitter Test Hose Kit** • Easy to use premium pressure transmitter test hose kit for connection to 1/4" female metric/BSP 5000 psi rating • Includes 1/8" NPT connection for permanent mount to a calibrator or test pump 100 Fluke 700TTH5K Premium **Transmitter Test Hose Kit** • Easy to use premium pressure transmitter test hose kit for use with female 1/4: NPT connections • 5000 psi rating • Includes 1/8" NPT connection for permanent mount to a calibrator or test pump

**Recommended Kits** 

Bundle and Save

# Included Accessories

**700G:** Manual on CD-ROM, Traceable Certificate of Calibration, 1/4" NPT to 1/4" ISO Adapter.

# **Ordering Information**

Please refer to the table on the left for Fluke 700G Models

100G- TRACK	Datalogging Software and Cable for 700G
LUKE-700HTPK	Hydraulic Test Pump Kit, 0 to 10000 psi/690 bar
LUKE-700PTPK	Pneumatic Test Pump Kit, O to 600 psi/40 bar
'LUKE- 100HTPK2	Premium Hydraulic Test Pump Kit
'LUKE- !00PTPK2	Premium Pneumatic Test Pump Kit
'luke- 200TTH5K	Premium Hose Kit, 5000 psi
'luke-	Premium Hose Kit

10000psi

Contact your local distributor for price and availability. fluke.com/findus

700TTH10K

# Fluke Calibration 2700G Series **Reference Pressure Gauges**



The Fluke Calibration 2700G Reference Pressure Gauges provide best-in-class measurement performance in a rugged, easy-to-use, economical package. Improved measurement accuracy allows them to be used for a wide variety of applications. It is ideal for calibrating pressure measurement devices such as pressure gauges, transmitters, transducers, and switches. In addition, they can be used as a check standard or to provide process measurements with data logging.

- Precision pressure measurement from 100 kPa (15 psi) to 70 MPa (10000 psi)
- Accuracy to 0.02% of full scale • Easy-to-use, rugged construction for reliable
- performance • Combine with a Fluke PTP or HTP pump kit or P551X
- comparison test pump for a complete pressure testing solution
- One-year warranty

# Fluke Calibration P5510 Pneumatic **Comparison Test Pump**



Fluke P5510

P5531 Dirt/Moisture Trap

deadweight tester and featuring

an acrylic chamber for visibility

easy instrument connections.

of contaminates, this unit utilizes

the standard test port adapters for

Designed to mount directly on the

Ø

The P5510 Pneumatic Comparison Test Pump is designed for testing pressure measuring instruments against master test instruments. This cost effective instrument provides precise control for important calibration requirements and includes many features found in our line of pneumatic deadweight testers.

One-year warranty.

Higher pressure ranges available:

Fluke P5513 Gas Comparison Test Pump Pressure range 0 to 20 MPa (3000 psi); Vacuum -80 kPa (-12 psi)

Fluke P5514B Gas Comparison Test Pump Pressure range 0 to 70 MPa (10k psi)

Fluke P5515 Gas Comparison Test Pump Pressure range 0 to 140 MPa (20k psi)

# P5532 Dirt/Moisture Trap

This high pressure version is provided with an aluminum central chamber for safety and uses the standard test port adapters.

# **Complete Bench Top Pressure Calibration Solution**

**Combine P5500 Comparison Test Pumps with one** or more 2700G Reference Pressure Gauges for a complete 0.02% accuracy calibration system

The 2700G has an easy-to-use interface that allows you to configure the sampling rate, tare value, damping and auto off time interval as well as reset the min/max pressure.

The unique test port design of the P5500 Series allows for hand tight connection of the 2700G without using PTFE tape.

- P5510: integrated pneumatic hand pump with pressure generation to 300 psi (2 MPa), vacuum to -12 psi (-80 kPa)
- P5513: pneumatic pressure adjustment to 3000 psi (21 MPa) with fine adjust inlet and outlet valves and precise screw press
- P5514B: hydraulic pressure generation and adjustment to 10000 psi (70 MPa) with fine screw press and reservoir
- P5515: integrated hydraulic pressure generation and adjustment to 20000 psi (140 MPa) with high volume priming pump and fine screw press

**Process Calibration Tools** 136







Fluke 5514E

# **Included Accessories**

Fluke 2700G Gauges: 1/4 NPT Female to 1/4 BSP Male Adapter, 1/4 NPT Female to M20X1.5 Adapter, Universal AC Power Supply, USB Communication Cable, Manual on CD, Calibration Certificate showing traceability.

Optional: ISO 17025 Accredited Calibration available for 2700G and P551X/2700G models (add "/C" to the below model number).

	-	
		ation

2700G-	Reference Pressure Gauge,
BG100K	-15 to 15 psi
2700G-	Reference Pressure Gauge,
BG200K	-15 to 30 psi
2700G-	Reference Pressure Gauge,
BG700K	-12 to 100 psi
2700G-	Reference Pressure Gauge,
BG2M	-12 to 300 psi
2700G-	Reference Pressure Gauge,
BG3.5M	-12 to 500 psi
2700G-	Reference Pressure Gauge,
BG7M	-12 to 1000 psi
2700G-	Reference Pressure Gauge,
G20M	O to 3000 psi
2700G-	Reference Pressure Gauge,
G35M	O to 5000 psi
2700G-	Reference Pressure Gauge,
G70M	O to 10000 psi
P5510-	Pneumatic Comparison Test
2M	Pump
P5513-	Pneumatic Comparison Test
20M	Pump
P5514B- 70M*	Hydraulic Comparison Test Pump, Viton Seals O to 10000 psi (70 MPa)
P5515- 140M*	Hydraulic Comparison Test Pump, Viton Seals O to 20000 psi (140 MPa)

Ethylene Propylene Seals option also available, add -EP to the above model numbers.

P5510- 2700G-1	P5510 Pneumatic Calibrator, 2 MPA (300 psi), 1 Gauge	
P5513- 2700G-1	P5513 Pneumatic Calibrator, 20 MPA (3000 psi), 1 Gauge	
P5514B- 2700G-1	P5514B Pneumatic Calibrator, 70 MPA (10000 psi), 1 Gauge	
P5515- 2700G-1	P5515 Pneumatic Calibrator, 70 MPA (10000 psi), 1 Gauge	
P551X-2700G Kits available with		

gauge option, replace -1 with -3 to the above model numbers.

P5531	Dirt/Moisture Trap O to 500 psi (35 bar)
P5532	Dirt/Moisture Trap O to 3.00 psi (210 bar)





# FLUKE

Calibration

# Fluke Calibration 700HPPK Pneumatic Test Pump Kit







# Generates 21 MPa (3000 psi) easily in the field, without liquid contamination or the hazard of a pressurized gas cylinder. The Fluke Calibration 700HPPK Pneumatic Test Pump Kit

generates and adjusts pneumatic pressures up to 21 MPa (3000 psi), without requiring a nitrogen bottle or other external pressure supply. It supplies pressure to devices under test (DUTs) that include transmitters, controllers, pilots, digital and analog gauges, and more. It's the perfect solution for generating high pressure in the field, where conditions and operating surfaces can vary.

The 700HPPK is the ideal choice for calibration technicians, test engineers, and instrument technicians working in industries like natural gas transmission and distribution, process, aerospace and defense, who need a simpleto-use, safe and portable pressure source that they can depend on in a wide variety of conditions.

The 700HPPK contains both a calibration manifold and high pressure pump to generate and finely adjust pressures. A second model, the 700HPP, is available for people who only prefer a high pressure source. Use the 700HPPK Test Pump Kits with 2700G Reference Pressure Gauges or 700G Precision Pressure Gauges for a complete pressure calibration solution.

- · Generate and adjust pneumatic pressures up to 21 MPa (3000 psi)
- Rugged, portable and stable enough to go anywhere on any surface
- Reaches pressure in 20 seconds to full scale into a 30 cm3 volume
- · Detachable pressure adjustment system for adjusting pressure, connecting reference and test devices on bench and in the field, and isolating and venting pressure
- Easily switch out reference gauges without requiring PTFE tape or tools
- 2 m (6.5 ft) pressure line and assorted pressure fittings enable a wide variety of possible connections
- · In-line filter and desiccant systems protect device from contamination from the DUT
- One-year warranty

General specifications	700HPP	700НРРК
Maximum working pressure	21 MPa, 3000 psi	
Time to generate full scale pressure with 10 cc volume (g)	20	
Weight	5.5 kg (12.2 lbs.)	7.2 kg (15.8 lbs.)
Dimensions	66 × 25 × 13 cm (26 in x 10 in x 5 in)	66 × 30.5 × 13 cm (26 in x 12 in x 5 in)
Reference gauge connection	1/4 NPT, quick connect	
Inlet supply contaminations protection filter	Desiccant filter	
DUT contamination protection filter	-	100 micron
Fine adjustment resolution	-	0.05% reading
Maximum leak rate	-	0.01% reading



# **Included Accessories**

Fluke Calibration 700HPPK: Canvas Carrying Bag, High Pressure Pneumatic Quick Service Kit (seals for pump), Dry Pac Refill, Silicone Grease, High Pressure Hose, Test Port Adapters

## **Ordering Information**

oracing morme	lition
700HPPK-NPT	High Pressure Pneumatic Pump/ Comparator, 21 MPa (3000 psi), NPT
700HPP-NPT	High Pressure Pneumatic Test Pump, 21 MPa (3000 psi), NPT
700HPPK-BSP	High Pressure Pneumatic Test Pump/Comparator, 21 MPa (3000 psi) BCP
700HPP-BSP	High Pressure Pneumatic Test Pump, 21 MPa (3000 psi), BSP
700НРРК-МЕТ	High Pressure Pneumatic Pump/ Comparator, 21MP (3000 psi), Metric
700HPP-MET	High Pressure Pneumatic Test Pump, 21MPa (300 psi), Metric

Contact your local distributor for price and availability. fluke.com/findus

# Fluke Calibration P3000 **Deadweight Testers**



The P3000 Series is the culmination of over 50 years of experience in the production and design of high performance pressure standards.

With features designed to improve accuracy and performance, increase reliability and simplify operation, these deadweight testers can be used to calibrate virtually any pressure sensing device, including transducers, transmitters, gauges or pressure switches. All units provided with accredited calibration.

# **P3000 Pneumatic Deadweight Tester**

- High performance gas deadweight testers with unique suspended piston design for vacuum calibration.
- 0.01% of reading accuracy standard (0.008% optional)
- 3 to 500 psi (0.2 to 35 bar) pressure
- Optional low range 0.03 to 1 bar vacuum (1 to 30 inHg)
- Integrated vacuum and pressure pump available to 2 MPa (300 psi)

# **P3100 Hydraulic Deadweight Tester**

- Highly accurate oil deadweight tester with quick and easy-to use single and dual piston deadweight models
- Pressure ranges to 140MPa (20000 psi, 1400 bar)
- 0.01% of reading accuracy standard (0.008% optional)
- Built in pressure generation and adjustment
- Single or dual piston formats

# **P3200 Hydraulic Deadweight Tester**

- Hydraulic deadweight tester specially designed to use water as a test medium.
- Pressure ranges to 70MPa (10000 psi, 700 bar)
- 0.01% of reading accuracy standard (0.008% optional)
- · Built in pressure generation and adjustment is standard
- Single or dual piston formats
- Water media

## Accuracy\*

±0.01% of reading (±0.008% optional)

\*Accuracy based on% of reading from 10% to 100% of the piston range when used in accordance with the corrections found on the calibration certificate. Below 10% ±(accuracy class) × 10% of the piston range

Mass and PCU Materials of Construction			
	Standard weight material	Series 3 non-magnetic austenitic stainless	
) 1 1	Weight density	7.8 g/cm <sup>3</sup>	
	Optional fractional weights	Solution heat treated aluminum	
	Weight density	2.7 g/cm <sup>3</sup>	
	Models P3011, P3012, P3013, P3022, P3023, P3025 (V)	Piston Material: Cylinder Material: Coefficient of Expansion:	Ceramic Martensitic stee 11 ppm/° C
	Models P3014, P3015, P3025 (P) P3031, P3032 (P & V)	Piston Material: Cylinder Material: Coefficient of Expansion:	Tungsten carbio Martensitic stee 16.5 ppm/° C

# **PressCal Software**

PressCal software provides a quick and effective solution to enhance the pressure measurement uncertainty of Deadweight Testers.

PressCal features an easy-to-use user Interface that allows you to enter all the necessary corrections and parameters to accurately determine the pressure generated by the DWT.

PressCal also provides: • Automatic certificate generation

- Real-time auditing
- Choice of 12 pressure units



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• Customer details management

# **Recommended Accessories**



P5543 Angle Adapter

# Included Accessories

ISO 17025 Accredited Calibration Certificate, Operating Fluid (where applicable), Spare Seals, Adaptors for 1/8, 1/4, 3/8, 1/2 NPT and BSP, and Metric Adaptors (M20 and M14).

# **Ordering Information**

\* -P indicates built-in pump optional.

-P maicules i	
P3011-	Vacuum Deadweight
KPA-P*	Tester (–100 kPa)
P3011-	Vacuum Deadweight
INHG-P*	Tester (-30 inHg)
P3011-	Vacuum Deadweight
MBAR-P*	Tester (–1000 mbar)
P3011-	Vacuum Deadweight
MMHG-P*	Tester (–760 mmHg)
P3012-	Gas Deadweight Tester,
KPA-P	100 kPa, with Pump
P3012-	Gas Deadweight Tester,
MBAR-P	1000 mbar, with Pump
P3012-	Gas Deadweight Tester,
INH20-P	400 inH20, with Pump
P3013-	Gas Deadweight Tester,
KPA-P	200 kPa, with Pump
P3013-	Gas Deadweight Tester,
MBAR-P	2000 mbar, with Pump
P3013-	Gas Deadweight Tester,
INH20-P	800 inH20, with Pump
P3014-	Gas Deadweight Tester,
KGCM2-P	10 kgf/cm2, with Pump
P3014-PSI-P	Gas Deadweight Tester, 150 psi, with Pump
P3014-	Gas Deadweight Tester,
KPA-P	1000 kPa, with Pump
P3014-	Gas Deadweight Tester,
MPA-P	MPa, with Pump
P3015-	Gas Deadweight Tester,
BAR-P*	35 bar
P3015-	Gas Deadweight Tester,
KGCM2-P*	35 kgf/cm2
P3015-	Gas Deadweight Tester,
PSI-P*	500 psi
P3015-	Gas Deadweight Tester,
KPA-P*	3500 kPa
P3015-	Gas Deadweight Tester,
MPA-P	3.5 MPa



# Fluke 730G Smart Digital **Pressure Calibrator**



#### A compact, digital pressure calibrator solution for bench or field.

The Fluke 730G Smart Digital Pressure Calibrator with internal HART communication, designed in a pressure gauge form. In conjunction with a pressure test pump, the 730G enables high-efficiency and high-accuracy measurement and calibration of pressure gauges, pressure switches, pressure transmitters, which makes it ideal for mobile metrology labs, metrology institutes and enterprises to establish pressure laboratories.

- Pressure measurement from  $\pm 10$  inH2O/2.5 kPa to 10000 psi/69 MPa
- Four absolute pressure measurement range 15 PSIA (103 kPa), 30 PSIA (207 kPa), 100 PSIA (690 kPa), 300 PSIA (2 MPa)
- Pressure measurement accuracy 0.05% of full scale, 0.02% optional and 0.01% current and voltage accuracy
- Current measurement range: 0-24mA; voltage measurement range: 0-30VDC
- 24V loop powered, no external power supply needed
- Storage up to 128 sets of calibration data
- Compatible with 730G/PCSW management software for paperless reporting.
- Combine with the Fluke 730 series test pumps for high accuracy and precise pressure measurement for up to 10,000 psi.

Specifications	
Size (HxWxD)	155 mm x 130 mm x 44 mm (6.1" x 5.1" x 1.7")
Pressure connection	1/4 in NPT Male
Weight	850g (1.87 lb)
Display	LCD
Power	One rechargeable Lithium battery
Battery life	25 hours continuously (without 24 V loop power), or 8 hours continuously (24 V loop power)





#### Fluke-730LTP/40K

- Pressure range -40 KPa to 40 KPa • Ultra-fine precision adjustment to support low pressure calibration
- Special insulation to reduce the influence of external temperature environment



#### Fluke-730LTP/600K

- Pressure range -95KPa to 600KPa
- Pressure is generated by the combination of the pressure rod and screw for faster and smoother pressure increase and decrease
- Safely switch between pressure and vacuum



#### Fluke-730PTP/10M

- Pressure range -95 KPa to 10 MPa
- Multi-stage boost system design makes the process 5 times more efficient.
- Safety lock ensures safe switching between positive and negative pressure



- Pressure range 0 KPa to 70 MPa
- The screw press design supports high pressure range with less effort.
- Fine pressure adjustment capability with shut-off valve for stable measurements

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 729 Pro Automatic **Pressure Calibrator**



#### Portable pressure calibrator with replaceable module

- Automatic pressure generation and regulation to 1000psi
- Replaceable pressure control modules • Built-in test template, one-key calibration
- HART communication
- Pressure leakage testing
- Automatic fine-pressure adjustment, automatic
- pressure stabilization • Powerful, replaceable Li-ion battery
- Quick pressure release valve with a muffler
- Optional portable manifold with quick connection
- Extend measurement range with 750P Series pressure modules
- Measure temperature with 720RTD probe
- Bright dual-three-channel /color graphic display • Weight < 5kg
- Rugged and portable design with standard 3-year warranty

Key parameters	729pro 7M	729pro
Pressure control range	(-13 to 1000) psi	(-13 to
Control stability	0.005% of FS, minimum	
Replaceable pressure control modules	6 modules	4 modu
Warranty	3 years	

Internal pressure measurement module			
Pressure module	Pressure type	Range	
FLK-PMM-200K	Gauge	(-15 to 30) psi	
FLK-PMM-200KA	Absolute	(0 to 30) psi	
FLK-PMM-2000K	Gauge	(-14 to 300) psi	
FLK-PMM-4000K	Gauge	(-14 to 600) psi	
FLK-PMM-7000K	Gauge	(-14 to 1000) psi	
FLK-PMM-7000KA	Absolute	(0 to 1000) psi	

140



# 600) psi



	Automatic Pressure calibrator, 4Mpa
FLK-729Pro 7M	Fluke 729 Pro Automatic Pressure Calibrator, 7Mpa
FLK-PMM-200K	Replaceable pressure module, (-15 to 30) psi
FLK-PMM- 2000K	Replaceable pressure module, (-14 to 300) psi
FLK-PMM- 7000KA	Replaceable pressure module, absolute, (0 to 1000) psi
FLK-PMM- 200KA	Replaceable pressure module, absolute, (0 to 30) psi
FLK-PMM-	Replaceable

**Ordering Information** 

FLK-729Pro 4M Fluke 729 Pro

Replaceable pressure module, (-14 to 1000) psi

> Replaceable pressure module, (-14 to 600) psi

Contact your local distributor for price and availability. fluke.com/findus

7000K

FLK-PMM-

4000K



# Fluke 729 Automatic Pressure Calibrator



**.** 

Portable automatic pressure calibrator simplifies pressure calibration The Fluke 729 Automatic Pressure Calibrator has been

designed specifically with process technicians in mind to simplify the pressure calibration process and provide faster, more accurate test results. Technicians know that calibrating pressure can be a time consuming task, but the 729 makes it easier than ever with an internal electric pump that provides automatic pressure generation and regulation in an easy-to-use, rugged, portable package.

The Fluke 729 can also automatically test multiple pressure test points and automatically document the results. Calibration is as easy as typing in the starting and ending pressure and the number of test points and tolerance level; the 729 does the rest.

With three ranges to choose from 30 psi (2 bar, 200 kPa), 150 psi (10 bar, 1 MPa) and 300 psi (20 bar, 2 MPa), the Fluke 729 Automatic Pressure Calibrator is designed to perform when and where you need.

- Automatic pressure generation and regulation to 300 psi
  Easily document the process using on-board test templates
- Automatic internal fine-pressure adjustment
- Measure, source and simulate 4 to 20 mA signals
  24 V loop power for powering transmitters for tests
- 24 v loop power for powering transmitters for tests
   HART<sup>™</sup> communication for testing HART smart transmitters
- Built-in leak testing for verifying test setups for leakage
  Fluke Connect<sup>™</sup> App compatibility
- Measure temperature with optional 720RTD probe
  Measure VDC for testing 1 V DC to 5 V DC output
- transmitters

  Compatible with Fluke 700G Series and 750 Series
- Pressure Modules ● Upload documented test results to DPCTrack2<sup>™</sup>
- Calibration Management Software to manage your
- Cambration Management Software to manage your instrumentation, create scheduled tests and reports and manage calibration data
- Three-year warranty

Pressure specification*					
One-year specifi	One-year specification 0.02% of full scale				
Control specifica	ation		0.005% ft	ıll scale minimum	
*See manual for de	tailed specifications				
Model	Psi range, resolution	Bar ran resoluti	• •	kPa range, resolution	Comment
729 30G	-12.0000 to 30.0000 psi	-0.8273 2.06842		-82.737 to 206.843 kPa	No wireless communication
729 150G	-12.000 to 150.000 psi	-0.8273 10.3421		-82.73 to 1034.21 kPa	No wireless communication
729 300G	-12.000 to 300.000 psi	-0.8273 20.6843		-82.73 to 2068.43 kPa	No wireless communication
729 30G FC	-12.0000 to 30.0000 psi	-0.8273 2.06842		-82.737 to 206.843 kPa	Wireless communication for Fluke Connect™
729 150G FC	-12.000 to 150.000 psi	-0.8273 10.3421		-82.73 to 1034.21 kPa	Wireless communication for Fluke Connect™
729 300G FC	-12.000 to 300.000 psi	-0.8273 20.6843		-82.73 to 2068.43 kPa	Wireless communication for Fluke Connect™
729 300G 729 30G FC 729 150G FC	150.000 psi -12.000 to 300.000 psi -12.0000 to 30.0000 psi -12.000 to 150.000 psi -12.000 to	10.342 -0.8273 20.6843 -0.8273 2.06842 -0.8273 10.342 -0.8273	l bar l to 3 bar 7 to 2 bar l to 1 bar to 1 to	1034.21 kPa -82.73 to 2068.43 kPa -82.737 to 206.843 kPa -82.73 to 1034.21 kPa -82.73 to	No wireless communicati Wireless communication for Fluke Connect™ Wireless communication for Fluke Connect™ Wireless communication



#### **Included Accessories**

Soft Case, Stackable Test Leads, AC280 Hook Clips, Alligator Clips, Test Probes, Magnetic Hanger Kit, Carrying Strap, Power Supply, Rechargeable Battery (installed), Hose Kit with Push Fit Adapters, Hanging Clip, USB Cable, 1/8 in FNPT to 1/4 in FNPT Adapter, 1/8 in FNPT to F-M20 Adapter, 1/8 in FNPT to 1/4 in FBSP Adapter, PTFE Tape, (2) Sintered Filters, Liquid Dirt Trap, Water Trap Drain and Valve Tuning Hoses, Wireless Adapter (FC Models only), Quick Start Guide, Safety Sheet.

#### Ordering Information

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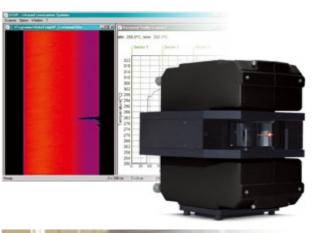
.K-729 )G	30 psi, 2 bar Automatic Pressure Calibrator
.K-729 50G	150 psi, 10 bar Automatic Pressure Calibrator
.K-729 )0G	300 psi, 20 bar Automatic Pressure Calibrator
.K-729 )g FC	30 psi, 2 bar Automatic Pressure Calibrator with Fluke Connect™
.K-729 50G FC	150 psi, 10 bar Automatic Pressure Calibrator with Fluke Connect™
.K-729 DOG FC	300 psi, 20 bar Automatic Pressure Calibrator with Fluke Connect™
UKE-729/ 50SW BU	300 psi, 20 bar Automatic Pressure Calibrator and DPCTRACK2 Software Bundle

Contact your local distributor for price and availability. fluke.com/findus



The ability to quickly and accurately measure and verify temperatures throughout the manufacturing process has enabled innovators and producers to bring their projects to life, successfully deliver scalable results, and overall help the world function better. Thermal profiling and non-contact monitoring solutions optimize the production process for just about every sector. From the manufacturing of consumer goods to large scale construction initiatives and mining, our tools help to ensure precision, safety and consistency.

#### For more information, visit flukeprocessinstruments.com







Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.

Process Calibration Tools

142



Process Instruments

**Process Calibration Tools** 

Edge-to-edge Thermal Imaging to see it all.

Designed for the harshest environments, the MP Linescanner Series provides accurate, edge-to-edge, real-time thermal imaging and temperature measurements for continuous processes. See it all with up to 300Hz scan speed and 1024 data points per scan, allowing you to find faulty temperatures, such as hot spots, before an error occurs.

#### See what you've been missing.

Visualize the unheard and unseen with the power of acoustic imaging. The SV600 Fixed Acoustic Imager enables users to continuously detect, locate and visualize air and gas leaks or changes in sound signatures before they become costly problems. As a fixed, automated solution, the SV600 integrates with your process and eliminates the need for lengthy fault-finding processes such as soapy water tests, when used as part of your product leak testing process.

#### Expand your view, expand your understanding

The ThermoView TV40 is a high-performance industrial fixed thermal imaging system that allows you to expand your understanding by providing continuous infrared and visual feeds to visualize temperature data. The TV40 offers a fully integrated temperature control, monitoring, and data archiving solution.





# Fluke 805 FC Vibration Meter

Forget the pens, think meter



Fluke 805 FC

<u>?</u>&

Vibratio

Infrared

(tempera

External

(Support

The Fluke 805 FC is not a vibration pen; it's a meter. A Fluke meter that eliminates the confusion of vibration screening and provides reliable measurements you can trust to make critical go or no-go maintenance decisions. With the Fluke 805 FC, you can identify the strength and severity of vibration and easily track data over time to monitor an asset's condition.

- Innovative sensor design minimizes measurement variations caused by device angle or contact pressure
- Consistent data quality at both low and high frequency ranges
  - Four-level severity scale assesses urgency of problems for overall vibration and bearing condition
  - Exportable data via USB
  - Trending in Microsoft<sup>™</sup> Excel using pre-built templates
  - Overall vibration measurement (10 Hz to 1000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
  - Crest Factor+ technology provides reliable bearing assessment using direct sensor tip measurements between 4000 Hz and 20000 Hz
  - Compare vibration levels with ISO-10816 severity scales and store results to the Fluke Connect<sup>™</sup> Cloud
  - Fluke Connect<sup>™</sup> Share-Live<sup>™</sup> video call
  - Colored lighting system (green, red) and on-screen comments indicate how much pressure needs to be applied to take measurements
  - Temperature measurement with Spot Infrared Sensor increases diagnostic capabilities
  - On-board memory holds and saves up to 3500 measurements
- One-year warranty

cations		
	Low frequency range (overall measurement)	10 Hz to 1000 Hz
	High frequency range (CF+ measurement)	4000 Hz to 20000 Hz
	Severity levels	Good, Satisfactory, Unsatisfactory
n meter	Vibration limit	50 g peak (100 g peak-peak)
	A/D converter	16-bit
	Signal to noise ratio	80 dB
	Sampling rate	Low frequency: 20 000 Hz; High frequency: 80 000 Hz
	Real-time clock backup	Coin battery
	Sensitivity	100 mV/g ±10%
	Measurement range	0.01 g to 50 g
	Low frequency range (overall measurement)	10 Hz to 1000 Hz
	High frequency range (CF+ measurement)	4000 Hz to 20000 Hz
	Resolution	0.01 g
	Accuracy	At 100 Hz ±5% of measured value
thermometer	Range	-20° C to 200° C (-4 °F to 392 °F
ature	Accuracy	±2°C(4°F)
ement)	Focal length	Fixed, at ~3.8 cm (1.5 in)
l sensor	Frequency range	10 Hz to 1000 Hz
ted, but not	Bias voltage (to supply power)	20 V DC to 22 V DC
d)	Bias Current (to supply power)	Maximum 5 mA
	External interfaces	USB 2.0 (full speed) communicat
re	Data capacity	Database on internal flash memo
	Memory	Up to 3500 measurements
mental	IP rating	IP54
mentai	Drop test	1 meter (3.38 ft)
specifications	Battery type	AA (2) Alkaline or Lithium-ion 2
	Battery life	250 measurements
	Size (LxWxH) and Weight	25.72 × 16.19 × 9.84 cm (10.13 1.16 kg g (2.55 lb)
	Connectors	USB mini-B 7-pin, stereo audio o (3.5 mm Audio Plug), external se (SMB connector)

Fluke Connect (FC) available in selected countries. Contact your local Fluke distributors to find out more.





V DC

13 × 6.38 × 3.875 in),

output jack ensor jack



**Recommended Accessories** 

 $\bigcirc$ 

industries, without making physical contact with the machine. The Fluke 820-2 LED Stroboscope is a rugged, compact, portable strobe with high intensity LED head, ideal for stop motion diagnostics, mechanical troubleshooting, and process or product research and development

- High intensity 7-LED array-4800 lux @ 6000 FPM/30 cm (flashes per minute)
- High efficiency LED solid-state light source with uniform flash characteristics allow for higher flash rates-30-300000 FPM
- Digital pulse width modulation for exceptionally sharp images at high speeds
- Rugged, durable design utilizes solid-state LEDs with no filaments, gases, hollow cavities, or glass
- Quartz-accuracy control system provides high accuracy –  $\pm(0.02\% + 1 \text{ digit})$
- Multi-line LCD display
- Check the rotating speed of machinery without physical contact or need for reflective tape

#### Included Accessories

USB Cable, Storage Case, Belt Holster, Quick Reference Guide, CD-ROM (includes MS Excel Template and Documentation) and Two AA Batteries.

#### Ordering Information

'LUKE- 305FC	Fluke Connect™ Vibration Meter
TUKE 305ES	External Vibration Sensor for 805 Vibration Meter
<sup>-</sup> LK-820-2	LED Stroboscope

Contact your local distributor for price and availability. fluke.com/findus



Mechanical Maintenance

**Mechanical Maintenance** 

# Fluke 810 Vibration Tester

Take a vibration expert along



#### Get answers now!

The Fluke 810 Vibration Tester is the most advanced troubleshooting tool for mechanical maintenance teams who need an answer now. It is a unique new kind of troubleshooting tool, engineered to detect and evaluate the most common mechanical problems.

The Fluke 810 Vibration Tester uses a simple step-by-step process to report on machine faults the first time measurements are taken, without prior machine history.

- Easily determine the root cause, location and severity of common mechanical faults
- Efficiently prioritize and plan equipment repair or replacement
- Effectively deploy maintenance resources at the point of greatest impact
- Three-year warranty

#### **Simple 3 Step Process**

The Fluke 810 helps you locate and diagnose common mechanical problems and prioritize repair actions in three simple steps:

VENTER PLMP III 10/04/2009 02-04 PM SETUP: Transmission without Closed Coupling	WEATER PUMP	WATER PLMP III 10/04/2009 02:22.9
<b>•</b> •	<b>0</b>	
Coupling between motor Yes and next component: Next component: Pump	·	Entrouse: Matter Free End Rearing Looseness Sericus: Mater Drive End
		Bearing Looseness Moderate: Motor Drive End
Press enter to change selection      Press Inter      Page      Page	Is sensor located on side?	1 of 6

- **1. Setup**: Vibration testing **2. Measure**: The Fluke has never been easier. The Fluke 810 asks for basic machine information you already know, like RPM and horsepower. Its onboard info feature gives you field tips for setting up and taking measurements like a professional.
- 3. Diagnose: Fix it right the 810 easily fits into your first time with the press of a button, the Fluke 810 maintenance routine. Use it to quickly troubleshoot identifies the root cause, problems or monitor its location, and the machine condition. problem's severity.

#### Interactive, self-paced training on DVD

**Recommended Accessories** 

810T

Non-Contact Precision

Laser Tachometer

810QDC

Ouick Disconnect Cable

810SMM

Sensor Magnetic Mount

**Viewer PC Software** 

Store and track your data

Import and store JPEG images

 Generate diagnostic reports and track the severity of your machine's condition

1

810S

Vibration Sensor

SBP810

Battery Pack

TITLE

60

810SMP

Sensor Mounting Pads

(Pack of 10)

Learn more about the basics of vibration and how to fully utilise the features and functionality of the Fluke 810. Fluke has partnered with Mobius Institute, an industry leader in vibration training, to develop an interactive training DVD included with each Fluke 810.

Analysis forMotors, fans, blowers, belts and chain drives, gearboxes, couplings, centrifugal pumps, piston pumps, sliding vane pumps, propeller pumps, spiston compressors, centrifugal compressors, screw compressors, closed coupled machines, spindlesStandard faultsUnbalance, looseness, misalignment and bearing failuresMotor rotational speed range200 rpm to 12000 rpmDiagnosis detailsPlain-text diagnosis, fault severity (slight, moderate, serious, extreme), repari details, cited peaks, spectra <b>Fester specifications</b> 154A/D converter4 channel, 24 bitDynamic range128 dBFT resolution800 linesBatteryLithium-ion, rechargeable, 8 hours operating lifeOnboard storage capacity2 GB internal + user accessible slot for additional storage <b>Fensor specifications</b> Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))Sensor typeIaser Diode Class 2	Diagnostic specifications	
Notion rotational speed range200 rpm to 12000 rpmDiagnosis detailsPlain-text diagnosis, fault severity (slight, moderate, serious, extreme), repair details, cited peaks, spectraTester specificationsIngress Protection (IEC 60529)IP54A/D converter4 channel, 24 bitDynamic range128 dBFFT resolution800 linesBatteryLithium-ion, rechargeable, 8 hours operating lifeOnboard storage capacity2 GB internal + user accessible slot for additional storageSensor typeTri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))Tachometer specifications	Analysis for	centrifugal pumps, piston pumps, sliding vane pumps, propeller pumps, screw pumps, rotary thread/gear/lobe pumps, piston compressors, centrifugal compressors, screw compressors, closed coupled machines,
Diagnosis detailsPlain-text diagnosis, fault severity (slight, moderate, serious, extreme), repair details, cited peaks, spectraTester specificationsP54Ingress Protection (IEC 60529)IP54A/D converter4 channel, 24 bitDynamic range128 dBFFT resolution800 linesBatteryLithium-ion, rechargeable, 8 hours operating lifeOnboard storage capacity2 GB internal + user accessible slot for additional storageSensor typeTri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))Tachometer specifications	Standard faults	Unbalance, looseness, misalignment and bearing failures
Diagnosis details     repair details, cited peaks, spectra       Tester specifications     Ingress Protection (IEC 60529)       Ingress Protection (IEC 60529)     IP54       A/D converter     4 channel, 24 bit       Dynamic range     128 dB       FFT resolution     800 lines       Battery     Lithium-ion, rechargeable, 8 hours operating life       Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	Motor rotational speed range	200 rpm to 12000 rpm
Ingress Protection (IEC 60529)     IP54       A/D converter     4 channel, 24 bit       Dynamic range     128 dB       FFT resolution     800 lines       Battery     Lithium-ion, rechargeable, 8 hours operating life       Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor type     Tri–axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	Diagnosis details	
A/D converter     4 channel, 24 bit       Dynamic range     128 dB       FFT resolution     800 lines       Battery     Lithium-ion, rechargeable, 8 hours operating life       Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications     Fri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	Tester specifications	
Dynamic range     128 dB       FFT resolution     800 lines       Battery     Lithium-ion, rechargeable, 8 hours operating life       Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor specifications     Tri–axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications     Fri–axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	Ingress Protection (IEC 60529)	IP54
FFT resolution     800 lines       Battery     Lithium-ion, rechargeable, 8 hours operating life       Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications     For the specifications	A/D converter	4 channel, 24 bit
Battery     Lithium-ion, rechargeable, 8 hours operating life       Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	Dynamic range	128 dB
Onboard storage capacity     2 GB internal + user accessible slot for additional storage       Sensor specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	FFT resolution	800 lines
Sensor specifications           Sensor type         Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))           Tachometer specifications         Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))	Battery	Lithium-ion, rechargeable, 8 hours operating life
Sensor type     Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))       Tachometer specifications	Onboard storage capacity	2 GB internal + user accessible slot for additional storage
Tachometer specifications	Sensor specifications	
-	Sensor type	Tri-axial accelerometer , 100 mV/g (±5%, 25° C (77° F))
Tachometer type Laser Diode Class 2	Tachometer specifications	
	Tachometer type	Laser Diode Class 2

#### **Included Accessories**

Tri-axial TEDS Accelerometer, Accelerometer Magnet Mount, Accelerometer Mounting Pad Kit with Adhesive, Accelerometer Quick Disconnect Cable, Laser Tachometer and Storage Pouch, Smart Battery Pack with Cable and Adapters, Shoulder Strap, Adjustable Hand Strap, Viewer PC Application Software, Mini-USB to USB Cable, Getting Started Guide, Illustrated Quick Reference Guide, User Manual CD, Instructional Training DVD, Hard Carrying Case.

#### **Ordering Information**

FLUKE-810 Vibration Tester

Contact your local distributor for price and availability. fluke.com/findus

# Fluke 802EN Vibrator Meter



Fluke 802EN

Make go or no-go predictive maintenance decisions with confidence. The Fluke 802EN Vibration Meter allows you to easily assess the state of in-service equipment and determine whether maintenance is required. With only one button you can switch between displacement, velocity, and acceleration measurements.

- Three test modes to meet complex test environment in industrial field
- High repeatability to ensure accuracy of continuous testing
- One-button measurement to get assessment result in 6 seconds
- 99 sets of data storage, review in real-time

	802EN
elerometer	
	$10.00 \text{ mV} / \text{m/s}^2 \pm 5\% (1 \text{ g} =$
Range	0.1 m/s² to 199.9 m/s² peak (
Resolution	0.1 m/s <sup>2</sup>
Accuracy	± (5 % + 2 dgt) (LO: 10 Hz to ± (10 % + 5 dgt) (HI: 1 kHz to
Range	0.1 mm/s to 199.9 mm/s rms
Resolution	0.1 mm/s
Accuracy	± (5% + 2 dgt) (10 Hz to 1 kH
Range	0.001 mm to 1.999 mm peak-
Resolution	0.001 mm
Accuracy	± (5 % +2 dgt) (10 Hz to 1 kH
Typical frequency response	10 Hz to 15 kHz
Acceleration	g, m/s²
Velocity	mm/s
Displacement	mm
Operating temperature	-10 °C to 50 °C
Storage temperature	-30 °C to 60 °C
Operating humidity	30% to 90% RH (non-conden
Operating altitude	2,000 m
Storage altitude	12,000 m
Ingress Protection	IP 40
Vibration limit	500.0 m/s² peak
Drop test	1 m
Electromagnetic Compatibility (EMC)	International IEC 61326-1: Po Electromagnetic Environment; Class A
	2 AAA, IEC LRO3
	25 hrs for measurement
	24.1 x 7.1 x 5.8 cm
	220 g
	Stereo audio output jack (3.5 r
	M12 plug
	Range         Resolution         Accuracy         Range         Resolution         Accuracy         Range         Accuracy         Range         Accuracy         Range         Accuracy         Valocity         Displacement         Operating temperature         Operating altitude         Storage altitude         Ingress Protection         Vibration limit         Drop test         Electromagnetic







**Mechanical Maintenance** 

# 9.8 m/s<sup>2</sup>)

(rms √2)

) 1 kHz) to 10 kHz)

Hz) rms 2√2)

Hz)

ortable, Industrial : CISPR 11: Group 1.

#### mm Audio Plug)

#### Included Accessories

Soft case, Quick reference guide, Safety information, Two (2) AAA batteries

## **Ordering Information**

FLUKE-802EN Vibration Meter

FLUKE-802ES

External Sensor for 802

Contact your local distributor for price and availability. fluke.com/findus



# Fluke 831 Laser Shaft Alignment Tool



Fluke 831

The rugged Fluke 831 has an intuitive guided user interface that enables quick and complete shaft alignment without advanced training or complicated programs. And while it's easy to use, laser alignment with the Fluke 831 is powerful enough for the skilled technician.

- Fast, easy, and precise alignment that adapts to your needs. • Rugged build and the highest-in-class IP rating.
- Single-laser technology for the fastest, most accurate laser alignment.
- Cloud connection enables real-time collaboration.
- Use up to 8 measurement points to achieve precision alignment on vertical machines





	831
Specifications	
Measurement principle	Coaxial, reflected laser beam
Environmental protection	IP68 (Tablet) and IP65 (Sensor)
Operating Temperature range	Up to 50°C
Detector Resolution	1 μm (0.04 mil) and angular 10 μRad
Detector Error (avg)	< 2%
Inclinometer measurement range	0° to 360°
Inclinometer Resolution	0.1°
Inclinometer Error	0.3% full scale
Laser Type	Class 2 Red visible laser, <1 mW
Camera	13.0 MP, AutoFocus (Main camera); 5.0 MP (Front camera)
Battery time	Up to 11 hours (tablet); Up to 10 hours (sensor)
Weight	710 g (Tablet); 210 g (Sensor); 65 g (reflector)
External Interface	Wireless communication (sensor)
Display	8" TFT Touchscreen, 1920 x 1200 Pixel

#### **Included Accessories**

Fluke 831 rugged device, sensALIGN 3 sensor with cover, reflector prism with cover, ballistic carrying case, chaintype mounting bracket with 150 mm support posts (2X), 300 mm support posts (4X), tape measure, lens cleaning cloth, device power cable and adapter, PC cable, sensor micro power cable and adapter, USB drive, USB drive cable, safety information sheet and Quick Reference Guide

#### **Ordering Information**

Fluke-831 ROW	Laser Shaft Alignment Tool
FLUKE-830/ SHIMS	SHIMS

Contact your local distributor for price and availability. fluke.com/findus

# **Intrinsically Safe Test Tools**

COMPANY STATES

Intrinsically Safe (Ex) test tools have been certified for use in potentially explosive atmospheres. Certified Ex tools have been engineered to prevent the release of energy sufficient to cause ignition of the explosive atmospheres for which the equipment is rated (gasses, dusts, flyings etc.) under any normal use or foreseeable fault condition within the equipment.

FLUKE ®

# **Intrinsically Safe Test Tools**

for Hazardous Areas

Intrinsically Safe (Ex) test tools have been certified for use in potentially explosive atmospheres. Certified Ex tools have been engineered to prevent the release of energy sufficient to cause ignition of the explosive atmospheres for which the equipment is rated (gasses, dusts, flyings etc.) under any normal use or foreseeable fault condition within the equipment.



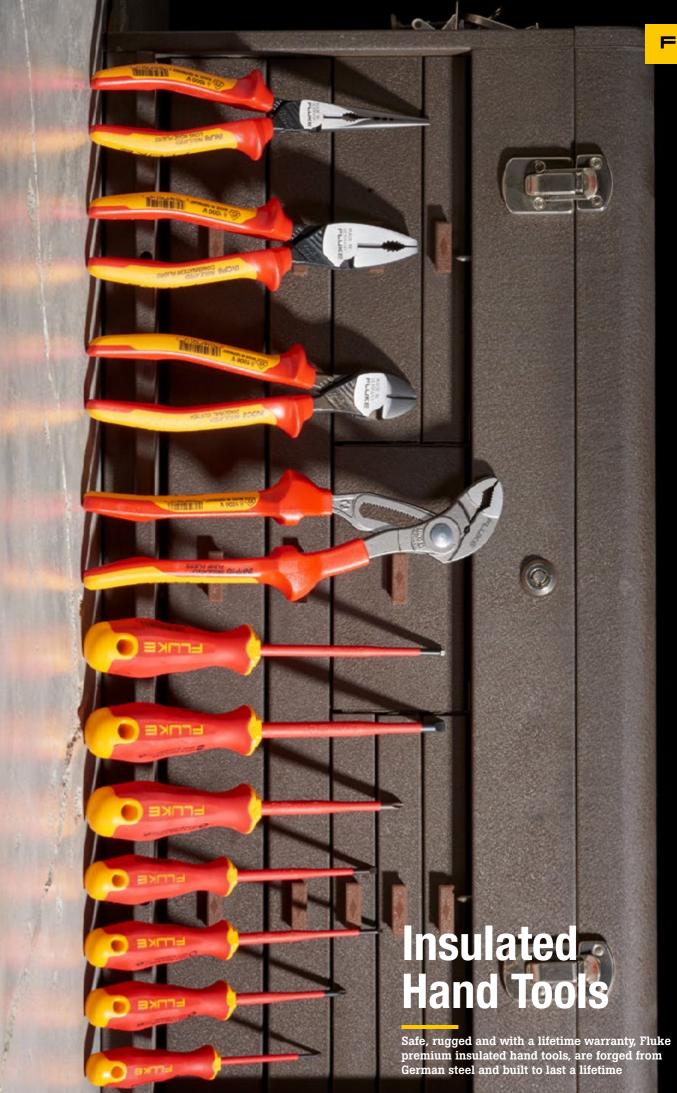
ATEX – The primary intrinsically safe standard, which has been set in the European Union with the Directive 94/9/EC, commonly called ATEX (ATmosphères EXplosibles).

	Fluke Products	ATEX certified	Certification
	28 II Ex Intrinsically Safe True-RMS Multimeter	E II 2G Ex ia IIC T4 Gb I M1 Ex ia I Ma	Class I, Div 1, Groups A,B,C,D T4 Class I, Zone 1, AEx ia IIC T4 Ex ia IIC T4 IP67
	718Ex Intrinsically Safe Pressure Calibrator	😥 II 1G Ex ia IIC T4 Ga	I.S. Class I, Div 1, Groups A,B,C,D T4
	721Ex Intrinsically Safe Precision Pressure Calibrator	😥 II 2G Ex ia IIB T3 Gb	IECEx: Ex ia IIB T3 Gb
	750PEx Intrinsically Safe Pressure Modules	😥 II 1G Ex ia IIC T4 Ga	IECEx: Ex ia 11C T4 Ga
۷	568Ex Intrinsically Safe Infrared Thermometer	😥 II 2G Ex ia IIC T4 Gb	Class I, Div 1, Groups A,B,C,D, T4 Class I, Div 2, Groups A,B,C,D, T4 Class I, Zone 1, AEx ia IIC T4 Gb
٢	700G Series Intrinsically Safe Pressure Gauges	DI 3G Ex ic IIB T6 Gc	CSA Class I, Div. 2 Groups A,B,C,D
	1551A Ex/1552A Ex Intrinsically Safe "Stik" Thermometers	DI 2G Ex ib IB T4 Gb	IECEx: Ex ib IIB T4 Gb
	Fluke FL-45 Ex Intrinsically Safe Flashlight	E II 1G Ex ia IIC T5 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T5 IP67
I	Fluke FL-120 Ex Intrinsically Safe Flashlight	E II 1G Ex ia IIC T4 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP6X
T	Fluke FL-150 Ex Intrinsically Safe Flashlight	E II 1G Ex ia IIC T4 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP67
Ö	Fluke HL-200 Ex Intrinsically Safe Headlamp	😥 II 1G Ex ia IIC T4 Ga	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP67



Ordering Informa	ition
FLUKE-28IIEX/ ETL	Intrinsically Safe True-RMS Digital Multimeter
FLUKE-718EX (30, 100, 300G ranges)	Intrinsically Safe Pressure Calibrator
FLUKE-721EX	Intrinsically Safe Pressure Calibrator
FLUKE-750PEX (750P: 01, 05, 06, 09, 24, 27, 29, A4Ex)	Intrinsically Safe Pressure Modules
FLUKE-568EX	Intrinsically Safe Infrared Thermometer
FLUKE-700G	Pressure Test Gauges (23 ranges)
	0 to 10 in H20 up to 10 000 psi
FLUKE-1551AEX	"Stik" Thermometer
FLUKE-1552AEX	1551A: -50 to 160C
	1552A: -80 to 300C
FLUKE-568EX	Intrinsically Safe Infrared Thermometer
FL-45 EX	45 Lumen Intrinsically Safe Flashlight
FL-120 EX	120 Lumen Intrinsically Safe Flashlight
FL-150 EX	150 Lumen Intrinsically Safe Flashlight
HL-200 EX	200 Lumen Intrinsically Safe Headlamp

Contact your local distributor for price and availability. fluke.com/findus



FLUKE ®

# Fluke Insulated Hand Tools

# Fluke Insulated Hand Tools Kits



J. A.

## **Fluke Insulated Screwdrivers**

Precision insulated tools fit and rip the fastener properly to apply maximum torque without damage to the head. Hardened chromium-molybdenum-vanadium steel blades minimize wear. Fluke offers three styles and multiple sizes-seven drivers in all. All certified to 1000 Volts ac and 1500 V dc. Every screwdriver individually tested to 10000 volts.

- · Ergonomic handle adapts to the user's hand, causing less strain and work fatigue and providing maximum torque
- The full length, impact-proof handle core is coated with soft-grip outer material and has a hanging hole for extra security and an anti-roll handle design
- The slim insulated shaft allows access in hard to reach areas
- All blades are manufactured from German CMV steel for superior durability

#### **Fluke Insulated Pliers and Cutters**

Fluke insulated pliers and cutters give you a range of options when the job requires jaws with bite. All Fluke pliers and cutters are built with German CMV steel.

#### Long Nose Pliers

- Unique milled wave pattern gripping zones
- Straight, half-round, long and slim knurled jaws,
- specially profiled • Side cutting edge for wire cutting

#### Heavy-Duty, High-Leverage Diagonal Cutter

- Cuts hard materials including steel and piano wire
- · Power joint and precision cutting edges

#### **Fast Adjust Pump Pliers**

- 27 jaw adjustment steps for more accurate gripping of the workpiece with less slippage than other designs
- Self-locking on pipes and nuts: no slipping on the workpiece, with low hand force required
- Gripping surfaces with teeth hardened to HRC61 for low wear and reliable gripping
- Box-joint design; high stability because of double guide
- Pinch guard that prevents operators' fingers from being pinched

#### **Heavy Duty Combination Pliers**

- · Secure hold by aggressive serrated jaws and 4-point gripping hole
- Slim shape for better access to wires in tight spaces • Powerful gripping jaw, yet 20% lighter weight than other designs





SLS3	Insulated Slotted
	Screwdriver 3/32x3 in,
	2.5 mm x 75 mm, 1000V
SLS5	Insulated Slotted
	Screwdriver 5/32x4 in,
	4 mm x 100 mm, 1000V
SLS8	Insulated Slotted
	Screwdriver 1/4x5 in,
	6 mm x 125 mm, 1000V
PHS1	Insulated Phillips
	Screwdriver #1, 3 in, 75 mm, 1000V
PHS2	Insulated Phillips
11102	Screwdriver #2, 4 in,
	100 mm, 1000V
SQS1	Insulated Squared
	Screwdriver #1, 4 in, 100 mm, 1000V
SQS2	Insulated Squared
	Screwdriver #2, 5 in,
	125 mm, 1000V
NLP8	Insulated Long Nose / w Side Cutter, 8 in,
	200mm, 1000V
NDC8	Insulated High
	Leverage Diagonal
	Cutter, 8 in, 200mm, 1000V
NPP10	Insulated Pump Plier
	Fast adjustable, 10 in,
NGDO	250 mm, 1000V
NCP8	Insulated Linesman Combination Plier, 8 in
	200 mm, 1000

Contact your local distributor for price and availability. fluke.com/findus

Hand Tool Kits	IKSC7	IKPL3	IKST7
Description	Insulated 7 Unit Screwdriver Kit, 1000 V	Insulated 3 Unit Pliers Kit, 1000 V	Insulated Hand Tool Starter Kit, 1000 V
Included	3 slotted tips, 2 Phillips tips, 2 square drive tips	Long Noise Pliers, Heavy Duty Diagonal Cutter, Heavy Duty Combo Pliers, Roll-up Tool Pouch	3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagona Cutter, Linesman Combination Plier, Roll-up Tool Pouch
Warranty	Lifetime	Lifetime	Lifetime
*Hand tools in kits all	carry the limited lifetim	e warranty.	

s +		

Tools + Hand Tool Kits	IBT6K	IB875K	IB117K	IB179K
Description	Fluke T6 Electrical Tester + Insulated Hand Tools Starter Kit	Fluke 87V Industrial Multimeter + Insulated Hand Tools Starter Kit	Fluke 117 Electrician's Multimeter + Insulated Hand Tools Starter Kit	Fluke 179 True-RMS Digital Multimeter + Insulated Hand Tools Starter Kit
Included	Fluke T6 Electrical Tester, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 87V Industrial Multimeter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 117 Electrician's Multimeter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 179 True-RMS Digital Multimeter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch
Warranty	2-year*	Lifetime	3-year*	Lifetime

\*Hand tools in kits all carry the limited lifetime warranty.

Accessories	RUP8	Pack30	
Description	Roll-up Tool Pouch. Holds up to 3 pliers and 5 screwdrivers, rolls shut, closes with hook and loop fasteners	Over 30 pockets in six main storage compartments. Rugged, waterproof base protects your tools.	t ha pla
Included	Tools not included	Tools not included	
Warranty	1-year	1-year (extendable)	

"Insulated Hand Tool Lifetime Limited Warranty Each Fluke Insulated Hand Tool will be free from defects in material and workmanship for its lifetime. As used herein, "lifetime" is defined as seven years after Fluke discontinues manufacturing the product, but the warranty period shall be at least fifteen years from the date of purchase. This warranty does not cover damage from neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, damage or normal wear and tear of mechanical components. This warranty covers the original purchaser only and is not

transierable. To establish original ownership and prove date of purchase, please complete and return the registration card accompanying the product, or register your product on fluke.com/registration. Fluke will, at its option, repair at no charge, replace or refund the purchase price of a defective product purchased through a Fluke authorized sales outlet and at the applicable international price. Fluke reserves the right to charge for importation costs of repair/replacement parts if the product purchased in one country is sent for repair elsewhere. If the product is defective, contact the authorized seller you purchased the tool from for immediate replacement or your nearest Fluke authorized service center to obtain return authorization information, then send the product to that service center, with a description of the difficulty nearest place and insurance preparation. Fluke summe por ide for damage in transit. Fluke will ave return transportation difficulty, postage and insurance prepaid (FOB Destination). Fluke assumes no risk for damage in transit. Fluke will pay return transpor for product repaired or replaced in-warranty. Before making any non-warranty repair, Fluke will estimate cost and obtain authorization, ther invoice you for repair and return transportation.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY. AUTHORIZED RESELLERS ARE NOT AUTHORIZED TO EXTEND ANY DIFFERENT WARRANTY ON FLUKE'S BEHALF.





IKPK7

Fluke Pack30 Professional Tool Backpack + sulated Hand Tools Starter Kit Fluke Pack30 onal Tool Backpack, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers Roll-up Tool Pouch 1-year











IB376K

Fluke 376FC

True-RMS Clamp Meter + Insulated

Hand Tools Starter

Kit Fluke 376FC



Tool bucket with a 5.2-gallon capacity, ard exterior shell, and astic waterproof base to protect tools.

Tools not included 1-year

Ordering	Information
IKSC7	Insulated 7 Unit Screwdriver Kit, 1000 V
IKPL3	Insulated 3 Unit Pliers Kit, 1000 V
IKST7	Insulated Hand Tools Starter Kit, 1000 V
IKPK7	Pack30 Professional Tool Backpack +
	Insulated Hand Tools Starter Kit
IBT6K	Fluke T6 Electrical Tester + Insulated Hand Tools Starter Kit
IB875K	Fluke 87V Industrial Multimeter + Insulated Hand Tools Starter Kit
IB117K	Fluke 117 Electrician's Multimeter + Insulated Hand Tools Starter Kit
IB179K	Fluke 179 True-RMS Digita Multimeter + Insulated Hand Tools Starter Kit
IB376K	Fluke 376FC True-RMS Clamp Meter + Insulated Hand Tools Starter Kit
RUP8	Roll-up Tool Pouch
РАСКЗО	Professional Tool Backpack
TB25	Fluke TB25 Tool Bucket Organizer Bag, 5.2 gal

Contact your local distributor for price and availability. fluke.com/findus

# Accessories

Accessories increase the functionality of your test tool and increase your safety and proficiency. Your digital multimeter can become a thermometer, clamp meter, or even a pressure gauge. With Fluke genuine accessories, you can broaden the ability to take meter measurements in different environments to meet your industrial, electrical, and electronic needs.

FLUKE

# **IR CAMERA ACCESSORIES**

#### Battery and Charger Compatibility

Prevent the unexpected loss of power with our rugged and rechargeable battery packs and keep your Fluke infrared camera charged while you're on the road with our car chargers.

Model Number	TiS20+/TiS20+MAX, 55+, 60+, 75+	TiS55+, TiS60+, TiS75+	Ti401 Pro, Ti480 Pro	<b>TiX580</b>
TI-SBC3B Battery Charging Base	•	•	•	•
<b>TI-SBP3</b> Rechargeable Lithium-ion Smart Battery Pack	•	•	•	
<b>TI-SBP4</b> Rechargeable Lithium-ion Smart Battery Pack				•
TI-CAR CHARGER	•	•	•	•
FLK-XBattery				

#### Sun Visor Compatibility

Instantly reduce LCD screen glare and reflections in bright sunlight or other areas where ambient lighting conditions are bright with our durable, heavy-duty plastic visor. It can be used inside or outside, and easily clips onto to your Fluke infrared camera without the need for any additional hardware.

Model Number	
TI-VISOR3	

#### Tripod Base Compatibility

Lightweight, one-piece mounting accessory quickly and easily attaches to your Fluke Infrared Camera and allows you to mount to a standard tripod or monopod for those applications or situations that require a more stable or semi-fixed platform.

Model Number	TiS20+/
TI-TRIPOD3	





Accessories

Ti401 Pro, Ti480 Pro

/ TiS20+MAX / TiS55+ / TiS60+ / TiS75+ / Ti401Pro / Ti480Pro







#### Test Leads, Probes and Clips Compatibility

Model Number	TL175	TL26A	TL40	<b>TL71</b>	TL75	TL76	TL221	TL222	TL224	TL910
Test Leads										
110/114/115/										
116/117	•	•	•	•	•	•	•	•	•	•
175/177/179	•	•	•	•	•	•	•	•	•	•
87V	•	•	•	•	•	•	•	•	•	•
287/289	•	•	•	•	•	•	•	•	•	•
8845A/8846A	•	•	•	•	•	•	•	•	•	•
120 Series	•	•	•	•	•	•	•	•	•	•
190 Series	•	•	•	•	•	•	•	•	•	•
323/325	•	•	•	•	•	•	•	•	•	•
370 Series, 381	•	•	•	•	•	•	•	•	•	•
705/707	•	•	•	•	•	•	•	•	•	•
712	•	•	•	•	•	•	•	•	•	•
715	•	•	•	•	•	•	•	•	•	•
716/717	•	•	•	•	•	•	•	•	•	•
718	•	•	•	•	•	•	•	•	•	•
725/726	•	•	•	•	•	•	•	•	•	•
787B/789	•	•	•	•	•	•	•	•	•	•
1577/1587 FC	•	•	•	•	•	•	•	•	•	•
Clips and Probes										I
AC175				•	•	•				
AC87							•	•	•	
AC89							•	•	•	
AC220							•	•	•	
AC280							•	•	•	
AC238A							•	•	•	
AC285							•	•	•	
AC288							•	•	•	
TP-1							•	•	•	
TLK290							•	•	•	
TLK291							•	•	•	
TP1							•	•	•	
TP2							•	•	•	
TP4							•	•	•	
IP38							•	•	•	
rP74							•	•	•	
TP80							•	•	•	
P175							•	•	•	
TP220							•	•	•	
P912										•
				•	•					
'P920										

# Test Leads, Probes and Clips

#### Test Lead/Probe-in-One



#### TL175 TwistGuard<sup>™</sup> Test Leads

- Probes meet IEC 61010-031 requirements for safety
- Patented extendable tip guard meets CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements
- Probes always show correct category rating for tip length being used



#### TL75 Hard Point™ Test Lead Set

One pair (red, black) comfort grip probes with PVC-insulated, right-angle shrouded 4 mm banana plugs.

• Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



- Tip length up to 100 mm
- Tip diameter: 1 mm

## • Safety rating: CAT II 1000 V, 3 A

#### **TL71 Premium Test Lead Set**

One pair (red, black) comfort grip probes with flexible silicone insulated, right-angle

- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### TL76 2mm/4mm Test Lead Set

One pair (red, black) silicone test leads with right angle shrouded 4 mm banana plugs.

- Removable lantern tip for easy access to terminal blocks, 2 mm diameter
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### **TL40 Retractable Tip Test Lead Set**

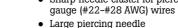
One pair (red, black) flexible silicone insulated test leads with sharp needle point tips adjustable to desired length from 0 to 76 mm.

- Extra hard probe tips to
- provide long service life
- Safety rating: CAT II 600 V, 3 A rating



## TL26A 60 in 5-Way Test Lead Set

- with five different ways to connect.
- U-shaped nose for blade-shaped terminals
- bare wire or terminals



• Safety rating: 30 V, 10 A



## **TL910 Electronic Test Probes**

- tips to access hard-to-reach electronic test points.
  - Includes three sets of spring-loaded gold
  - tips and two sets of stainless steel tips



#### Five sets of spring-loaded, tips to refurbish TL910 Electronic Test Probes.

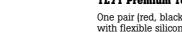
• Very small 1mm tips to access hardto-reach electronic test pointsProbe tip length up to 100 mm • Three sets of gold-plated and



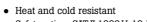
#### **TP165X Remote Control Probe**

Probe with integrated test button simplifies measurement when accessing hard-to-reach points.

- Probe designed for 1500 Series Insulation
- Tip length up to 18.66 mm
- Tip diameter: 1 mm
- Safety rating: CAT II 1000 V, (CAT III 1000



test leads.





Accessories



One pair (red, black) silicone-insulated leads

• Notched jaw for gripping screw heads,

· Serrated teeth for gripping threaded or wire-wrapped terminals

• Sharp needle cluster for piercing small



One pair (red, black) leads with very small





and 1650/1660 Series Installation Testers

V, CAT IV 600 V with protective cap), 10 A



#### TL1500DC 1500 V DC Test Lead Set

Test leads specially developed for solar, wind and battery applications. Rugged design for rough outdoor environments.

- Safe and accurate voltage measurements up to 1500 V DC
- Safety rating: CAT III 1500 V, CAT IV 600 V

### Probe-in-one clips

NEW



#### AC288 SureGrip™ **Terminal Block Probe**

One pair (red, black) of probes features a retractable probe tip for connections to clamp and screw type terminal blocks.

- Designed for increased safety, while providing the flexibility to reach deep connection points
- 1mm diameter probe tip extends out to 8.4 mm length
- Recommended for use with the TL224, TL222, TL221 test leads
- Safety rating: CAT III 1000 V, CAT IV 600 V, 1 A



#### **AC175 Alligator Clip Set**

- One pair (red, black) slide-on alligator clips.
- 8mm clip opening
- Slide-on alligator clips are compatible with TL71, TL75, TL175 and TP175 test probes
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



#### **TP920 Test Probe Adapter Set**

Three pairs (red, black) push-on adapters.

- Includes IC test adapters, extended probe tips, and medium alligator clips
- Maximum opening 7.6 mm
- Safety rating: IC test adapter CAT II 300 V, extended probe tips CAT II 300 V, medium alligator clips CAT II 1000 V



# **Test Leads, Probes and Clips**

# Test Leads, Probes and Clips

#### Modular Test Leads Modular Clips Modular Test Probes AC285/-FTP SureGrip<sup>™</sup> Alligator Clips TL221 SureGrip<sup>™</sup> Test Lead Extensions One pair (red, black) large alligator clips with **TP80 Electronic Test Probes** insulated, nickel-plated steel jaws. TP175 TwistGuard<sup>™</sup> Test Probes One pair (red, black) electronics test probes. One pair (red, black) silicone-insulated leads • Multi-purpose tooth pattern grips from • Modular test probes of the popular TL175 • IC-insulated cap prevents shortening of IC with safety-shrouded, 4 mm banana plugs. fine gauge wire to a 20 mm bolt Test Leads legs for probing high density components • Safety rating: CAT IV 600 V, CAT III 1000 V, • Couplers have female connectors on both • Patented extendable tip guard meets CAT or boards 10 A III 1000 V, CAT IV 600 V requirements • Tip length up to 3.9 mm • AC285-FTP includes AC285 and adapters • Safety rating: CAT IV 600 V, CAT III 1000 V, while providing the flexibility you need • Tip diameter: 1 mm for FTP-1 or FTPL-1 Fused Test Probes for CAT II measurements • Safety rating: CAT III 1000 V, 1 A • 2 mm diameter stainless steel probe tips AC220 SureGrip<sup>™</sup> Alligator Clips One pair (red, black) of small, insulated, nickel-plated jaws. **TP74 Lantern Tip Test Probes** TP220 SureGrip<sup>™</sup> Industrial • Blunt tip grabs round screw heads up to **Test Probes** One pair (red, black) featuring nickel-plated 9.5 mm brass ends One pair (red, black) industrial test probes • Safety rating: CAT IV 600 V, CAT III 1000 V, • Banana-style 4 mm spring contacts with stainless steel tip. 10 A • Safety rating: CAT II 1000 V, 10 A (CAT III • Sharp, 12 mm tips 1000 V, CAT IV 600 V with protective cap) • Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A AC280 SureGrip<sup>™</sup> Hook Clips One pair (red, black) nickel-plated hook-TP38 Slim Reach™ Test Probes style clips. TP1 Slim Reach™ Test Probes • Hook opening 6.4 mm at front probes for accessing closely-spaced or • Right angle connector on one end and • Base opening of 0.2 mm One pair (red, black) slender probes with recessed terminals. straight connector on the other • Safety rating: CAT IV 600 V, CAT III 1000 V, flat stainless steel blade to hold securely in blade-type electrical wall sockets. 3 A insulated part of the tip • Tip length up to 14.7 mm • Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with 10 A protective cap) AC283A SureGrip<sup>™</sup> Pincer Clips One pair (red, black) nickel-plated pincers open to 5 mm. Patch Cords • 11.4 cm flexible insulated shaft • Safety rating: CAT II 1000 V, 1 A **TP2 Slim Reach™ Test Probes** One pair (red, black) slender stainless steel probes for accessing closely-spaced or recessed terminals such as in electronic environments. **AC89 Heavy Duty Insulation Piercing** • 2 mm diameter tip **Test Clip** TL932 Patch Cords (90 cm) • Safety rating: CAT II 1000 V, Ideal probe for establishing accurate contact 10 A (CAT III 1000 V, CAT IV 600 V with through insulation. plug patch cords, 90 cm long. protective cap) • Pierces 0.25 mm to 1.5 mm Nickel-plated, 4 mm banana plugs insulated wire • 90 cm long PVC insulated leads • Safety rating: 1000 V, 10 A • 30 V rms or 60 V dc, 15 A **TP4 Slim Reach™ Test Probes** One pair (red. black) slender stainless steel **AC87 Heavy Duty Bus Bar Clip Set** probes for accessing closely-spaced or One pair (red, black) flat, right angle clips recessed electrical terminals. TL930 Patch Cords (60 cm) designed for connecting to bus bars. • 4 mm diameter probe tip designed to fit · Adjustable collar provides two ranges of securely into IEC (C13 and C14) electrical plug patch cords, 61 cm long. jaw openings up to 30 mm wall outlets • Safety rating: CAT II 1000 V, 10 A • Nickel-plated, 4 mm banana plugs • Safety rating: CAT III 600 V, 5 A • 61 cm long PVC insulated leads • 30 V rms or 60 V dc, 15 A



#### TL935 Patch Cords (60 cm, 90 cm, 120 cm)

- Three sets (red and black pairs) of multistacking banana plug patch cords in different lengths
- Nickel-plated, 4 mm banana plugs • 60 cm, 90 cm, and 120 cm long PVC
- insulated leads • 30 V rms or 60 V dc, 15 A



## **TL940 Mini-Hook Test Leads**

- hooks.
  - · Mini-hooks attach to component leads up to 1.5 mm diameter
  - 90 cm long PVC insulated leads
  - 30 V rms or 60 V DC, 3 A

One pair (red, black) slender stainless steel

- Tip length: 24 mm which includes the

pincers.



### TL960 Micro-Hook Test Leads

One pair (red, black) of test leads with multistacking 4 mm banana plugs and microhooks.

- up to 1 mm diameter



## **TL970 Hook and Pincer Set**

- TL940 Mini-Hook Test Lead Set
- TL950 Mini-Pincer Test Lead Set
- TL960 Micro-Hook Test Lead Set

- · For test lead wires up to 8mm in diameter
- 279 mm × 89 mm × 32 mm

#### TL222 SureGrip<sup>™</sup> Silicone Insulated Test Leads

Set

ends

10 A

One pair (red, black) silicone-insulated test leads (red, black) with safety-shrouded, 4 mm banana plugs.

• Right angle connectors on both ends

## TL224 SureGrip<sup>™</sup> Insulated Test Leads

One pair (red, black) silicone-insulated test leads with safety-shrouded 4 mm banana pluas.

• Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A

## **TL27 Heavy-duty Test Lead Set**

One pair (red, black) rugged, EPDM-insulated test leads with safety-shrouded 4 mm banana plugs.

- Straight connectors on both ends
- Safety rating: CAT III 1000 V, 10 A

## Test Lead Holder



#### **H900 Test Lead Holder**

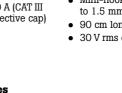
Heavy-duty holder for conveniently storing test lead wires.

- Mounting holes for securing to wall or other surfaces
- Overall dimensions (LxWxH):



One pair (red, black) multi-stacking banana

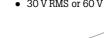
One pair (red, black) multi-stacking banana



- Probe tip insulated to 4 mm from the end
- Safety rating: CAT IV 600 V, CAT III 1000 V,
  - 90 cm long PVC insulated leads
    - 30 V RMS or 60 V DC, 3 A



- · Micro-hooks attach to component leads • 90 cm long PVC insulated leads • 30 V RMS or 60 V DC. 3 A









- One pair (red, black) of test leads with multistacking 4 mm banana plugs and mini-



#### **TL950 Mini-Pincer Test Leads**

- One pair (red, black) of test leads with multistacking 4 mm banana plugs and mini-
- Mini-pincers open to 2.3 mm





#### FTP-1 / FTPL-1 SureGrip<sup>™</sup> Fused Test Probes

- · Built-in fuses for added protection • 2 mm threaded probe tips include removable 4 mm lantern-style spring contacts
- FTPL-1 comes with a set of TL224 SureGrip<sup>™</sup> Insulated Test Leads
- Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



#### TL238 SureGrip™ Test Lead Set for **High Energy Environments**

This kit is specially designed for high energy environments. Three-piece kit:

- TP238 SureGrip<sup>™</sup> Insulated Test Probe Set
- TP280 SureGrip<sup>™</sup> Test Probe Extender
- TL224 SureGrip<sup>™</sup> Insulated Test Leads • Safety rating:
- TP238 and TL224: CAT IV 600 V, CAT III 1000 V 10 A - TP280: CAT III 1000 V. 10 A



#### **TLK290 Flexible Socket Probe Set**

Set includes three flexible socket probes and a large alligator clip for use with 4mm shrouded test leads.

- Test probes are for use on motor and three-phase sockets
- Probes have flexible test points that fit securely between 4 mm and 8 mm sockets
- Safety rating: CAT II 1000 V, 8 A



#### **TLK291 Fused Test Probe Set**

One pair (red, black) fused test probes. Probes fit on modular leads or on fixed-lead test tools.

- Each probe contains a 500 mA/1000 V/IR:50 kA fuse
- Safety rating: CAT IV 600 V, CAT III 1000 V



Accessories

Accessories



# TEST LEAD SETS AND KITS

Model number	TL27	TL80A	TL81A	TL220	TL223	TL225	<b>TL238</b>	<b>TLK-220</b>	<b>TLK-225</b>	<b>TLK287</b>	<b>TLK289</b>
Test Lead Sets and	Kits										
110/114/115/ 116/117	•	•	•	•	•	•	•	•	•	•	•
27 II	•	•	•	•	•	•	•	•	•	•	•
175/177	•	•	•	•	•	•	•	•	•	•	•
179	•	•	•	•	•	•	•	•	•	•	•
87V	•	•	•	•	•	•	•	•	•	•	•
287/289	•	•	•	•	•	•	•	•	•	•	•
8845A/8846A	•	•	•	•	•	•	•	•	•	•	•
120/B Series	•	•	•	•	•	•	•	•	•	•	•
190/-II Series	•	•	•	•	•	•	•	•	•	•	•
323/325	•	•	•	•	•	•	•	•	•	•	•
370 Series, 381	•	•	•	•	•	•	•	•	•	•	•
705/707	•	•	•	•	•	•	•	•	•	•	•
712	•	•	•	•	•	•	•	•	•	•	•
715	•	•	•	•	•	•	•	•	•	•	•
717	•	•	•	•	•	•	•	•	•	•	•
718	•	•	•	•	•	•	•	•	•	•	•
725/726	•	•	•	•	•	•	•	•	•	•	•
787B/789	•	•	•	•	•	•	•	•	•	•	•
1577/1587 FC	•	•	•	•	•	•	•	•	•	•	•
<b>Clips and Probes</b>											
AC175		•	•								
AC87	•		•	•	•	•	•	•	•	•	•
AC89	•		•	•	•	•	•	•	•	•	•
AC220	•		•	•	•	•	•	•	•	•	•
AC280	•		•	•	•	•	•	•	•	•	•
AC238A	•		•	•	•	•	•	•	•	•	•
AC285	•		•	•	•	•	•	•	•	•	•
FTP-1	•		•	•	•	•	•	•	•	•	•
TLK290			•	•	•	•	•	•	•	•	•
TLK291			•	•	•	•	•	•	•	•	•
TP1	•		•	•		•	•	•	•	•	•
TP2	•		•	•	•	•	•	•	•	•	•
TP4	•		•	•	•	•	•	•	•	•	•
TP38	•		•	•	•	•	•	•	•	•	•
TP74	•		•	•	•	•	•	•	•	•	•
TP80	•		•	•	•	•	•	•	•	•	•
TP175	•		•	•	•	•	•	•	•	•	•
TP220	•		•	•	•	•	•	•	•	•	•
TP912										•	
TP920		•	•								
T5 Starter Kit				(compatil	ble with T5/T	+/T+Pro/330	O Series Clan	np Meters)			
TP165X				(compatible	with 1503/1	507/1577/15	87 FC/1650	(1660 Series)			

# **Test Lead Sets and Kits**



#### **TLK289 Industrial Master Test Lead** Set

Designed for electrical and electronics testing including clips and probes for dependable contact with a variety of test points. Includes:

- One pair each (red, black): AC285 Large Jaw Alligator Clips AC220 Plunger Style Alligator Clips AC280 SureGrip<sup>™</sup> Hook Clips TP220 SureGrip<sup>™</sup> Industrial Test Probes TPAK ToolPak<sup>™</sup>
- 80BK-A Integrated DMM Temperature Probe
- C116 Soft Carrying Case



#### **TLK287 Electronics Master Test Lead** Set

The perfect test lead set for electronics test and design. Includes 11 items:

- Precision electronic probes with multiple spring-loaded sharp tips to maximize contact with SMD test points
- Micro-grabbers and leads to enable fine SMD testing
- Mini-alligator clips, grabbers, and probes Modular test leads and lead-probe combinations
- Couplers for long lead applications



#### **TL81A Deluxe Electronic Test Lead Kit**

This 11-item kit includes pouch and two each (red, black) of:

- · Test leads with a safety-shrouded, right angle banana connector on one end and a stainless steel test probe on the other. Rated up to 10 A.
- Insulated alligator clips. Rated up to 10 A · Insulated probe tip extenders. Rated up to 3 A
- Modular test probes with banana jack connector. Rated up to 10 A
- Modular hook-style clip test leads. Rated up to 5 A
- Modular pinch-style clip test leads. Rated up to 5 A
- Modular alligator clips. Rated up to 10 A
- Slide-on IC probe tip adapters (rated up to 3 A) and test lead couplers
- Bare spade lug. Rated up to 10 A



#### TL220 SureGrip<sup>™</sup> Industrial Test Lead Set

Handy all-in-one set that includes essential test items for industrial environments. Three-item set includes:

- AC220 Plunger Style Alligator Clips • TP220 SureGrip<sup>™</sup> Industrial Test Probes
- CAT II 1000 V, 10 A without protective cap
- Leads
- Safety rating: All CAT IV 600 V, CAT III 1000 V



#### **TL80A Basic Electronic Test Lead Kit** The fundamental accessories for testing are included in this four-item kit:

- Extended probe tips CAT II 300 V, 3 A
  - TL71 Premium Test Lead Set
  - C75 Accessory Case



### TLK-225 SureGrip<sup>™</sup> Master Accessory Set

Set includes all the SureGrip<sup>™</sup> leads, clips, and probes in a handy roll-up pouch. This 13-item set includes:

- AC220 Plunger Style Alligator Clips
- AC280 SureGrip<sup>™</sup> Hook Clips
- AC238A SureGrip<sup>™</sup> Pincer Clips
- AC285 Large Jaw Alligator Clips
- TP175 TwistGuard<sup>™</sup> Test Probes
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- Six-pocket Storage Pouch
- Safety rating: all CAT IV 600 V, CAT III 1000 V



#### TL223 SureGrip™ Electrical Test Lead Set All-in-one set includes three test lead

accessories: AC220 Plunger Style Alligator Clips

- TP1 Slim Reach Test Probes
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- Safety rating: CAT II 1000 V, 10 A (CAT III

160







• TL224 SureGrip<sup>™</sup> Silicone Insulated Test

• Medium alligator clip CAT II 1000 V, 10 A





- 1000 V, CAT IV 600 V with protective cap)



#### TLK-220 SureGrip<sup>™</sup> Industrial Test Lead Kit

Special-value SureGrip<sup>™</sup> five-piece kit for industrial applications, in a roomy carrying case. Kit includes:

- AC220 Plunger Style Alligator Clips
- AC285 Large Jaw Alligator Clips
- TP220 SureGrip<sup>™</sup> Industrial Test Probes
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- C116 Zippered Vinyl Case with Moveable Divider
- Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



#### **T5 Starter Kit**

Special-value three-piece kit for the electrical professional with a Fluke T5 Voltage, Continuity and Current Tester. Kit includes:

- TP238 Insulated Test Probes
- AC285 Large Jaw Alligator Clips
- C33 Soft Carrying Case
- Safety rating: all CAT IV 600 V, CAT III 1000 V



#### **TLS430 Test Leads and Alligator Clips**

Test lead replacement set for the Fluke 430 Series II Three-Phase Power Quality Analyzers.

- Set includes five of each (4 black, 1 green) test leads and alligator clips
- Safety rating: CAT IV 600 V, CAT III 1000 V



#### TL225 SureGrip<sup>™</sup> Stray Voltage Adapter Test Lead Kit

The Fluke TL225 adds low input impedance to a multimeter, desensitizing it to low energy and eliminating ghost or stray voltages. Four-piece kit includes:

- SV225 Stray Voltage Adapter
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- TP238 Insulated Test Probes
- C75 Accessory Case
- Safety rating: All CAT IV 600 V, CAT III 1000 V, 10 Å







	1	Bead	HVAC	Immersion	Surface	Air	Piercing	General Purpose	Industrial Surface	Pipe Clamp
	80BK-A	80PK-1 80PJ-1	80PK-11	80PK-22	80PK-3A	80PK-24	80PK-25 80PT-25	80PK-26	80PK-27	80PK-8
Lowest Temperature		40° C 40° F)	-30° C (-22° F)	-40° C (-40° F)	0° C (32° F)	-40° C (-40° F)	Type K: -40° C (-40° F) Type T: -196° C (-321 "F)	-40° C (-40° F)	-127° C (-196° F)	-29° C (-20° F)
Highest Temperature	_	60° C 600° F)	105° C (221 "F)	1090° C (1994 "F)	260° C (500°F)	816° C 1500 "F)	350° C (662 "F)	816° C (1500"F)	600° C (1112 "F)	149° C (300 "F)
Probe Material		wire with insulation	Velcro	Inconel 600	Type K sensor with teflon body	Inconel	316 Stainless Steel	304 Stainless Steel	304 Stainless Steel	Type K sensor with PVC body
Probe Length	1 m (3.3	ft) lead wire	48.26 cm (19 in) Velcro cuff	21.27 cm (8.375 in)	9.52 cm (3.75 in)	21.59 cm (8.5 in)	10.16 cm (4 in)	21.57 cm (8.5 in)	20.32 cm (8 in)	for pipes from 6.4 mm (0.25 in) to 34.9 mm (1.375 in)
Cable Length		1 r	n (3.3 ft)		1.3 m (4 ft)			1 m (3.3 ft)		
Connection	Standard banana jack	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug
SureGrip Handle	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
Key Feature	troublesh secured in	for initial ooting. Can be n place with a agnet.	Velcro probe allows hands-free temperature measurement.	For use in liquids or in gels.	Exposed junction for direct contact with flat or slightly convex surfaces.	Perforated baffle for air and non- caustic gas measurements.	Probe material safe for use in foods. Sharp tip pierces solid surfaces.	Use for general purpose air or surface measurements.	Low conductivity stainless steel minimizes thermal shunting. Extra rugged.	Clamps securely to pipe. Measurements are repeatable to 0.56° C (1° F)
Thermocouple Types	К	К, Ј	к	к	к	К	К, Т	К	к	К

<b>Temperature Comp</b>	Temperature Compatibility												
Model Number	80AK-A	80BK-A	All 80PK Probes	80PJ-1/ 80PJ-9	80PT-25	80TK	80T- 150UA	80PJ- EXT	80PK- EXT	80PT- EXT	80CK-M	80CJ-M	80PR-60
110/114/115/ 116/117	116	116							•		•		
27 II						•	•		-		-		
175/177			-			•	•		-		-		
179	•	•	<b>A</b>						<b>A</b>		<b></b>		
87V	•	•	<b>A</b>						<b>A</b>		▲		
287/289	•	•	<b>A</b>				•		<b></b>		<b></b>		
8845/8846			-			•	•		-		-		
43B			-			•	•		-		-		
120/B Series			-			•	•		-		-		
190/-II Series			-			•	•		-		-		
51/52/53/54 II			•	•	•			•	•	•	•	•	
63													66/68
714			•	•	•			•	•	•	•	•	
715			-			•	•		-		-		
725/726			•	•	•			•	•	•	•	•	
787B/789			-			•	•		-		-		
902	•	•	•						•				
1587 FC	•	•	<b>A</b>						<b>A</b>		▲		
1577	•		<b>A</b>										
561			•										

●Compatible; ■Requires 80TK; ▲ Requires 80AK-A; 116 only: requires 80AK-A

# **Temperature Accessories**



#### 80PJ-1 or 80PK-1 Bead Probe

Type J or K thermocouple probe for general purpose applications. Ideal for troubleshooting.

- 1 mm probe with Teflon<sup>™</sup> insulation
- Measurement range: -40° C to 260° C (-40° F to 500° F)



#### 80PJ-9 or 80PK-9 **General Purpose Probe**

Type J or K thermocouple probe for air and non-caustic gases. The sharp tip pierces pipe insulation and the flat surface makes good contact.

- 15.25 cm stainless steel probe
- Measurement range: -40° C to 260° C (-40° F to 500° F)
- (-40° F to 1994° F)

#### 80PK-26 SureGrip<sup>™</sup> Tapered Probe

Type K thermocouple probe with tapered tip for speedy air, surface, non-caustic gas, and liquid measurements.

- 1 m lead
- 203 mm stainless steel probe
- Measurement range: -40° C to 816° C (-40° F to 1500° F)



#### **80PK-3A Surface Probe**

Type K thermocouple with exposed junction for flat or slightly convex surfaces such as plates and rollers.

- 9.52 cm probe with Teflon<sup>™</sup> insulation
- Measurement range: 0° C to 260° C (-40° F to 500° F)



#### 80PK-27 SureGrip<sup>™</sup> Industrial Surface **Temperature Probe**

Type K thermocouple probe for surfaces in rugged environments.

- 1 m lead
- 20.32 cm stainless steel probe
- Measurement range: -127° C to 600° C (-196° F to 1112° F)



#### 80PK-25 or 80PT-25 SureGrip™ **Piercing Probe**

Type K or T thermocouple suitable for food industry, liquids, and gels. Sharp tip pierces solid surfaces.

- 1 m lead
- 10.16 cm stainless steel probe · Measurement range:
- Type K: -40° C to 350° C (-40° F to

662°F)



# 80PK-24 SureGrip<sup>™</sup> Air Probe

caustic gas measurements. 1 m lead

- 21.59 cm (8.5 in) Inconel<sup>™</sup> probe
- Bead protected by perforated baffle
- Measurement range: -40° C to 816° C (-40° F to 1500° F)



## 80PK-22 SureGrip<sup>™</sup> Immersion Probe Type K thermocouple probe for use in liquids

- and gels. • 1 m lead
- 21.27 cm (8.375 in) Inconel<sup>™</sup> probe
  - Measurement range: -40° C to 1090° C



#### 80PK-8 and 80PK-10 Pipe Clamp Probe

- Type K thermocouple clamps securely to
- pipes for fast temperature and superheat measurements
- Durable ribbon sensor • 80PK-8 for pipe diameters
- 6.4 mm to 34.9 mm • 80PK-10 for pipe diameters 32 mm to
- 64 mm • Measurements are repeatable to 0.56° C
- Measurement range: -29° C to 149° C (-20° F to 300° F)



#### 80PK-11 Type-K Velcro™ Thermocouple Probe

- temperature-measuring instrument that accepts type K thermocouples.



## 80PK-18 Pipe Clamp **Temperature Probe Kit**

- Includes both 80PK-8 and 80PK-10 Type K clamps

#### sizes Includes soft carrying case

- Type T: -196° C to 350° C (-321° F to 932° F)

• Use multiples and leave in place for route-

#### based routine maintenance 48 cm Velcro<sup>™</sup> cuff

• Measurement range: -30° C to 105° C

# (-22° F to 221° F)





Accessories



Type K thermocouple probe for air and non-







- Type K Velcro cuff for use with any



Provides full range of pipe measurement



#### **80PR-60 RTD Temperature Probe**

This probe expands the utility of an RTD non-contact infrared thermometer by simultaneously taking contact and noncontact temperature readings.

- For use with the Fluke 66 and 68 Infrared Thermometers
- 90 mm platinum 1 kΩ probe
- 3.5 mm phono type jack
- Measurement range: -40° C to 260° C (-40° F to 500° F)



#### 80AK-A Thermocouple Adapter

Adapts type K thermocouple mini-connector to dual shrouded 4 mm banana plug inputs.

- Measurement range and accuracy: probe dependent
- Suitable for low voltage applications (below 30 V AC, 60 V DC)



#### **80BK-A Integrated DMM Temperature** Probe

Convenient, integrated type K thermocouple probe with standard shrouded 4 mm banana iack.

- Compatible with Fluke DMM with temperature measurement functions
- Measurement range: -40° C to 260° C (-40° F to 500° F)



#### **80TK Thermocouple Module**

This module converts a DMM to a thermometer and is designed for use with type K thermocouples in low voltage applications.

- Voltage range: below 24 V ac, 60 V dc
- Measurement range: -50° C to 1000° C (-58° F to 1,832° F) (probe dependent)



#### **80T-150UA Universal Temperature** Probe

Adapts any DMM using shrouded 4 mm banana plugs. This fast, accurate integrated probe is designed for low-voltage applications.

- For air, surface, and non-corrosive applications
- Voltage range: below 24 V AC, 60 V DC • 15.7 cm probe tip
- Measurement range: -50° C to 150° C (-58° F to 302° F)
- Output: switchable, from 1 mV/° C to 1 mV/°F





### AC Current Clamp Specifications

	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex	i3000s Flex	i6000s
AC current range	1 Å to 200 Å	1 Å to 200 Å	1 A to 400 A	0.5 A to 400 A	1 A to 800 A	0.2 Å to 1000 Å	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	60 A to 6000 A
Accuracy	3% + 0.5 A 48 Hz to 65 Hz	1% + 0.5 A 48 Hz to 65 Hz	2% + 0.06 A 45 Hz to 400 Hz	0.5 A to 40 A, 2% + 0.01 A, 5 A to 400 A, 2% + 0.04 A, 45 Hz to 400 Hz	0.1 A to 10 A ±3% + 0.01 A, 10 A to 200 A ±2%, 200 A to 800 A ±1%	0.2 to 10 A: 3% + 0.1 A 10 A to 100 A: 2% + 0.5 A 100 A to 1000 A: 1% + 1 A 48 Hz to 65 Hz	1 to 30 A: 2% + 0.1 A 1 to 300 A: 2% + 0.5 A 1 to 3000 A: 2% + 2 A 48 Hz to 65 Hz	±1% of range 45 Hz to 65 Hz Ranges: 20 A, 200 A, 2000 A	±1% of range, 45 Hz to 65 Hz Ranges: 30 A, 300 A, 3000 A	±1% of range 45 Hz to 65 Hz
Bandwidth (-3 dB)	40 Hz to 40 kHz	40 Hz to 40 kHz	5 kHz to 20 kHz	5 Hz to 10 kHz	30 Hz to 10 kHz (typical)	5 Hz to 100 kHz	10 Hz to 100 kHz	10 Hz to 20 kHz	10 Hz to 50 kHz	10 Hz to 50 kHz
Maximum conductor diameter	20 mm	20 mm	32 mm	32 mm	54 mm	54 mm	64 × 100 mm	177 mm	177 mm or 265 mm	193 mm or 289 mm
Maximum conductor size	150 mm2	150 mm2	400 mm2	400 mm2	2× 240 mm <sup>2</sup> or 1× 500 mm <sup>2</sup>	2× 240 mm <sup>2</sup> or 1× 500 mm <sup>2</sup>	64 mm	610 mm circumference	610 mm or 915 mm circumference	610 mm or 915 mm
Output levels	1 mA/A	10 mV/A 100 mV/A	1 mA/A	10 mV/A 1 mV/A	1 mA/A	1 mV/A 10 mV/A 100 mV/A	10 mV/A 1 mV/A 0.1 mV/A	100 mV/A 10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	50 mV/A 5 mV/A 0.5 mV/A
Output cable	1.5 m shrouded banana plugs	2 m to BNC termination	1.5 m shrouded banana plugs	2.5 m to BNC termination	1.6 m shrouded banana plugs	1.6 m to BNC termination	2.1 m to BNC termination	2 m with double shrouded banana plugs	2.1 m to BNC termination	2 m to BNC, 4 mm plug adapter supplied
Warranty	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V

#### AC Current Clamp Selection Guide

	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex1	i3000s Flex
110/114/116		1 A to 200 A		0.6 A to 400 A*		0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
115/117	60 A to 200 A	1 A to 200 A	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
233	60 A to 200 A	1 A to 200 A	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
27 II	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
28 II	1.8 A to 200 A	1 A to 200 A	1.8 A to 400 A	1.8 A to 400 A	1.8 A to 800 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A
77 IV		1 A to 200 A		1 A to 400 A*		0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
175/177/179	3 A to 200 A	1 A to 200 A	3 A to 400 A	1 A to 400 A*	3 A to 800 A	0.3 A to 1000 A*	3 A to 3000 A	2 A to 2000 A	3 A to 3000 A
1577/1587 FC	3 A to 200 A	1 A to 200 A	3 A to 400 A	3 A to 400 A*	3 A to 400 A	0.3 A to 1000 A*	3 A to 3000 A	2 A to 2000 A	3 A to 3000 A
83V/88V	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
87V	2 A to 200 A	1 A to 200 A	2 A to 400 A	2 A to 400 A*	2 A to 800 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A
287/289	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
43B		1 A to 200 A		0.35 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
434/435-II		1 A to 200 A		1.2 A to 400 A		0.3 A to 1000 A	1.2 A to 3000 A	i430Flex-TF-II	i430Flex-TF-II
120/B		1 A to 200 A		2.5 A to 400 A		0.25 A to 1000 A	2.5 A to 3000 A	2 A to 2000 A	3 A to 3000 A
190/-II		1 A to 200 A		1 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
8808A	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A*	3 A to 3000 A*
8845A/8846A	1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A*	3 A to 3000 A*
787B/789	50 A to 200 A	1 A to 200 A	50 A to 400 A	2 A to 400 A*	50 A to 440 A	0.2 Å to 1000 Å*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A
* Requires PM908	1 Adapter								

# **AC Current Clamps**

i800 AC Current Clamp

range



• Current range: 100 mA to 800 A RMS AC

## i200s AC Current Clamp

This ac current clamp is designed to extend the current measuring capability of a digital multimeter to 800 A AC. It is compatible with a digital multimeter that accepts shrouded 4 mm banana plugs and has an ac milliamp

- switchable
- Frequency range: 30 Hz to 10 kHz (-3 dB)



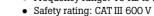
#### i400 AC Current Clamp

• Safety rating: CAT III 600 V

This high-safety current clamp for digital multimeters is a single range 400 A AC clamp that is designed to offer maximum utility in a very compact shape. The division ratio is 1000:1.

- Current range: 1 A to 400 A ac
- Frequency range: 5 kHz to 20 kHz (-3 dB) • Safety rating: CAT IV 600 V,
- CAT III 1000 V

i400s AC Current Clamp





This high-safety compact current clamp with BNC output is a companion to a ScopeMeter® or power quality meter to measure up to 400 A ÂC

- Current range: 0.5 A to 400 A AC
- Frequency range: 5 Hz to 10 kHz (-3 dB)
- Optional PM9081/001 Dual Banana Plug Male to Female BNC Adapter is available for digital multimeters
- Safety rating: CAT IV 600 V, CAT III 1000 V



#### i200 AC Current Clamp

This small-sized, single-range current clamp features safety-shrouded 4mm banana plugs. It is compatible with most Digital Multimeters and other current measurement devices that accept shrouded 4 mm banana plugs and have an ac milliamp range.

- Current range: 1 A to 200 A AC
- Frequency range: 40 Hz to 40 kHz
- Safety rating: CAT III 600 V

- meters with banana inputs. • Current ranges: 0.1 A and 200 A AC
- Frequency range: 40 Hz to 10 kHz
- Safety rating: CAT III 600 V



#### data loggers. The flexible and lightweight measuring head allows quick and easy installation on thick and hard-to-reach areas. • Current range: 20 A, 200 A, and 2000 A

- ac switchable • Frequency range: 10 Hz to 20 kHz



### i1000s AC Current Clamp

This large AC current clamp expands applications in industrial and power environments by connecting directly to an oscilloscope using a reinforced coaxial cable and an insulated BNC connector. It is ideal for measuring distorted current waveform RMS and harmonics.

- Current range: 0.1 A to 1000 A AC
- Accurate displays due to a passive filter that eliminates noise and ring on rapidlyrising di/dt waveforms
- Safety rating: CAT III 600 V



This AC current clamp is designed as a clamp-on unit for use with oscilloscopes. It also includes a dual banana to BNC adapter for use with multimeters with 4mm banana input plugs.

- Current range: 1 A to 3000 A
- Frequency range: 10 Hz to 100 kHz • Safety rating: CAT III 600 V





Accessories



This small-sized dual-range current clamp offers voltage output using a safety-insulated BNC connector. A dual banana-to-BNC adapter allows the clamp to be connected to

conjunction with multimeters, recorders, or

• Frequency range: 10 Hz to 100 kHz





#### i3000s Flex-24 or -36 AC **Current Clamp**

i3000s Flex-24 is available in a convenient four-pack (i3000s Flex 4 Pack)

The flex clamp uses the Rogowski (air-cored coil) principle and can be used to measure three ranges of currents up to 3000 A when used in conjunction with oscilloscopes, recorders or data loggers. The flexible and lightweight measuring head allows quick and easy installation in hard-toreach areas without batteries or an external power source. This clamp fits around large conductors and is available in 610 mm and 914 mm lengths.

- Current range: 30 A, 300 A, and 3000 A switchable
- Frequency range: 10 Hz to 50 kHz
- Safety rating: CAT III 600 V



#### **i5s AC Current Clamp**

Also available in a convenient three-pack (i5sPQ3)

This compact 5 A AC clamp, specially configured to provide low-current accuracy while taking measurements on secondary current transformers, expands the use of Fluke 430 Series Three-Phase Power Quality Analyzers.

- Current range: 10 mA to 5 A
- Frequency range: 40 Hz to 5 kHz
- Safety rating: CAT III 600 V (for insulated conductors only)



#### i6000s Flex-24 or -36 **AC Current Clamp**

This ac current clamp with itsflexible and lightweight measuring head allows quick and easy installation in hard-to-reach areas without batteries or an external power source. This clamp fits around large conductors and is available in both 610 mm and 914 mm lengths.

- Current range: 60 A, 600 A, and 6000 A switchable
- Frequency range: 10 Hz to 50 kHz (-3 dB)
- Safety rating: CAT III 600 V





## AC/DC Current Clamp Specifications

	-	-				
	80i-110s	i410	i1010	i30	i30s	i310s
DC range	0.1 A to 100 A	1 A to 400 A	1 A to 1000 A	30 mA to 30 A	30 mA to 30 A	0.1 A to 450 A
AC range	0.1 A to 70 A	1 A to 400 A	1 A to 600 A	30 mA to 20 A RMS	30 mA to 20 A RSM	0.1 A to 300 A
Accuracy	0.1 A to 10 A; AC to 1 kHz: ±3% + 50 mA; up to 100 A add 15%; up to 20 kHz add 12%	3.5% + 0.5 Å for DC or AC (45 to 400 Hz)	2% + 0.5 A for DC or AC (45 to 400 Hz)	±1% of reading, ±2 mA	±1% of reading, ±2 mÅ	30 A range: 1% + 50 mA 300 A range: 1% + 300 mA
Bandwidth (-3 dB)	100 kHz	3 kHz	10 kHz	dc to 20 kHz (-0.5 dB)	dc to 100 kHz (-0.5 dB)	dc to 20 kHz
Zero error adjustment	•	•	•	•	•	•
Maximum conductor diameter	11.8 mm	30 mm	30 mm	19 mm	19 mm	19 mm
Maximum conductor size	35 mm2	1 × 400 mm <sup>2</sup> or 2 × 240 mm <sup>2</sup>	1 × 400 mm <sup>2</sup> or 2 × 240 mm <sup>2</sup>	120 mm <sup>2</sup>	120 mm <sup>2</sup>	120 mm <sup>2</sup>
Output levels	10 mV/A, 100 mV/A	1 mV/A	1 mV/A	100 mV/A	100 mV/A	1 mV/A, 10 mV/A
Output cable	1.6 meter with BNC termination	1.2 meter with shrouded banana plugs	1.2 meter with shrouded banana plugs	1.5 meter with shrouded dual banana plugs	2 meter with BNC termination	2 meter with BNC termination and a BNC to safety shrouded banana adapter
Battery life	40 hours	60 hours	60 hours	30 hours	30 hours	30 hours
Warranty	One-year	One-year	One-year	One-year	One-year	One-year
Safety	CAT II 600 V; CAT III 300 V	CAT III 600 V	CAT III 600 V	CAT III 300 V	CAT III 300 V	CAT III 300 V

#### AC/DC Current Clamp Selection Guide

	80i-110s	i410	i1010	i30	i30s	i310s
114/115/	0.1 Å to 100 Å DC/	1.4 A to 400 A DC/	1.4 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
116/117	0.1 Å to 70 Å ÅC*	6 A to 400 A AC	6 A to 600 A AC	60 mA to 20 A AC	60 mA to 20 A AC	0.6 A to 300 A AC
233	0.1 A to 100 A DC/	1.4 A to 400 A DC/	1.4 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	6 A to 400 A AC	6 A to 600 A AC	60 mA to 20 A AC	60 mA to 20 A AC	0.6 A to 300 A AC
27 II	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
28 II	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.2 A to 70 A AC*	6 A to 400 A AC	6 A to 600 A AC	60 mA to 20 A AC	60 mA to 20 A AC	2 A to 300 A AC
77 IV	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	5 A to 400 A AC	5 A to 600 A AC	40 mA to 20 A AC	40 mA to 20 A AC	0.4 A to 300 A AC
175/177/179	0.11 A to 100 A DC/	1.6 A to 400 A DC/	1.6 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.3 A to 70 A AC*	30 A to 400 A AC	30 A to 600 A AC	300 mA to 20 A AC	300 mA to 20 A AC	3 A to 300 A AC
1577/1587 FC	0.1 A to 100 A DC/	1.2 A to 400 A DC/	1.2 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.3 A to 70 A AC*	30 A to 400 A AC	30 A to 600 A AC	300 mA to 20 A AC	300 mA to 20 A AC	3 A to 300 A AC
83V/88V	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
87V	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.2 A to 70 A AC*	20 A to 400 A AC	20 A to 600 A AC	200 mA to 20 A AC	200 mA to 20 A AC	2 A to 300 A AC
287/289	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
123/124	0.1 A to 100 A DC/ 0.25 A to 70 A AC	1 A to 400 A DC/ 25 A to 400 A AC**	1 A to 1000 A DC/ 25 A to 600 A AC**		30 mĀ to 30 Ā DC/ 250 mĀ to 20 Ā ĀC	0.1 A to 450 A DC/ 2.5 A to 300 A AC
190 Series II	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC	5 A to 400 A AC**	5 A to 600 A AC**	50 mA to 20 A AC**	50 mA to 20 A AC	0.5 A to 300 A AC
8808A	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	2 A to 400 A AC	2 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.2 A to 300 A AC
8845A/8846A	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
705/707	0.1 A to 100 A DC, no AC*	4 A to 400 A DC, no AC	4 A to 1000 A DC, No AC	40 mA to 30 A DC, no AC	40 mA to 30 A DC, no AC	0.4 A to 450 A DC, n AC
715	0.1 A to 100 A DC, no AC*	4 A to 400 A DC, no AC	4 A to 1000 A DC, No AC	40 mA to 30 A DC, no AC	40 mA to 30 A DC, no AC	0.1 A to 450 A DC, n AC
787B/789	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	3 mA to 30 A DC/	0.1 A to 450 A DC/
	0.2 A to 70 A AC*	20 A to 400 A AC	20 A to 600 A AC	200 mA to 20 A AC	200 mA to 20 A AC	2 A to 300 A AC

\* Requires PM9081 Adapter \*\* Requires PM9082/001 Adapter

# **AC/DC Current Clamps**



#### i410 AC/DC Current Clamp

This battery-powered Hall-effect probe measures 1 A to 400 A with large-claw clamp that gives access to difficult-to-reach areas. It is compatible with most multimeters and other devices that measure AC and DC current and accepts shrouded 4 mm banana pluas.

- On/Off LED indicator
- AC and DC current range: 1 A to 400 A
- Frequency range: DC to 3 kHz
- Safety rating: CAT III 600 V



#### i410-KIT AC/DC Current Clamp and **Carry Case Kit**

This special-value kit for electrical professionals adds AC and DC current measurement capabilities to a digital multimeter. A roomy carrying case holds a meter and the current clamp plus test leads, probes and manuals. Kit includes:

- i410
- C116 Soft Carrying Case



#### i1010 AC/DC Current Clamp

This clamp measures both ac and dc currents with a large-jaw, battery-powered Halleffect probe that gives access to difficultto-reach areas. It is compatible with most Fluke multimeters and any other devices that measure AC and DC current and accept shrouded 4 mm banana plugs.

- On/Off LED indicator
- AC current range: 1 A to 600 A AC
- DC current range: 0.5 A to 1000 A DC



#### i1010-Kit AC/DC Current Clamp and **Carry Case Kit**

This special-value kit for electrical professional adds AC and DC current measurement capabilities to a digital multimeter. A roomy carrying case holds a meter and the current clamp plus test leads, probes and manuals. Kit includes: • i1010 AC/DC Current Clamp • C116 Soft Carrying Case

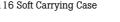


i30 AC/DC Current Clamp Based on Hall-effect technology, this batterypowered clamp measures both AC and DC current. It may be used in conjunction with

intrusive current measurement.

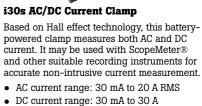
- Safety rating: CAT III 300 V

AC/DC Current	Clamp
---------------	-------





- Frequency range: DC to 10 kHz
- Safety rating: CAT III 600 V RMS



• Frequency range: DC to 100 kHz • Safety rating: CAT III 300 V



Accessories





multimeters, recorders and other suitable recording instruments for accurate non-

• AC current range: 30 mA to 20 A RMS • DC current range: 30 mA to 30 A • Frequency range: DC to 20 kHz (-0.5 dB)





#### i310s AC/DC Current Clamp

Based on Hall-effect technology, this battery-powered clamp measures both AC and DC current. This clamp is especially useful for current measurements on inverters, switching power supplies, industrial controllers, automotive diagnostics, and other applications requiring current measurements and/or waveform analysis.

- AC current range: 0.1 A to 300 A
- DC current range: 0.1 A to 300 A
- Frequency range: DC to 20 kHz
- Safety rating: CAT III 300 V



#### 80i-110s AC/DC Current Clamp

This clamp is compatible with ScopeMeters®, power harmonics analyzers, multimeters, and other voltage measurement devices that have BNC input connectors.

- AC current range: 0.1 A to 70 A
- DC current range: 0.1 A to 100 A
- Frequency range: DC to 100 kHz
- Optional PM9081/001 Dual Banana Plug Male to Female BNC Adapter is available for digital multimeters
- Safety rating: CAT II 600 V

#### Did you know?

#### Does your current probe read zero current when you clamp it around a power cord?

That's because the power cord has both the hot and neutral current carrying wire in it. If both wires are in the jaws of the clamp meter, the fields cancel each other out, and the current clamp will read nothing. You need to put just one current-carrying conductor in the jaw of the current clamp. If you don't have access to the separate wires within the cord, use a line splitter tool to avoid breaking the circuit.





#### T110/T Soft C C23 C25 C33 • C35 C43 C50 C75 C90 C115 C116 C150 • C280 C345 For multiple meters, test leads and access C550 For multiple meters, test leads and accessories C781 C789 Hard ( C101 C11XT C37XT • CXT80 • • CXT170 CXT280 CXT1000 For multiple meters, accessories and other tools C1600 For multiple meters, accessories and other tools Leather Case C510 C520A H80M H3 H5 • T+/T +Pro H15 ToolPak • • • • • • • • 715 •

# **Cases, Holsters and Hangers**

Soft Cases



#### C25 Large Soft Case for DMMs

Zippered carrying case with padding and inside pocket for holding accessories.

- Made of polyester
- Dimensions (HxWxD):  $218 \times 128 \times 64 \text{ mm} (8.6 \times 5 \times 2.5 \text{ in})$



#### **C33 Soft Carrying Case**

Zippered carrying case with durable vinyl exterior and belt loop. Inner pocket stores test leads and small accessories.

- Made of polyester
- Dimensions (HxWxD): 280 × 115 × 55 mm (11 × 3.6 × 2 in)



#### **C35 Soft Carrying Case**

Case top opens laterally to allow use of test tool without removing it from the case and includes a Velcro<sup>™</sup> strap to secure the tool.

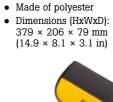
- Made of durable polvester 600D • Dimensions (HxWxD):
- 220 × 140 × 65 mm (8.6 × 5.5 × 2.5 in)



#### C43 Soft Carrying Case

Zippered carrying case includes inner front pocket with closure and two pockets to store test leads or small accessories.

- Made of durable polyester 600D
- Dimensions (HxWxD): 318 × 230 × 90 mm (12.5 × 7.5 × 3.5 in)



#### **C75 Accessory Case**

C50 Meter Case

· Made of polyester

• Dimensions (HxWxD):

**C60 Accessory Case** 

- small accessories. Includes two inside pockets. Made of polyester
- Dimensions (HxWxD):  $179 \times 103 \times 26 \text{ mm} (7 \times 4 \times 1 \text{ in})$



#### **C115 Soft Carrying Case** Includes two padded pockets for protection

- and other accessories. Made of durable polyester 600D
- Dimensions (HxWxD): 240 × 205 × 75 mm (9.4 × 8 × 3 in)



Accessories



Zippered and padded case featuring an inside strap as well as a belt loop for convenient carrying. Also includes an inside pocket for holding accessories.

192 × 90 × 38 mm (7.56 × 3.5 × 1.5 in)



The Fluke C60 is a soft case compatible with many Fluke test tools including: T6 and T5 Series, T+/T+PRO, 110 Series, 170 Series.



Zippered carrying case designed for carrying



- of two test tools, and a pouch for test leads



#### C116 Soft Carrying Case

Provides adjustable padded space with a moveable Velcro™ divider.

- Made of durable polyester 600D
- Dimensions (HxWxD):
- 240 × 230 × 65 mm (9.4 × 9 × 2.5 in)



#### **C150 Soft Carrying Case**

Zippered carrying case with inner pocket for storing test leads and small accessories.

- High quality 1000D fabric
- Dimensions (HxWxD):  $298 \times 114 \times 56 \text{ mm}$  (11.7 x 4.5 x 2.2 in)



#### C280 Soft Case

Designed especially for larger format test tools. Includes detachable, extendable shoulder strap and an inner front pocket with closure and dual pouch pockets for test tools and accessories.

- Made of durable polyester 600D
- Dimensions (HxWxD):
- 230 × 185 × 65 mm (9 x 7.3 x 2.5 in)



#### C345 Soft Case

The perfect case for carrying a wide range of Fluke handheld test tools and accessories. Includes an elastic accessory strap and mesh accessory retainer as well as an outer pouch, outer zipper packet and two slash pockets for convenient accessory storage.

- Made of durable polyester 600D
- Dimensions (HxWxD): 360 × 200 × 240 mm (14.2 x 7.8 x 9.4 in)



Accessories

## **Cases, Holsters and Hangers**

# Holsters, Hangers and Light Kits



#### **Pack30 Professional Tool Backpack**

- Lightweight take the load off your back
- Rugged, waterproof bottom base protects your tools and keeps them upright
- Over 30 pockets in six main storage compartments



#### C550 Tool Bag

Rugged, weather-resistant tool bag, features a large 25 pocket storage compartment and steel-reinforced frame.

• Dimensions (HxWxD): 333 × 513 × 231 mm (13.1 × 20.2 × 9.1 in)



#### **TB25 Tool Bucket Organizer Bag**

Tool bucket with a 5.2-gallon capacity, hard exterior shell, and plastic waterproof base

• 19 interior and 9 exterior pockets • Dimensions (HxWxD):  $425\times305\times330~\text{mm}$ (16.7 × 12 × 13 in)



#### C570 Soft Case

Designed specifically for the Fluke 560 and 570 Series Infrared Theremometers

• Dimensions (HxWxD): 240 × 89 to 170 × 56 mm (9.4 × 3.5 to 6.7 × 2.2 in)



#### C195 Soft Carry Case Zippered with multiple storage compartments & shoulder strap

• Dimensions (HxWxD):  $513 \times 331 \times 231 \text{ mm} (16.7 \times 12 \times 13 \text{ in})$ 



#### C125/C781 Meter Case

Accessories

170

Zippered case, designed for carrying a meter as well as a detachable external pouch for holding test leads.

- Made of durable polyester 600D
- Dimensions (HxWxD): 269 × 141 × 90 mm (10.6 × 5.5 × 3.5 in)



#### **C789 Meter and Accessory Case**

Large carrying case with three compartments, removable handle, and shoulder strap. Holds a meter and multiple accessories

• Made of durable polyester 600D • Dimensions (HxWxD): 308 × 256 × 77 mm (12.1 × 10 × 3 in)



#### **C799 Soft Field Case**

For use with Fluke 750 Series Documenting Process Calibrators

- Allows instrument to be operated inside case with clear front protecting keyboard • Dimensions (HxWxD):
- $305 \times 229 \times 165$  mm) (12 × 9 × 6.5 in)



#### C101 Hard Case

Tough polypropylene case with configurable diced foam interior to store and protect tools and accessories.

 Exterior dimensions (HxWxD): 305 × 360 × 105 mm  $(12 \times 14.2 \times 4.1 \text{ in})$ 

#### Hard Cases



#### **C290 Hard Shell Protective Carry Case** • For use with Fluke 190 Series II

- ScopeMeters® • Dimensions (HxWxD): 378 × 487 × 147 mm (14.88 × 19.17 × 5.78 in)



#### C1600 Gear Box

- A rugged, molded plastic case with a deep interior and lift-out tray.
- · Includes five hook and loop straps to wrap cords and test leads
- Dimensions (HxWxD): 260 × 390 × 200 mm
- (10.2 × 15.3 × 7.8 in)



#### **C11XT EVA Foam Hard Case**

Includes a large pocket on one side for multiple accessories and a mesh pocket on the other side for one test tool.

- For use with 11x and 17x multimeters. and 32x clamp meters
- Dimensions (HxWxD): 240 x 155 x 105 mm (9.4 × 6.1 × 4.1 in)



#### **C37XT EVA Foam Hard Case**

Features a divider with elastic straps to hold one test tool, with two pockets and straps for accessories. Also includes space to secure an iFlex<sup>™</sup> probe.

• Dimensions (HxWxD): 397 × 346 × 122 mm (15.6 × 13.6 × 4.8 in)



#### **CXT Extreme Case Series**

- CXT1000: for multiple meters, accessories and other test tools (Dimensions (HxWxD): 343 mm × 465 mm × 178 mm
- CXT1000 features a diced foam interior for custom storage configuration
- Unbreakable, watertight, airtight, dust proof, chemical resistant and corrosion proof
- CXT80: for use with 87V, 80 Series, 187/189, 27 II/28 II series
- CXT170: for use with 170 Series,
- 114/115/116/117, 77 III, and 77 IV • CXT280: for use with 287 or 289
- Dimensions (HxWxD):
- 279 × 318 × 127 mm (11 × 12.5 × 5 in)

#### Leather Cases



#### **C510 Leather Meter Case**

Rugged leather case features a large belt loop and a top flap to secure the tool. Made of top-grain cowhide with heavy-duty stitching and reinforced rivets.

• Dimensions (HxWxD):

287 × 179 × 106 mm (11.3 × 7 × 4.2 in)

# Holsters



#### **H5 Electrical Tester Holster**

Rugged fabric holster designed to hold Fluke T3 and T5 Electrical Testers. It features a built-in belt loop and flap for test lead storage.

• Dimensions (HxWxD): 192 × 90 × 38 mm (7.5 × 3.5 × 1.5 in)



#### **HT6 Holster**

For use with models T6-600 and T6-1000 • Flap for test lead storage and built-in belt loop



#### H15 Electrical Tester Holster

Rugged fabric holster designed to hold Fluke T90, T110, T130 and T150 Two-Pole Testers.

- High quality 1000D fabric
- Dimensions (HxWxD): 279 × 92 × 51 mm (11 × 3.6 × 2 in)



#### **H80M Protective Holster with Magnetic Hanging Strap**

Convenient snap-on holster with a magnetic hanging system enables hands-free work while protecting digital multimeters or calibration tools.

- Includes a hanging magnet, general purpose hanger, and hook/loop straps
- Dimensions (HxWxD): 190 × 95 × 43 mm (7.5 × 3.7 × 1.7 in)

#### L206 Deluxe LED Hat Light

Attach this water-resistant light to a hard hat, a baseball hat, or even a panel door for hands-free bright light where needed. Includes a 360° rotating clip, special hardhat attachment, and neck lanyard. (Hat not included).

- Three AAA battery included
- Three LEDs with 40-hour battery life



Accessories



**TPAK ToolPak™ Magnetic Meter** 

Hangers

Hanger

Lights

L200 Probe Light

battery life

L205 Mini Hat Light

free work.

crack or chip

Hang your meter in a variety of ways for convenient hands-free operation.

Attaches to the back of many Fluke meters, including 110, 170, 180, 280 Series, 83V and 87V DMMs, 724, 725 and 789 Process Calibrators, 70 Series III DMMs, 1503, 1507, 1577 and 1587 FC Insulation Multimeters and 50 Series II Digital Thermometers.



#### L210 Probe Light Kit

Two probe extenders 20 cm fit modular test probes and keep hands away from live circuits. Ultra-bright white LED provides 120 hours of battery life. Kit includes:

- L200 Probe Light
- SureGrip<sup>™</sup> test probe extenders Two 3 V watch batteries included
- Probe extenders safety rating: CAT III 1000 V, 10 A



#### Small, rugged light that easily attaches to any Fluke test probe, illuminates the contact area and frees hands for work.

· Bright white LED with 120 hours of

• Two 3 V watch batteries included



Rugged, high-intensity Xenon work light with pre-focused optical-guality reflector attaches to a baseball cap to allow hands-

• Includes waterproof ABS case that won't

Two AAA batteries included



## L211 Probe Light Kit

This special-value combo pairs the new L200 Probe Light with one of the most popular test leads by Fluke and a handy carrying case. Probe light attaches to any Fluke test probe to free both hands for work. Kit includes:

- L200 Probe Light
- TL71 Premium Test Lead Set
- C75 Accessory Case



#### L215 SureGrip™ Kit with Probe Light and Probe Extender

Kit includes

- L200 Probe Light
- SureGrip<sup>™</sup> Test Probe Extenders, 20 cm
- TP220 SureGrip<sup>™</sup> Industrial Test Probes
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- Foldable pouch with six pockets and hook & loop closure
- Safety rating:
- TP220: CAT II 1000 V, 10 A. (CAT III 1000 V, CAT IV 600 V with protective cap)
- TL224: CAT III 1000 V, CAT IV 600 V, 10 A
- Probe extenders: CAT III 1000 V, 10 A





#### **High Frequency**



#### **85RF High Frequency Probe**

Converts a DC voltmeter with an input impedance of 10 megohms into a high frequency (100 kHz to 500 MHz) RF voltmeter.

- Voltage range: 0.25 V to 3 V AC RMS
- Maximum input: 30 V RMS, 200 V DC
- AC to DC ratio: 1:1
- Ratio accuracy at 25 MHz and loaded with 10 MQ

#### **Fiber Optics**



#### **FOM Fiber Optic Meter**

Allows testing and maintenance of fiber optic cables without buying a new meter. It plugs directly into any digital multimeter with mV DC function and a 10 M $\Omega$  input impedance to quickly and accurately verify fiber optic cable system loss.

- Wavelengths: 1550, 1300, 850 & nm
- Light sources sold separately



#### FOS-850 and FOS-850/1300 Fiber **Optic Light Source**

Both of these fiber optics accessories are designed to offer a variety of light sources for testing different cable lengths.

• Wavelengths: FOS-850: 850 nm; FOS-850/1300: 850 and 1300 nm

Miscellaneous

#### **IR189USB USB Cable Adapter** Included with FVFSC2 and FVF-Basic software

• Small adapter to connect the cable to the 189, 287, 289, 1653B or the 1550C is included



#### SV225 Stray Voltage Adapter

Stray voltage can appear in electrical installations, due to the capacity between wires. This may result in erroneous readings on high impedance meters. The SV225 solves this without compromising safety.

- On energized wires, the meter will indicate the real voltage
- On non-energized circuits the meter will read close to zero (even if there are stray voltages)
- Can be used on all meters with standard 19mm (0.75 in) input spacing
- Safety rating: CAT III 1000 V, CAT IV 600 V

Note: This adapter should not be used on low-voltage control circuits or where the circuit under test could be adversely-affected by this low impedance load. The adapter is designed to handle continuously-applied power system voltages without damage. However, this adapter is intended to be used intermittently to determine whether a circuit is

#### Fluke Connect"



#### ir3000 FC Connector for Fluke **Connect**<sup>T</sup>

- Get all the benefits of the Fluke Connect™ app, and be on the same page, even while in different places
- · Wirelessly share measurements with your team-anywhere, anytime
- Connect the Fluke 289/287 Multimeters, Fluke 1550C/1555 Insulation Testers and Fluke 789 ProcessMeter<sup>™</sup> with the ir3000 FC



#### **PC3000 Wireless PC Adapter**

- Fluke pc3000 FC Adapter and software
- Must be connected to the USB port in order to enable communication between FC modules and software.
- SW3000 supports up to two pc3000 FC Adapters





#### **BP880 BNC to Female Double Stacking Banana** Plug

Converts a BNC scope lead to a dual banana plug for connection to a digital multimeter to provide hands-free testing in controlled voltage environments.

- Voltage range: up to 500 V ac rms
- 4 mm banana plug is nickel-plated, beryllium copper for low contact resistance



#### **BP881 BNC to Male Double Stacking** Banana

Easily connects a digital multimeter to a BNC patch cord to provide hands-free testing in controlled voltage environments. This adapter connects accessories that have a male BNC output.

• Voltage range: up to 500 V ac rms • 4 mm banana plug is nickel-plated, beryllium copper for low contact resistance



#### **TL28A Automotive Test Lead Set**

Silicone-insulated test leads (red, black) with large, solid copper alligator clips with 12.7 mm opening and serrated teeth.

- 1.5 m test leads
- Safety rating: 30 V, 10 A



#### **TL82 Automotive Pin and Socket Adapter Set**

This collection of male and female adapters provides firm connection to pin-and-socket connectors. Rated to 60 V dc. Set includes:

- · Two retractable shrouded test leads (red, black) 1.2 m
- Eight pin-and-socket adapters with flexible tips (red, black):
- Size 22 contact 0.76 mm, rated 5 A
- Size 20 contact 1.02 mm rated 7.5 A
- Size 16 contact 1.60 mm, rated 13 A
- Size 12 contact 2.36 mm rated 2.3 A

## TLK281 SureGrip™ **Automotive Test Lead Kit** Sharp stainless steel probes can be used to

contact the wire conductor or pinpoint tests on a circuit or relay while the large-jaw alligator clips ensure a good ground on the engine or connection to battery terminals. Rated to 60 V dc. Kit includes:

• TP81 Insulation Piercing Clip Set

- AC220 SureGrip<sup>™</sup> Alligator Clips
- AC285 SureGrip<sup>™</sup> Alligator Clips
- Soft case



#### TLK282 SureGrip<sup>™</sup> Deluxe Automotive **Test Lead Kit**

This kit includes everything in the TLK281 Kit plus a few extras. The back probe pins slide past weather-pack connectors on fuel injectors TPS and MAP sensors. A hook probe with plunger actuation allows quick connection to pins or exposed conductors. Rated to 60 V dc. Kit includes:

- TP81 Insulation Piercing Clip Set

- AC220 SureGrip<sup>™</sup> Alligator Clips
- AC285 SureGrip<sup>™</sup> Alligator Clips
- AC280 SureGrip<sup>™</sup> Hook Clips
- Soft case

## **TP40 Automotive Back Probe Pins**

Flexible and formable 31-75 mm pins provide an easy connection past weatherpack seals to connector conductors. These five pins are a must-have for fuel injectors, TPS, and MAP sensors, as well as for any under-hood or under-vehicle connector with weather-pack seals.

- 4 mm banana jack accepts digital
- multimeter and banana jack leads Easily connects to modular leads
- Bated to 60 V DC

Accessories









• TL224 SureGrip<sup>™</sup> Insulated Test Leads TP220 SureGrip<sup>™</sup> Industrial Test Probes



• TP40 Automotive Back Probe Pins (five) • TL224 SureGrip<sup>™</sup> Insulated Test Leads TP220 SureGrip<sup>™</sup> Industrial Test Probes





#### **TP81/TP82 Insulation Piercing Clip** Set

Two stainless steel probes (red, black) pierce insulation on 14, 16 and 18 gauge wire. Needle depth can be controlled to minimise insulation damage. Essential for use under hood or under dash. Can be used on fuel injectors or sensors while providing complete insulation to grounding. Probe connects to a banana jack that accepts all digital multimeter and banana jack leads (such as the TL224 SureGrip<sup>™</sup> Insulated Test Leads).

- TP81 has non-rotating 4 mm banana jack to prevent leads from tangling
- Rated to 60 V dc
- TP82 is for use with test leads with 2 mm probes



#### **TP88 Rigid Back Probe Pins**

Better than a test probe alone, these rigid back probe pins easily pass between a weather-pack seal and wire. A sharp point ensures good contact to the electrical connector, and insulation protects the pin from shorting to other wires. Rated to 60 V

- Slides onto 2 mm test probes
- Probe length: 51 mm



#### **RPM80 Inductive Pick-Up/External** Trigger

- Provides RPM measurement capability when clipped on spark plug wire
- For use with Fluke 88 Series and 78 Series Digital Multimeters.



# RTABLE OSCILLOSCOPE ACCESSORIES

ompatibility Chart	120B Series	190 Series III
oltage probes		
PS41 Voltage Probe Set 10:1, 40 MHz, BI (Black)	•	
PS410-II-X Ind. Voltage Probe 10:1, 500 MHz, × = B (Blue), G (Grey), R (Red) or V (Green)		•
PS421-X High working voltage ruggedized probe set, 100:1, 50 MHz, x= B (Blue), G (Grey), R (Red) or V (Green)		•
PS210-X Voltage Probes, 200 MHz, R (Red), G (Grey)		
TL12O-IV Shielded Test Lead Set 1:1, B (Blue) & R (Red)	•	
robe accessories		
S400 Probe Accessory Extension Set 1		•
S400 Probe Accessory Replacement Set for VPS400 Series Voltage Probes		•
S500 Probe Accessory Replacement Set for VPS510 Series Voltage Probes		•
C current clamps	I	
3000s AC Current Clamp	•*	•
3000s Flex-24/36 AC Current Clamp, 610 mm (24 in. and 36 in.)	•*	•
000s AC Current Probe	•*	•
100s AC Current Clamp	•*	•
200s AC Current Clamp	•*	•
is AC Current Clamp	•*	•
C/DC Current Clamps	I	I
0i-110s AC/DC Current Clamp	•*	•
010 AC/DC Current Clamp	•	•
10 AC/DC Current Clamp	•	•
30s AC/DC Current Clamp	•*	•
utomotive		
CC128 Automotive Troubleshooting Kit for 120 Series	•	
CC198 Automotive Troubleshooting Kit for 190 Series		
CC298 Automotive Troubleshooting Kit for Fluke 190 Series II		•
est Lead Accessories		
L175 TwistGuard™ Test Leads	•	•
ables and Adapters		
M9091 50 $\Omega$ Coaxial BNC Cable Set (3 × 1.5 m)		•
M9092 50 $\Omega$ Coaxial BNC Cable Set (3 × 0.5 m),		•
M9093 Male BNC to Dual Female BNC Adapter, CAT III 600 V		•
M9081 Dual Banana Plug (Male) to Female BNC Adapter, CAT III 600 V		•
M9082 Dual Banana Jack (Female) to Male BNC Adapter, CAT III 600 V		•
B120–II Shielded Banana to Female BNC Adapter*	•	
RM50 Coaxial Feed-through BNC Male to BNC Female Cable Terminator		•
üscellanous		
00-IV Current Shunt		
BC290 External Battery Charger for BP290 and BP291	•	•
C190/830 Mains Adapter/Battery Charger		•
C430/820 Mains Adapter/Battery Charger	•	
P190 Rechargeable NiMH Battery Pack		•
P290 Li-ion Battery Pack, 2400 mAh	•	•
P291 Li-ion Battery Pack, 4800 mAh		•
C4USB USB Interface Cable	•	•
HT190 Break-Out Adapters for Industrial Bus Connections	125B only	
H290 Hanging Hook for ScopeMeter® 190-Series II		•

\* "s" version clamps require BB120-II Adapter when used with the Fluke 120B Series

# **Cases, Holsters and Hangers**



#### VPS421-X High Working Voltage **Ruggedized Probe**

- Set includes: VPS421-X 100:1, 150MHz
- X = Red, Blue, Grey or Green
- 100:1 Voltage Probe, with safety shrouded 4 mm tip 1 red / black
- Hook Clip for 4 mm shrouded Probe Tip (black)
- Reference Lead with 4 mm Banana Plug (black)
- Alligator Clip for 4 mm Banana Plug (2 black)
- Test Probe for 4 mm Banana Plug (black)



## **AS400 Probe Accessory Extension Set**

- For VPS400 Series Probes
- CAT III 1000 V/CAT IV 600 V
- Reference lead w/ 4 mm plug (Blk) 60 cm
- Reference lead with hook clip (Blk) 22 cm
- Large jaw probe clip (black)
- CAT II 1000 V

Probes

- 2 mm test probe for probe tip (1×, black)
- 4 mm test probe for probe tip (1×, black)
  - Max signal voltage: 300 V • Max voltage to ground:

BNC connectors

• Length: 0.5 m each

Impedance: 50 Ω

Rated for 3 A max

BNC connectors

• Length: 1.5 m each Impedance: 50 Ω

IEC 61010-031

CAT III 600 V per IEC 61010-031



#### BNC (female) in T model (6)

Color: 2× black

IEC 61010-031

Banana Jack

- 1 × Probe hook clip (black) 61010-031
- Ground lead w/ mini alligator clip • 2× Insulation sleeve (black)

For VPS400 Series Probes and VPS210 Series

• 30 V

• CAT III 1000 V/CAT IV 600 V

**RS400 Probe Replacement Set** 

• 2× Ground spring (black)



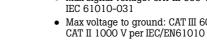
For VPS510 Series Probes

- CAT II 300 V
- 1 × hook clip (black)
- 1× ground lead with mini alligator clip
- 2× insulation sleeves for probe's
- ground contact (black)
- 30 V
- 1× insulated mini screwdriver, for probe
- Banana Jack • Color: 2× red, 2× black
  - Max signal voltage: CAT III
  - 600 V per IEC 61010-031 • Max voltage to ground: CAT III 600 V /
  - CAT II 1000 V per IEC/EN61010



- 1 × BNC to probe tip adapter (black)
- 2× ground browsers (black)
- adjustment purposes









Accessories



**TP920 Test Probe Adapter Set** Suited for STL120 Test Leads (STL120-III, not compatible), TL71, TL75 & TL76 Test Leads



#### PM9091 Set of 3× Coaxial Cables with

• Color: 2× Red, 2× Black, 2× Grey • Max signal voltage: 300 Vrms • Max voltage to ground: CAT III 600 V per



#### **PM9092 Set of Coaxial Cables with**

• Color: 1 × red, 1 × black, 1 × grey



# PM9093 Adapter BNC (male) to Dual

• Max signal voltage: CAT III 300 V per IEC

• Max voltage to ground: CAT III 600 V per



#### PM9081 Adapter BNC (female) to Dual

• Color: 2× red, 2× black • Max signal voltage: CAT III 600 Vrms per

• Max voltage to ground: CAT III 600 V /



#### PM9082 Adapter BNC (male) to Dual



#### **HC120 Hook Clips**

- Color: 1 × red, 1 × grey
- Max voltage: CAT III 600 V per
- IEC 61010-031 Nickel plated steel



#### **BB120-II Adapter BNC (female) to** Shielded Banana Jack

- Set of 2
- Max signal voltage: CAT III 300 V per IEC 61010-031
- Max voltage to ground: CAT III 600 V per IEC 61010-031



#### **TRM50 Coaxial Feed-through** BNC (Male) to BNC (female) Cable Terminator

- Set of 2
- Impedance: 50 Ω
- Max voltage over ground: CAT III 1000 V
- Max power 1 W



#### **BHT190 Bus Health Test Break-out Adapter Set**

- Board with M12 connectors (male to female, 5 pins)
- DB-9 connectors (male to female, 9 pins + shield)
- RJ-45 connector, with short patch cable providing male to female interconnection (8 pins)



#### **EBC290 External Charger**

- For Fluke 120B and 190 Series II and Series III ScopeMeter® Oscilloscope
- Charging time (BP291): five hours, giving an operating time of up to seven hours
- DC input voltage: 15 V to 23 V, 714 mA nom. (DC input from BC190: 17.8 V / 0.84 A max)
- Power supply not included





# POWER QUALITY ACCESSORIES

Fluke Model Number	i3000 Flex 4PK	i400s	i430-FLEXI-TF-II	i5sPQ3	3210-PR -TF-II
Description	4 phase 3000 A Flexible current clamp set	Single phase 400 A current clamp (4 required)	4 phase 3000 A Flexible current clamp set	3 phase 5 A Current clamp set	1000 A Single phase flexible current clamp
Fluke 1750					•
Fluke 43X -II	•	•	•	•	
Nominal current range(s)	30 A 300 A 3000 A	40 A 400 A	3000 A	5 A	1000 A
Cont. AC current range	1 A 30 A 1 A 300 A 1 A 2400 A	0.5 A 40 A 5 A 400 A	30 A 3000 A	0.01 A 6 A	0.5 A 1000 A
Highest current	4000 A	1000 A	100 kA	70 A	1000 A
Lowest measurable current	1 A	0.5 A	30 A	10 mA	0.5 A
Basic accuracy (48 65 Hz) <sup>1</sup>	2% + 2 A	2% + 0.15 A	1%	1%	±1% of reading
Usable frequency	10 Hz 100 kHz	45 Hz 3 kHz	10 Hz 7 kHz	40 Hz 5 kHz	40 Hz 5 kHz
Flex head length		Clamp opening: 32 mm	61 cm	Clamp opening: 15 mm	61 cm
Output level(s)	10 mV/A 1 mV/A 0.1 mV/A	10 mV/A 1 mV/A	0.08 mV/A @50 Hz	400 mV/A	2 mV/A
Output cable (m)	2.1	2.5	2.5	2.5	3
Safety rating	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V

1 Basic accuracy: % reading plus floorspec. n/a = not applicable

Fluke Model Number	Fluke i17XX- Flex 1500A 12 IN	Fluke i17XX- Flex 3000A 24 IN	Fluke i17XX- Flex 6000A 36 IN	Fluke i17XX i40s-EL Clamp- On Current Transformer	Fluke i17XX- Flex 1500A 12 IN	Fluke i17XX- Flex 3000A 24 IN	Fluke i17XX- Flex 6000A 36 IN
Description	1500 A Single phase flexible current clamp IP50	3000 A Single phase flexible current clamp IP50	6000 A Single phase flexible current clamp IP50	4/40 A Current clamp (3 required)	1500 A Single phase flexible current clamp IP65	3000 A Single phase flexible current clamp IP65	6000 A Single phase flexible current clamp IP65
Fluke 1742/46/48				•	•	•	•
Fluke 1732/34/36/38	•	•	•	•			
Nominal current range(s)	1 A to 150 A, 10 A to 1500 A	3 A to 300 A, 30 A to 3000 A	6 A to 600 A, 60 A to 6000 A	40 mA to 4 A, 0.4 A to 40 A	1 A to 150 A, 10 A to 1500 A	3 A to 300 A, 30 A to 3000 A	6 A to 600 A, 60 A to 6000 A
Cont. AC current range	1 A 150 A 10 A to 1500 A	1 A 300 A 10 A 3000 A	1 A 600 A 10 A 6000 A	1 A 150 A 10 A 1500 A	1 A 150 A 10 A to 1500 A	1 A 300 A 10 A 3000 A	1 A 600 A 10 A 6000 A
Highest current	1500 A	3000 A	6000 A	200 A	1500 A	3000 A	6000 A
Lowest measurable current	1 A	3 A	6 A	0.04 A	1 A	3 A	6 A
Basic accuracy (48 to 65 Hz) $^1$	0.70%	0.70%	0.70%	0.50%	0.70%	0.70%	0.70%
Usable frequency	40 Hz to 5 kHz	40 Hz to 5 kHz	40 Hz to 5 kHz	40 Hz to 5 kHz			
Flex head length	30.5 cm (12 in)	61 cm (24 in)	122 cm (48 in)	n/a	30.5 cm (12 in)	61 cm (24 in)	122 cm (48 in)
Output level(s)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Output cable (m)	2	2	2	2	2	2	2
Safety rating	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V			

1 Basic accuracy: % reading plus floorspec. n/a = not applicable

# **Power Quality Accessories**

## Fluke 430 Series-II



- 6000 A current range
- 61 cm (24 in) length
- Available in single and 4 pack





## i400s AC Current Clamp

for digital multimeters

- 400 A AC current range • 32 mm (1.25 in) jaw size
- Optional PM9081/001 Dual Banana Plug Male to Female BNC Adapter is available



## I5SPQ3 5 A Current Clamp, 3 pack

## • 5 A AC Current Clamp for

430 Series-II • 15 mm (0.6 in) jaw size



#### **TLS430 Test Lead and Alligator Clip** Set

- Test lead replacement set for the 430 Series-II
- Set includes five test leads and five alligator clips (4 black, 1 green)



#### WC100 Color Coding Clips and **Regional Decals**

Cable markers for 3-phase +N leads



## C1740 SOFT CASE

Soft Case with compartments and shoulder strap for 430 Series II



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## **3PHVL Voltage Cable Assembly**

the 1740 Series only.

1740

pack

• Flat, four wire cable



Accessories



C437-II Hard Case

**BP290 Battery** 

**BP291 Battery** 

Battery Pack

Black waterproof case with wheels



430 Series-II Replacement Battery Pack



430 Series-II Double Capacity Replacement



BC430/820 Battery Charger Battery Charger for 430 Series II

## Fluke 1730 & 1740 Series



## I17XX-FLEX iFlex™ Current Clamps

• iFlex<sup>™</sup> probes connect directly to the 173X Energy or Power Logger, displaying current measurements without error, prone scaling factors

• Fluke 17XX iFlex<sup>™</sup> cables are available in 30.5, 61, and 91.5 cm

(12, 24, and 36 in) models • Available to order in single, three, or four



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## **I17XX-FLEX IP65 Current Probes** IP65 rating is obtained when connected to

• 1.5 kA 61 cm (24 in) length • 3 kA 61 cm (24 in) length • 6 kA 122 cm (48 in) length • Available in single, 3 and 4 packs



• Voltage Measurement Lead Set for 1730 &



#### 17XX i40s-EL Clamp-on Current Transformers

- Suitable for making measurements up to 40 A, and also measures accurately on 1 A and 5 A secondary current transformers
- The i40s-EL jaw is capable of being clamped on current conductors up to 15mm in diameter



#### MP1-Magnet Probe 1

Magnetic probe tips for voltage test leads with 4 mm banana connectors.



#### MP1-3R/1B Magnetic Voltage Probes

3 Red/1 Black Magnet Probes for 4 mm Banana



### I17XX-FLEX5M-EXT

Fluke 17XX IFLEXI Extension Cable 5 m



## FLUKE-17XX-TL 0.2M Test Lead Set

- CAT III 1000 V, Non-Stack Conn;
- Available in:0.2 m; Red/Blk



### Fluke 1730-HANGER STRAP

Two piece hanging kit for the Fluke 173X Energy or Power Logger.



#### FLUKE-174X-HANGER

Hanger Kit includes strap and magnetic hanger used with 174X Series.



Accessories

# **Power Quality Accessories**



FLUKE-174X GPS-REC GPS Receiver Antenna



**F17XX CABLE MARKERS** Cable Marker Kit for 173X, 174X and 177x Series



BP1730-BATTERY 173X & 174X Series Replacement Battery Pack



### 1730-CABLE Auxiliary Input Cable

- Input -10 V to +10 V DC
- Binder to BNC connecting cable



17XX AUX Auxiliary input adapter for 1740 Series

# Fluke 1750/ET



61 cm (24 in) 1000 A AC Current Range • 61 cm (24 in) length, 20 cm (7.8 in) diameter



#### 3310-PR-TF-II 1000 A Thin FLEXI 61 cm (24 in)

5000 A AC Current Range • 61 cm (24 in) length, 20 cm (7.8 in) diameter



#### 3312-PR-TF-II 1000 A Thin FLEXI 122 cm (48in)

5000 A AC Current Range • 122 cm (48 in) length, 38 cm (15 in)



#### I5S-PR 1750, 5 A Current Clamp

5 A AC current range • 15 mm (0.6 in) jaw size



#### 140S-PR 1750. 40 A CURRENT CLAMP

- 40 A AC Current Range
- 15 mm (0.6 in) jaw size



#### **3140R AC CURRENT CLAMP** 4000 A AC Current Range

#### 80I-2010S/3PK Current Clamp

• 3 pack. Measure up to 2000 A AC and/ or DC on large conductors with 0.8% accuracy.



1750/CASE Transit Case Rugged-hard water tight transit case with rollers



#### **TPS FLEX 24-TF-II Thin Flexible Current Probe**

200 A/1000 A AC current range • 61 cm (24 in) length, 20 cm (7.8 in) diameter



#### **TPS FLEX 36-TF-II Thin Flexible Current Probe**

3000 A/6000 A AC current range • 91 cm (36 in) length, 29 cm (11.4 in) diameter



#### TPS Clamp 10 A/1 A Clip-on Current Transformer

- Three 15 mm (0.6 in) options available • TPS Clamp 10 A/1 A Clip-on Current
- Transformer 1 A/10 Å AC • TPS Clamp 200 A/20 A Clip-on Current Transformer – 20 A/200 A AC
- TPS Clamp 50 A/5 A Clip-on Current Transformer - 5 A/50 A AC

#### Fluke NORMA 6000



## 80I-2010S Current Clamp

- Measure up to 2000 A AC and/or DC on large conductors with 0.8% accuracy
- 81.5 mm (3.2 in) jaw opening



## Fluke 805 FC Vibration Meter



#### **805ES External Sensor Assembly**

External vibration sensor that is ideal in situations where it is either difficult or impractical to use the onboard vibration sensor tip of the 805 Vibration Meter

- Low-profile 90-degree sensor body allows the sensor to get into tight spots • Rugged, coiled cable minimizes dangling,
- while stretching to more than 2.1 m (7 ft) when needed
- Powerful "U" shaped magnet mount creates a firm connection to flat, or curved measurement surfaces

#### Fluke 810 Vibration Tester



#### **810QDC Quick Disconnect Cable**

2.4 m (8 ft) quick-disconnect cable connects the triaxial vibration sensor



#### 810SC-20 Sensor Cable

6.1 m (20 ft) cable connects the triaxial vibration sensor to the Fluke 810 Vibration Tester



#### **810S Triaxial Vibration Sensor**

Triaxial vibration sensor captures vibration data in all three primary axes simultaneously for faster, more accurate data collection



#### **810SMM Sensor Magnetic Mounts**

- High-power magnet attaches firmly to motors and machinery
- Parallel magnet tips engage both flat and cylindrical surfaces





#### 810T Tachometer

- Noncontact tachometer for use with the Fluke 810 Vibration Tester: to measure the speed of motors; conveyor belts; and other moving and rotational systems • Measures from 6 to 99 999 rpm with
- accuracy to +/-0.05% • Takes noncontact measurements using a laser beam that works at a distance of 1
- to 100 cm for user safety • Integral 50 cm cable connects the tachometer to the vibration tester for



#### 810PA AC Power Adapter AC power adapter with international plug set

conditions









## Fluke 830 Laser Alignment





power and measurement data recording



Lithium-ion battery pack provides eight hours of runtime under normal operating

#### **830/SHIMS Precision Alignment Shim** Kit

- Stainless steel precut shims are more accurate and designed to speed up the alignment job, when even minutes of downtime count.
- Burr-free for higher accuracy in alignment
- Time-saving permanent thickness/
- dimension marking
- Reusable, corrosion-resistant high-quality stainless steel
- Two machine foot sizes and eight thicknesses that fit almost all machine feet



# PROCESS CALIBRATION ACCESSORIES

71X, Hose Kit

female adapter

**700ILF In-line Filter** 



#### **700PTPK2 Pneumatic Test Kit**

- Combine with any Fluke 700G Series Gauge, 1000 psi (69 bar) or less, to make a complete pressure testing kit
- · Generate pressure up to 600 psi, 40 bar with the 700PTP-1 test pump
- Connect the 700G Series gauge directly to the included PTP-1 hand pump



#### **700HTPK/2 Hydraulic Test Kit**

- Combine with any Fluke-700G Series Gauge, 1000 psi (69 bar) range or greater, to make a complete pressure testing kit
- Generate pressure up to 10000 psi, 690 bar with the included 700HTP-2 test pump
- Connect the 700G Series gauge directly to the HTP-2 hand pump



#### **700LTP-1 Low Pressure Test Pump**

- Hand-operated pressure pump designed to generate either vacuum to -13 psi / -0.90 bar or pressure to 100 psi / 6.9 bar
- · Has two pressure ports with quick fit connectors
- For use with Fluke 750 Series Pressure Modules and Fluke 717 Pressure Calibrators



#### **700PTP-1 Pneumatic Test Pump**

A handheld pressure pump designed to generate either vacuum to -11.6 psi/-0.8 bar or pressure to 600 psi/40 bar



#### **700HTP-2 Hydraulic Test Pump**

- Generate pressure up to 10000 psi/700bar
- Use the Fluke 700PRV adjustable relief valves to limit pressure from 1360 psi to 5450 psi



## **71XTrap Liquid and Dirt Trap**

• Works with pressure up to 500 psi • Designed to work with the Fluke 718 and 719PR0

• Compatible with Fluke 717 and 718

• Kit contains three translucent hoses (1 m

Can be used to isolate the calibrator from

incidental contact with fluids

**700HTH-1 Hydraulic Test Hose** 

**700PMP Pressure Pump** 

• Output fitting is 1/8 FNPT

(O)

hose

sheath

• 10000 psi, 690 bar working pressure test

• Useful with the 718 Fluke calibrator to help keep moisture or oils from contaminating the on-board pump

long) and one 1/8 to 1/4 NPT female-

calibrators 100 psi and below

- test hose kit for connection to 1/4" female metric/BSP • 5000 psi rating
- Includes 6 mm (1/4 in) NPT connection for permanent mount to a calibrator or test pump

• Easy to use premium pressure transmitter



#### Fluke-700TTH10K Premium Test Hose Kit

- · Easy to use premium pressure transmitter test hose kit for use with female M20 connections
- 6 mm (1/4 in) NPT
- Includes: One (1) 10000 psi rated, premium test hose; Premium, no tools required M20 adapter



#### **700-IV Current Shunt**

- Conversion factor: 10 mV = 1 mA
- Accuracy (% of input, one-year): 0.02%
- Input current: 0 mA to 55 mA
- Input resistance: 250 Ω nominal
- Output resistance: 10 Ω nominal

# **700PRV Pressure Relief Valve Kit**

- · Consists of a relief valve settable from 725 to 5800 PSI (50 to 200 bar) to be used
- with the 700HTP-1 Hydraulic Test Pump • The 3 mm (1/8 in) NPT male thread to fit
- directly into the Fluke 700HTP-1 Pressure Pump

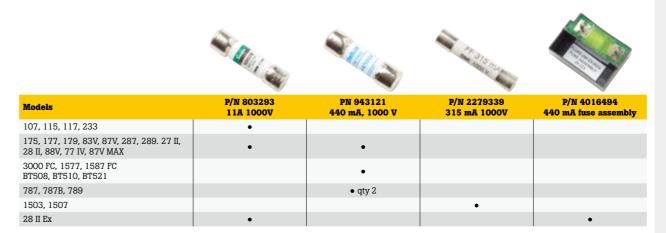
#### **BP7235 NiMH Battery Pack**

- 7.2V 3500 mAh rechargeable NiMH
- Provides typical 16-hour battery life when used in 700 or 740 Calibrator

#### **BP7240 Li-Ion Battery Pack**

• Battery pack for Fluke 75X Documenting Process Calibrators







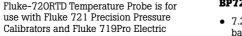
**720URTDA Universal RTD Adapter** 

Fluke Universal RTD Adapter 720URTDA for

Fluke 719Pro Electric Pressure Calibrators

Fluke 721 Precision Pressure Calibrators and

• Provides pressure up to 150 psi/1000 kPa



- Pressure Calibrators • 10 inch (254 mm) insertion depth with 1/4 inch (6.3 mm) diameter stainless steel
  - $(5.9 \times 2.2 \times 0.8 \text{ in})$

# battery pack

• Dimensions: 150 × 56 × 22 mm • Weight: 310 g (11 oz)





Accessories





Take your Fluke tools even further with the ability to analyze, interrogate remotely, export and create in depth reports on your PC and smart phone via Fluke's extensive software and application library.

Fluke Product Group	Fluke Software	Compatible Fluke Tools	Availability
Industrial imagers and	Fluke Connect™ Desktop	PTi120 400C Pocket Infrared Camera TiS20+/TiS20+ Max/TiS55+/TiS75+/TiS60+ Ti480Pro/TiX580 Infrared Camera	Free download via www.fluke.com
infrared cameras	Fluke SmartView™	Fluke VT06/08 Visual Infrared Thermometers TiS20+/TiS20+ Max/TiS55+/TiS75+/TiS60+ Ti480Pro/TiX580 Infrared Camera	Free download via www.fluke.com
	Fluke Baseline	Ti300/400/400+/450/401PR0/480/480PR0, TiX500/501/580/520/560 vInfrared Cameras	Free download via www.fluke.com
Fluke Connect™	Fluke SW3000FC	Fluke Connect™ Modules, 3000FC DMM, 902FC, 376FC/375FC/374FC Must be used with PC3000FC USB dongle	Free download via www.fluke.com
ScopeMeters™	FlukeView™ for ScopeMeter™	Fluke 190 Series II ScopeMeters™, Fluke 120 Series ScopeMeter™, Fluke 19xB/C Series, Fluke 2x5C Series,	Sold separately
	FlukeView™2 for ScopeMeters™ (Sold as SW90W)	Fluke 190 Series III ScopeMeters™ 120B Series ScopeMeters™ MDA-510/550/550-III Motor Drive Analyzer ScopeMeter™	Sold separately
	Energy Analyze Plus	Fluke 1748/1746/1742, Fluke 1738/1736/1734/1732, 1730 Power & Energy Loggers	Free download via www.fluke.com
Power quality tools	PowerLog 430-II	Fluke 438-II/437-II/435-II/434-II Power Quality Analyzers	Free download via www.fluke.com
1	PowerLog Classic	Fluke 345, VR1710, 1735 and 435/434/433 Power Quality Analyzers	Free download via www.fluke.com
	Power Analyzer Software	Norma 6000 Series	Free download via www.fluke.com
Battery testers	Battery Management Software	Fluke BT521/BT5210/BT510 Battery Testers	Free download via www.fluke.com
	DPC/TRACK2	Fluke 754/753 Documenting Process Calibrators	Sold separately
Process calibration tools	709H/Track HART™ Communications Software	Fluke 709/H Precision Loop Calibrator with HART	Sold separately
	700G/Track	Fluke 700G Pressure Gauges (with Interface Cable)	Sold separately
Vibration and alignment	Viewer Software	Fluke 810 Vibration Tester	Free download via www.fluke.com
	FlukeView <sup>™</sup> Forms Basic FVF-SC5 (no cables included)	Software only, no cable (for all instruments listed below)	
	FlukeView™ Forms Basic FVF-BASIC (with USB/IR cable)	Fluke 289/287 Multimeters, 789/787B ProcessMeters™, 1555/1550B Insulation Resistance Testers, 180 Series Meters	
General meters and testers	FlukeView <sup>™</sup> Forms plus Designer FVF-SC2 (with USB/IR cable)	Fluke 1664FC/1663/1662, 1654B/1653B/1653/1652C Multifunction Installation Testers, Fluke 55-II B/53-II B Thermometers	Sold separately
	FlukeView™ Forms plus Designer FVF-SC4 (with USB/Serial cable)	Fluke 8846A, 8845A, 8808A, 45 Bench Digital Multimeters	
	FlukeView™ Forms plus Designer FVF-UG	Software only upgrade, from FlukeView™ Forms Basic to FlukeView™ Forms plus Designer	
Solar data management	Fluke TruTest™ Solar Data Management and Reporting Software	Fluke SMFT-1000 Multifunction PV Tester and Performance Analyzer	Sold separately www.fluke.com



# Multimeter Kits



#### Fluke 279 FC/iFlex™ TRMS Thermal **Multimeter Combo Kit**

- 279 FC TRMS Thermal Multimeter
- 45.72 cm (18 in) iFlex<sup>™</sup> Flexible
- Current Probe • TL175 Test Leads
- Rechargeable Lithium-ion Battery and Charger
- Hanging Strap
- Soft Carrying Case



#### Fluke 287/289 FlukeView<sup>™</sup> Forms Combo Kit

- Fluke 287/289 True-RMS Electronics Logging Multimeter • FlukeView<sup>™</sup> Forms Software and Cable
- 80BK-A Thermocouple Probe
- TL224 Test Leads with 175 Modular Probe
- Tips
- AC175 Alligator Clips
- TL71 Probe Caps
- C280 Soft Case



#### Fluke 287/289 FlukeView™ Forms **Combo/ with IR Connector**

- Fluke 287/289 True-RMS Industrial Logging Multimeter
- FlukeView<sup>™</sup> Forms Software with Cable
- 80BK-A Thermocouple Probe
- TL71 Silicone Test Lead Set
- AC175 Alligator Clips
- TPAK Magnetic Hanging Kit
- C280 Soft Case
- Fluke IR 3000FC Connector
- AMP Jack Plugset



#### Fluke 87V/E2 Industrial Electrician Combo Kit

- Fluke 87V True-RMS Industrial Multimeter
- TL224 Silicone Test Leads
- AC220 Alligator Clips
- TP238 Test Probes
- TPAK Magnetic Hanging Kit
- 80BK-A Thermocouple Probe
- C35 Soft Meter Case

Fluke Kits

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#### Fluke 87V Industrial Multimeter **Service Kit**

- Fluke 87V Industrial Multimeter
- Fluke i400 400 A AC Current Clamp
- 80BK-A Temperature Probe
- TL75 Test Lead Set
- AC175 Alligator Clip Set



#### Fluke 87V MAX Electrician Combo Kit

- Fluke 87V MAX True-RMS Digital Multimeter
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- AC220 SureGrip<sup>™</sup> Alligator Clips
- TL238 SureGrip<sup>™</sup> Test Probes
- ToolPak<sup>™</sup> Magnetic Meter Hanging Kit
- 80BK-A Temperature Probe
- C35 Soft Carrying Case



#### Fluke 88V/A Automotive Multimeter Combo Kit

- Fluke 88V Automotive Multimeter
- TL224 Silicone Test Leads
- AC285 Alligator Clips
- TP220 Test Probes
- RPM 80 Inductive RPM
- TPAK ToolPak<sup>™</sup> Magnetic Meter Hanging Kit
- 80BK-A Thermocouple Probe
- Ti10 Soft Carrying Case
- Holster
- 9V Battery (installed)
- Two Automotive Back Probe Pins
- Insulation Piercing Probe



#### Fluke 116/323 HVAC Combo Kit

- Fluke 116 HVAC Multimeter
- Fluke 323 Clamp Meter
- TL175 Test Lead Set
- TPAK Magnetic Hanging Kit
- 80PK-1 Bead Probe
- 80AK-A Thermocouple Adapter • 80PK-1 Flexible Cuff Pipe Clamp
  - Thermocouple • C115 Deluxe Soft Carrying Case with
  - Shoulder Strap



- Fluke 116 HVAC Multimeter
- Fluke 62 MAX+ Infrared Thermometer
- TL175 Test Lead Set
- TPAK Magnetic Hanging Kit
- 80BK-A Thermocouple Probe
- 80AK-A Thermocouple Adapter
- 80PK-11 Flexible Cuff Pipe Clam Thermocouple
- C115 Deluxe Soft Carrying Case with Shoulder Strap



#### Fluke 117/323 Electricians' Multimeter Combo Kit

- Fluke 117 True-RMS Multimeter
- Fluke 323 Clamp Meter
- TL175 Test Lead Set
- TPAK Magnetic Hanging Kit
- C115 Deluxe Soft Carrying Case with Shoulder Strap



#### Fluke 179/EDA2 Industrial **Electronics Combo Kit**

- Fluke 179 Multimeter
- 80BK-A Integrated DMM Temperature Probe

• TL224 SureGrip™ Insulated Test Leads

TPAK ToolPak<sup>™</sup> Magnetic Meter Hanger

Fluke 179 Industrial Multimeter

• Fluke 179 True-RMS Multimeter

• Fluke 323 True-RMS Camp Meter

Fluke 289 Industrial Multimeter

• Fluke 289 True-RMS Multimeter

• AC175 Alligator Clip Set

• Fluke i400 400 A AC Current Clamp

TL71 Flexible Silicone Test Lead Kit

80BK-A Temperature Probe

• TL75 Test Lead Set

AC175 Alligator Clip Set

TL910 Electronic Test Probes

 Installed 9V Battery • AC280 SureGrip<sup>™</sup> Hook Clips

Soft Carry Case

Service Kit

Service Kit





**Multimeter Kits** 

System

Fluke 3000 FC General Maintenance

• Fluke 3000 FC Series Wireless Multimeter

• Fluke v3000 Voltage Module

• Fluke v3001 Voltage Module

Magnetic Hanging Strap (3)

Fluke a3001 FC Wireless iFlex<sup>™</sup> AC

AC285, AC220, AC175 Alligator Clips

• Fluke Connect<sup>™</sup> Wireless PC Adapter

Fluke 3000 FC Industrial System

• Fluke v3000 Voltage Module

• iFlex<sup>™</sup> i2500-10 Flexible Current

Fluke Connect<sup>™</sup> Wireless PC Adapter

Modular 3-Compartment Soft Carry Case

Fluke 3000 FC Series Wireless Multimeter

• Fluke t3000 Thermocouple Thermometer

• 80PK-1 K-Type Bead Thermocouple

• Fluke Connect<sup>™</sup> Wireless PC Adapter

Fluke 3000 FC/1AC-II Wireless

• Fluke 3000 FC Series Multimeter

• Fluke 1AC-II VoltAlert<sup>™</sup> Tester

• TP175 Industrial Test Probes

TPAK Magnetic Hanging Kit

Multimeter and Non-Contact Voltage

• Modular 3-Compartment Soft Carry Case

• Magnetic Hanging Strap (4)

Fluke 3000 FC HVAC System

• Fluke a3000 FC Wireless AC

• TL175 Test Leads

Detector Kit

TL224 Test Leads

AC220 Alligator Clips

C35 Soft Meter Case

AC175 Alligator Clips

Magnetic Hanging Strap

TL224 Test Leads

• TL175 Test Leads

Probe (3)

AC285 Alligator Clips

AC175 Alligator Clips

• Fluke 3000 FC Series Wireless Multimeter

Fluke a3001 FC Wireless iFlex<sup>™</sup> AC (3)

• iFlex<sup>™</sup> i2500-10 Flexible Current Probe

• Modular 3-Compartment Soft Carry Case

• TL224, TL222, TL175 Test Leads

• Fluke 3000 FC Series Wireless

Combo Kit

Multimeter

• TL75 Test Leads

C35 Soft Meter Case

C35 Soft Meter Case

**Clamp Kit** 

Clamp Module

TL175 Test Leads

Current Clamp Kit

Current Module

• TL175 Test Leads

Carry Case

AC175 Alligator Clips

Carry Case

AC175 Alligator Clips

TPAK Magnetic Hanging Kit



Fluke 3000FC/EDA2 Combo Kit • 3000 FC Series Wireless Multimeter • TL910 Electronic Test Probes TL224 Silicone Test Leads

AC280 Heavy Duty Hook Clips

ToolPak<sup>™</sup> Magnetic Hanging Kit



#### Fluke a3000 FC Wireless AC Current

• Fluke 3000 FC Series Wireless Multimeter • Fluke a3000 FC Wireless AC Current

Modular 3-Compartment Soft



Fluke a3001 FC Wireless iFlex<sup>™</sup> AC

• Fluke 3000 FC Series Wireless Multimeter • Fluke a3001 FC Wireless iFlex<sup>™</sup> AC

 iFlex<sup>™</sup> i2500-10 Flexible Current Probe Magnetic Hanging Strap Modular 3-Compartment Soft





#### Fluke Wireless t3000 FC Temperature Kit

- Fluke 3000 FC Series Wireless Multimeter
- Fluke t3000 K-Type Thermocouple
- Thermometer
- TL175 Test Leads
- AC175 Alligator Clips
- 80PK-1 K-Type Bead Thermocouple
- Other K-Type Temperature Probes also available
- Magnetic Hanging Strap
- Modular 3-Compartment Soft Carry Case



#### Fluke Wireless v3000 FC AC Voltage Kit

- Fluke 3000 FC Series Wireless Multimeter
- Fluke v3000 AC Voltage Module
- TL175 Test Leads
- TL224 Test Leads
- AC175 Alligator Clips
- AC285 Alligator Clips
- Magnetic Hanging Strap
- Modular 3-Compartment Carry Case



#### Fluke Wireless v3001 FC DC Voltage Kit

- Fluke 3000 FC Series Wireless Multimeter
- Fluke v3001 DC Voltage Module
- TL175 Test Leads
- TL222 Test Leads
- AC175 Alligator Clips
- AC220 Alligator Clips
- Magnetic Hanging Strap
- Modular 3-Compartment Soft Carry Case



#### Fluke v3003 FC Wireless AC-DC **Voltage Measurement Kit**

- Fluke 3000 FC Series Wireless Multimeter
- Fluke v3000 AC Voltage Module
- Fluke v3001 DC Voltage Module
- TL175 Test Leads
- TL222 Test Leads
- TL224 Test Leads
- AC175 Alligator Clips AC285 Alligator Clips AC220 Alligator Clips
- Magnetic Hanging Straps (2)
- Modular 3-Compartment Soft Carry Case



# **Tester Kits**

### **Renewable Energy Tester Kits**

#### SOLAR:

Fluke 393 FC Clamp Meter and MC4 Test Leads Bundle Fluke 393 FC Clamp, IRR1 Irradiance Meter MC4 Test Leads Bundle Fluke 87V MAX DMM and PVLEAD1 **MC4 Test Leads Bundle** 

#### **Electric Vehicle Charging Test Kits**

#### FLK-FEV300/TY1 KIT

- Fluke FEV300 EV Charging Station Test Adapter
- Type 1 Connector Plug (SAE J1772) • Fluke 87V Digital Multimeter
- Fluke TL224 Test Leads

#### FLK-FEV300/TY1 KIT2

- Fluke FEV300 EV Charging Station Test Adapter
- Type 1 Connector Plug (SAE J1772)
- Fluke 125B ScopeMeter®
- Fluke 87V Digital Multimeter
- Fluke TL224 Test Leads

#### **Electrical Tester Kits**



#### Fluke T6-1000/PRV240FS Kit

- Fluke T6-1000 Electrical Tester • Fluke PRV240FS Proving Unit with FieldSense™
- C60 Soft Case



#### Fluke T6-HT6-1AC Kit

- Fluke T6-1000 Electrical Tester
- Fluke 1AC-II VoltAlert<sup>™</sup> Tester
- H-T6 Holster



#### Fluke T6-600/62MAX+/1AC Kit

- Fluke T6-600 Electrical Tester
- Fluke 62MAX+ Infrared Thermometer
- Fluke 1AC-II VoltAlert<sup>™</sup> Tester
- C60 Soft Case

## Insulation Tester Kits



#### Fluke 1550C 5 kV Insulation Tester Kit Fluke 1587/i400 Current Clamp FC Kit

- Fluke 1587 FC 2-in-1 Insulation Multimeter
- Fluke i400 Current Clamp
- TP165X Remote Test Probe
- TL224 Test Leads
- AC285 Alligator Clips
- 80BK-A Thermocouple Probe Hard Case



### Fluke 1587 FC Advanced Electrical **Troubleshooting Kit**

#### • Fluke 1587 FC 2-in-1 Insulation Multimeter

- Fluke i400 Current Clamp
- Fluke 62 MAX+ Infrared Thermometer
- TP165X Remote Test Probe
- TL224 Test Leads
- AC285 Alligator Clips
- 80BK-A Thermocouple Probe
- Hard Case



#### Fluke 1587/MDT FC Advanced Motor and Drive Troubleshooting Kit

- Fluke 1587 FC 2-in-1 Insulation Digital Multimeter
- Fluke i400 Current Clamp
- Fluke 9040 Phase Rotation Indicator
- TP165X Remote Test Probe • TL224 Test Leads
- AC285 Alligator Clips
- 80BK-A Thermocouple Probe • Hard Case



Fluke Kits

186



#### 0 Fluke 1550C Insulation Tester Kit w/ ir3000 FC

Fluke 1550C Insulation Resistance Tester

• TL1550B Alligator Clips and Test Lead Set

• TLK1550 Heavy Duty Alligator and Test

● FlukeView<sup>™</sup> Forms Basic CD

• Infrared Adapter to USB Cable

- Fluke 1550C 5 kV Insulation Tester
- Fluke ir3000 FC Connector
- Test cables with alligator clips
- IP67 Hard Case

Lead Set

• IP67 Hard Case

AC Power Cord



#### Fluke 1623-2 GEO Earth Ground **Tester Kit**

- Fluke 1623-2 GEO Earth Ground Tester
- GEOX Probe Cable
- EI-1623 Clamp Set
- 3 Cable Reels
- 4 Earth Ground Stakes
- C1620 Carrying Case



#### Fluke 1625-2 GEO Earth Ground **Tester Kit**

- Fluke 1623-2 GEO Earth Ground Tester
- GEOX Probe Cable
- EI-1623 Clamp Set
- 3 Cable Reels
- 4 Earth Ground Stakes
- C1620 Carrying Case



PLS Laser Level Kits

# PLS 3R/G KIT, 3-Point Red/Green **Green Laser Kit**

• PLS 3R/G Laser Level

Laser Kit

Laser Kit

• PLS 5R/G Laser Level

• PLS BP5 Alkaline Battery Pack

• PLS MLB Magnetic L-Bracket

• PLS Canvas Pouch

PLS FS Floor Stand

Green Laser Kit

Bracket

• PLS 6R/G Laser Level

PLS RBP5 Li-ion Battery Pack

PLS MLB Magnetic L-Bracket

• PLS UB9 Universal Ceiling and Wall

• PLS R/GRT4 Red/Green Reflective Target

PLS 6R/G RBP SYS. Cross Line and

PLS SLD Red/Green Laser Line Detector

• PLS R/GRT4 Red/Green Reflective Target

• PLS UB9 Universal Ceiling and Wall

**Point Red/Green Laser System** 

PLS RBP5 Li-ion Battery Pack

PLS MLB Magnetic L-Bracket

• PLS 6R/G Laser Level

• PLS 60520 SLD Clamp

• PLS FS Floor Stand

PLS Canvas Pouch

Bracket

Power Supply

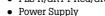
• PLS Canvas Pouch

PLS FS Floor Stand

Power Supply

PLS Pendulum Target

- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS FS Floor Stand
- PLS MLB Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective Target



**Green Laser System** 

PLS Canvas Pouch

Bracket

• Power Supply

Green Laser Kit

PLS Canvas Pouch

Blow Mold Case

**Rotary Laser Kit** 

PLS XLD Clamp

• PLS GR16 Grade Rod

Power Supply

PLS Canvas Pouch

Bracket



• PLS R/GRT4 Red/Green Reflective Target

PLS 6R/G RBP KIT, Cross Line Red/





• PLS 180R/G Laser Level

- PLS RBP5 Li-ion Battery Pack • PLS UB9 Universal Ceiling and Wall
- PLS MLB Magnetic L-Bracket • PLS R/GRT4 Red/Green Reflective Target





#### PLS H2 SYS, Horizontal Red/Green **Rotary Laser System**

- PLS H2 Rotary Laser Level
- PLS BP10 Alkaline Battery Tray
- PLS RBP10 NiMH Rechargeable Battery
- Tray with BC20 Universal Charging Cord
- PLS XLD Rotary Laser Detector
- PLS XLD Clamp
- PLS R/GRT4 Red/Green Reflective Target



#### PLS 180R/G RBP SYS, Cross Line Red/

• PLS 180R/G Laser Level

- PLS RBP5 Li-ion Battery Pack
- PLS SLD Red/Green Laser Line Detector • PLS 60520 SLD Clamp
- PLS UB9 Universal Ceiling and Wall
- PLS MLB Magnetic L-Bracket PLS R/GRT4 Red/Green Reflective Target



• PLS 3x360R/G Laser Level

 PLS RBP5 Li-ion Battery Pack PLS 3x360 Magnetic L-Bracket

PLS R/GRT4 Red/Green Reflective Target



PLS H2 KIT, Horizontal Red/Green

• PLS H2 Rotary Laser Level PLS BP10 Alkaline Battery Tray • PLS RBP10 NiMH Rechargeable Battery Tray with BC20 Universal Charging Cord PLS XLD Rotary Laser Detector

 PLS R/GRT4 Red/Green Reflective Target PLS TPOD500 Elevator Tripod



#### PLS HV2R/G KIT, Manual Slope Red/ **Green Rotary Laser Kit**

- PLS HV2R/G Rotary Laser Level
- PLS BP10 Alkaline Battery Tray
- PLS RBP10 NiMH Rechargeable Battery Tray with BC20 Universal Charging Cord
- PLS RC2 Remote Control
- PLS XLD Rotary Laser Detector
- PLS XLD Clamp
- PLS WCB10 Rotary Wall and Ceiling Mount
- PLS R/GRT4 Red/Green Reflective Target
- PLS TPOD500 Elevator Tripod
- PLS GR16 Grade Rod



#### PLS HV2R/G SYS, Manual Slope Red/ **Green Rotary Laser System**

- PLS HV2R/G Rotary Laser Level
- PLS BP10 Alkaline Battery Trav
- PLS RBP10 NiMH Rechargeable Battery
- Tray with BC20 Universal Charging Cord • PLS RC2 Remote Control
- PLS XLD Rotary Laser Detector
- PLS XLD Clamp
- PLS WCB10 Rotary Wall and Ceiling Mount
- PLS R/GRT4 Red/Green Reflective Target



## **Insulated Hand Tool Kits**



#### Fluke Insulated 7 Unit Screwdriver Kit (IKSC7)

- ISLS3 Insulated Slotted Screwdriver 2.5 mm, 75 mm
- ISLS5 Insulated Slotted Screwdriver 4 mm. 100 mm
- · ISLS8 Insulated Slotted Screwdriver 6 mm, 125 mm
- IPHS1 Insulated Phillips Screwdriver #1, 75 mm
- IPHS2 Insulated Phillips Screwdriver #2, 100 mm
- ISQS1 Insulated Squared Screwdriver #1, 100 mm
- ISQS2 Insulated Squared Screwdriver #2, 125 mm



#### Fluke Insulated 3 Unit Pliers Kit (IKPL3)

- INLP8 Insulated Long Nose / w Side Cutter
- INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke Insulated Hand Tools Starter Kit (IKST7)

- ISLS3 Insulated Slotted Screwdriver 2.5 mm, 75 mm
- ISLS5 Insulated Slotted Screwdriver 4 mm, 100 mm
- ISLS8 Insulated Slotted Screwdriver 6 mm, 125 mm
- IPHS1 Insulated Phillips Screwdriver #1, 75 mm
- IPHS2 Insulated Phillips Screwdriver #2, 100 mm
- INLP8 Insulated Long Nose / w Side Cutter • INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke Pack30 Professional Tool **Backpack + Insulated Hand Tools Kit** (IKPK7)

- Fluke Pack30 Professional Backpack
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulated Phillips Screwdriver
- INLP8 Insulated Long Nose / w Side Cutter • INDC8 Insulated Heavy Duty Diagonal
- Cutter • INCP8 Insulated Linesman Combination
- Plier • RUP8 Roll Up Pouch



#### Fluke T6-1000 Electrical Tester + **Insulated Hand Tools Kit (IBT6K)**

ISLS5 Insulated Slotted Screwdriver

ISLS8 Insulated Slotted Screwdriver

• Fluke T6-1000 Electrical Tester

cutter

Plier

• Fluke 376 FC AC/DC Clamp Meter • ISLS3 Insulated Slotted Screwdriver

Cutter

Plier

• RUP8 Roll Up Pouch

- iFlex<sup>™</sup> Flexible Current Probe
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver

Fluke 376 FC True-RMS Clamp Meter

+ Insulated Hand Tools Kit (IB376K)

Fluke 87V Industrial Multimeter +

**Insulated Hand Tools Kit (IB875K)** 

• ISLS3 Insulated Slotted Screwdriver

• ISLS5 Insulated Slotted Screwdriver

• ISLS8 Insulated Slotted Screwdriver

• IPHS1 Insulated Phillips Screwdriver

• IPHS2 Insulated Phillips Screwdriver

• INDC8 Insulated Heavy Duty Diagonal

• INCP8 Insulated Linesman Combination

INLP8 Insulated Long Nose / w Side Cutter

• Fluke 87V Industrial Multimeter

- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulated Phillips Screwdriver
- INLP8 Insulated Long Nose / w Side Cutter • INDC8 Insulated Heavy Duty Diagonal
- Cutter
  - INCP8 Insulated Linesman Combination Plier
  - RUP8 Roll Up Pouch

# **Other Kits**

#### **Infrared Thermometer Kits**



Fluke 417D/62MAX+ Laser Distance **Meter/Infrared Thermometer Combo** 

- Fluke 417D Laser Distance Meter
- Fluke 62 MAX+ Infrared Thermometer

## **Indoor Air Quality Kits**

Kit



#### Fluke 922 Airflow Meter/ Micromanometer Kit

#### • Fluke 922 Airflow Meter

- 12 inch Pitot Tube
- Two Rubber Hoses
- TPAK Magnetic Strip
- TPAK Strap, 9 inches
- TPAK Latch Tab
- User Manual
- Hard Carrying Case

#### • 700PTP-1 Pneumatic Hand Pump • Premium, "no tools required" Gauge Connector

• Premium Transmitter Test Hose Kit (1) and Adapters

**Test Pump Kit** 

Pump Kit

Hard Case

Pump Kit

Hard Case

Hard Case



#### Fluke 700HTPK2 Premium Hydraulic Test Pump Kit

- 700HTP-2 Hydraulic Hand Pump • Premium, "no tools required" Gauge
- Connector
- Adapters
- Hard Case

- Fluke 117 Electrician's Multimeter + **Insulated Hand Tools Kit (IB117K)** • Fluke 117 Electrician's Multimeter
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulated Phillips Screwdriver
- INLP8 Insulated Long Nose /
- w Side Cutter • INDC8 Insulated Heavy Duty
- Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



• TPAK Magnetic Hanging Strap • TL75 Test Leads

- IPHS1 Insulated Phillips Screwdriver • IPHS2 Insulated Phillips Screwdriver
- INLP8 Insulated Long Nose / w side cutter • INDC8 Insulated Heavy Duty diagonal
- INCP8 Insulated Linesman Combination
- RUP8 Roll Up Pouch



Kits

### **Process Calibration Kits**



#### Fluke 700PTPK Pneumatic Test

• 700PTP-1 Pneumatic Hand Pump Hose Kit (1) and Adapters



#### Fluke 700HTPK Hydraulic Test

• 700HTP-2 Hydraulic Hand Pump • Hose Kit (1) and Adapters



#### Fluke 700PTPK2 Premium Pneumatic



• Premium Transmitter Test Hose Kit (1) and



#### Fluke Connect<sup>™</sup> 789 ProcessMeter<sup>™</sup> and Temperature Kit

- Fluke 789 ProcessMeter<sup>™</sup>
- Fluke t3000 FC Wireless K-Type Temperature Module
- Fluke ir3000 FC Connector
- TL71 Premium Test Lead Set
- AC72 Alligator Clips
- 4 AA Alkaline Batteries (installed)
- User Manual
- Quick Reference Guide





Cabling, whether it is copper or fiber optic, is a major cause of downtime on time-sensitive industrial networks. Losing just a few data packets in a short time can cause a machine to shut down. This is especially true in industrial environments, where network cables are exposed to vibration, flexing, moisture, temperature changes and electromagnetic interference (EMI) from motor drives and other devices.

# PROFESSIONAL DATA COMMUNICATION **TOOLS AND TESTERS**

# **COPPER CABLE TROUBLESHOOTING AND CONNECTIVITY**

#### MicroScanner<sup>™</sup> Industrial Ethernet Cable Verifier

- Graphically displays length, wiremap, opens/shorts and distance to fault
- Detects the class (0-8) from PoE, PoE+ and PoE++ (802.3at/af/bt) switches
- Identifies presence and speed of an active switch connected to the cable
- Tests RJ-45 connections and includes adapters for M8D, M12D, and M12X connectors



Search for: MS2-100-IE, MS-POE-IE

# SOLUTIONS FOR FIBER OPTIC CONTAMINATION

The #1 problem affecting Industrial Ethernet fiber cables.

#### FI-500 FiberInspector<sup>™</sup> Micro

- PortBright™, a built-in flashlightilluminates dark areas
- Autofocus for stable images in seconds
- Large display to view fiber endfaces
- Includes 4 UPC tips (LC, SC, 1.25 mm and 2.50 mm)
- APC, Bulkhead tips available
- Autocenter for precise fiber ferrule inspection

Search for: FI-500, FI-525





## LinkIQ<sup>™</sup> Industrial Ethernet Cable + Network Tester

- Cable Performance testing up to 10GBASE-T via frequency-based measurements
- Network features including: IPv4 and v6 ping, nearest switch diagnostics (IP address, name, port / VLAN number, and advertised data rates)
- Ethernet Alliance certified PoE Verification – Detects the PoE class (1-8) and power, and performs a load test of available PoE from the connected switch
- Displays cable length, wire map, and distance to open or short
- Manage results and print reports from LinkWare™ PC
- Tests RJ-45 connections and includes adapters for M8D, M-12D, and M-12X

Search for: LIQ-100, LIQ-100-IE, LIQ-KIT, LIQ-KIT-IE

## Fiber Optic Cleaning Kits

• The complete solution for precision end-face fiber optic cable cleaning







# Fluke Networks

Fluke Networks

# FEATURED COPPER CABLE TEST SOLUTIONS

	-						
	Pro 3000	IntelliTone™ Pro	Micro- Mapper	TS100	MS2-100 MS2-100-IE	MS-POE MS-POE-IE	LIQ-100 LIQ-100-IE
Switch Port Testing							
Switch presence		√			√	√	√
Identify switch name, port ID and VLAN							√
Identify Ethernet Speed to 10 Gb/s						√	√
Identify PoE Capability						√	√
<b>Cable Verification</b>							
Digital toning		√			√	√	√
Analog toning	√	√	√	√	√	√	√
Cable wire map		√	√		Graphical	Graphical	Graphical
Cable length				√	√	√	√
Qualify cabling speed (10/100/1000/10G)							$\checkmark$
Cable Troubleshooting							
Identify open/short	√	√	√	√	√	√	√
Distance to open/short				√	√	√	√
Identify crosstalk fault							√
Identify impedance fault							√



MS-POE-KIT

## FI-500 FiberInspector<sup>™</sup> Micro

- PoE Switch Verification Determine if a switch port can provide enough power by reporting PoE class (0-8).
- Powered Pairs Graphically identifies powered pairs. Including Dual Signature where the switch port delivers power on 2 or 4 pairs (802.3bt or PoE ++).
- Active Switch Detection Determine if a cable is connected to a switch port and port speed up to 10G.
- Cable Testing Identify any shorted, open or crossed wires at both ends, length of each pair, and send tones to find cables.
- PoE Injector verification Display injector voltage level
- IE model tests common connector types including RJ11, RJ45, Coax, and Industrial Ethernet connector types (M12X, M12D, and M8D)



# FEATURED COPPER CABLE TEST SOLUTIONS



#### Pro3000<sup>™</sup> Analog **Tone and Probe**

- Tone and trace on non-active networks
- Identify exact pair with SmartTone<sup>™</sup> technology and five distinct tones
- Loud speaker on probe easy to hear through drywall, wood, and other material
- Clear Innovative filter technology blocks interference ("buzz") that makes tracing difficult ("F" models only)
- Clips allow easy access to individual pairs and RJ11 easily connects to telephone jacks—no need for adapters

**Q** Search for: PR03000F60-KIT Tone and Probe Kit

### IntelliTone™ Pro 200 LAN Tone and Probe

- Digital toning eliminates noise and false signals
- SmartTone<sup>™</sup> analog toning isolates individual wire pairs
- Locates cables safely and effectively on active networks
- Visible end-to-end continuity test
- Built in wire mapper
- Works on twisted pair, audio, and video cabling





**Fluke Networks** 



## TS™100 Cable **Fault Finder**

- Numeric distance display
- Identify pairs with SmartTone<sup>™</sup> generation technology
- Identify and locate distance to opens and shorts
- Works on any two or more conductor cable up to 3000 feet (915 metres)

Search for: 26500000 TS100 with BNC to Alligator Clips



### MicroMapper™

- Simple verification of wiremaps and identification of faults with LEDs
- Tests twisted pair cables for open circuits, shorts, crossed pairs, reversed pairs and split pairs
- Remote identifier enables one-person testing
- Built-in tone generator for tracing installed cables hidden in walls, floors and ceilings. Works with Pro3000<sup>™</sup> Tone and Probe (sold separately)





# **TERMINATION TOOLS AND ADAPTERS**

Ergonomic design, high-quality materials and Fluke Networks quality for separating, stripping and cutting wire. Perfect tools for your every job.





#### D914<sup>™</sup> Series Impact Tools

- Hook, spudger and blade storage tools are built into the handle
- Select low impact for 24/26 gauge wire or high impact for 22-gauge wire
- Optional Phillips-head or flat screwdriver blade
- Supports a variety of torgue tool bits and sockets
- Easy blade insertion, locks in place
- D914S features soft touch rubber

<sup>2</sup>10061501 D914S impact tool with EverSharp 110, EverSharp 66 blade and free blade

## **Punchdown Blades**

Model	Description
10176500	EverSharp 110 blade
10178600	EverSharp 110/66 cut blade
10056500	EverSharp 66 blade
10565000	Krone blade
10565110	Krone/110 cut blade
10176000	110 blade
10436001	Centerpunch blade
10465001	3M System D blade
10645001	Wood screw starter punch
10665000	BIX blade
10056000	66 blade
10057000	630 blade

1		
	/	

- - fatigue
- handle and ergonomic design

# **Q** Search for:

## JR-PAN-2 JR-ADC-2 JR-0 JR-S JR-L

JIN-ADC-L	TUTADCC
JR-ORT-2	For Ortro
JR-SYS-2	For Systi
JR-LEV-2	For Levit
JR-SYS-UNI-1	For Systi
JR-LEV-1	For Levit

manufacturers

**JackRapid**<sup>™</sup>

			The second	T.		in the second	
	TS™54 TDR	TS™52 PRO	TS™22A	TS™22	TS™25D	TS™30	TS™19
TDR to detect shorts, opens, and dis- tance to open	$\checkmark$						
Built-in toner	$\checkmark$						
Display—back lit LCD and glow-in-the- the dark keypad	√	√			LCD only		
Extended range high-impedance DataSafe operation in monitor mode	√	√			√		
Data lockout protection Data lockout override	$\checkmark$	√			$\checkmark$		
DSL/POTS filtering technology	√	√			√		
Low/high voltage indication	√	√			√		
Low current (mA) indication	√	√			√		
Over voltage and Over current protec- tion	$\checkmark$	√	√	√	$\checkmark$	√	
Two-way speakerphone for true hands- free conversations	$\checkmark$	√	√				
One-way amplified speaker for hands- free monitoring	$\checkmark$	√	√	√	$\checkmark$		
Waterproof—exceeds American Military Spec. MIL-STD-810E	√	√					
DropSafe—passes 20 foot (6 meter) drop test onto concrete	$\checkmark$	√	√	√		√	
Polarity indication in talk mode	√	√	√	√	√	√	√
Stores nine 18-digit numbers in reper- tory dialer (speed dialing)	$\checkmark$	√	√	√	√		

## 4-, 6-, and 8-Wire **Modular Adapters**

- Easily complete testing and obtain circuit access on working lines without disrupting service
- Clear circuit markings on the sides and bottom of the unit
- Test line status with the 4-wire modular adapter



Model	Description
10113000	4 wire
10210100	4-wire in-line
10210101	4-wire in-line with K-Plug
10220100	6-wire in-line
10220101	6-wire in-line with K-Plug
10230100	8-wire in-line
10230101	8-wire in-line with K-Plug



**Fluke Networks** 

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Cable Strippers	Probe Pic	Can Wrenche
44210015	44600000	44007000



## JackRapid<sup>™</sup> Punchdown Tool

- Terminate jacks eight times faster than traditional impact tools. The patented design seats and terminates all wires simultaneously. Built-in blade cuts off the excess wire eliminating the need for a secondary trim step
- High-quality, consistent terminations • Ergonomic design reduces hand
- Convenient, built-in stripper
- Multiple versions support several jack



## **Pro-Tool™ Kits**

- Ergonomically designed Dur-a-Grip™ pouch for convenient tool storage on belt
- D914<sup>™</sup> and D814<sup>™</sup> industry standard punchdown tools make for solid terminations
- Easy-to-use cable stripper quickly rings and slits many types of cable
- Probe Pic checks for loose or damaged connections
- Cut and strip wire with Electricians' D-Snips™
- Three kit combinations available



- For Panduit NK6X88M, NK688M, NKP5E88M
- For ADC C6a CopperTen™ UTP RJ45 jack and C6 TrueNet™ KM8 UTP RJ45
  - onics™ TJ5E00, TJ600, TJ610
  - imax™ MGS400, MGS600, MFP420, MFP520 and Commscope™ UNJ10G
  - ton™ 61110, 5G110, 6110G
  - imax MPS100E, C5, M1BH and Commscope UNJ600/500/300
  - ton 41106, 41108, 5G108



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