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**FLUKE®**

# Accessories Catalog

2017 edition



**Expand the capabilities  
of your test tools**



GENUINE  
FLUKE

You've already invested in a Fluke test and measurement tool. Now expand its capabilities with Fluke genuine accessories.

A digital multimeter can become a thermometer, an amp-meter, or even a pressure gauge.

Cases protect your tools. Non-contact detectors, probes and hat lights, meter hangers and appropriately rated test probes improve your safety and your proficiency.



#### **Fluke CXT1000 Extreme Hard Case**

The hard case that is designed for maximum protection and fits all your Fluke test tools and accessories. Configure the diced foam interior to store, protect, and carry your test tools. Waterproof and airtight, built to withstand the most extreme conditions.



#### **Fluke AC288 Terminal Block Probe**

The AC288 Terminal Block Probe features a retractable probe tip that provides safe and secure connections to clamp and screw type terminal blocks. Designed for increased safety, while providing flexibility to reach deep connection points.



#### **Fluke CAMO-C25 Camouflage Carrying Case**

The CAMO-C25 Camouflage Carrying Case is a durable, zippered carrying case with padding and inside pocket, and high quality polyester exterior. It includes a convenient hand strap and carries most of Fluke's popular digital multimeters. It is available in trendy camouflage.



#### **Fluke Connect® ir3000 FC Connector**

Wirelessly transfer data from your existing Fluke tools to your smart phone. Graph, save and share the tool's measurements straight from the field to the team.

## Did you know?

### **New! Category ratings, safety standards: Test leads, probes, clips.**

IEC 61010-031 covers safety requirements for handheld probe assemblies for electrical measurement and test. Recent updates require that the following changes be made to all test leads, probes and clips:

- Test lead wire must contain an inner layer wear indicator which allows for increased safety.
- Test probes used in CAT III and CAT IV measurement environments must be fully insulated and only allow a maximum of 4 mm of exposed metal at the probe tip. Older probe tips that had 19 mm (.75 in) of exposed metal must now be capped to allow only 4 mm of tip exposure if used in a high energy environment.
- Test probes with more than 4 mm of exposed metal at the probe tip can be used in CAT II measurements.
- Alligator clips must contain jaws which are fully insulated with no exposed metal accessible by a user's fingers.

For more information on CAT ratings and choosing the best test probe for your job, see the "Electrical measurement category ratings for test tools" chart on page 11 of this catalog.

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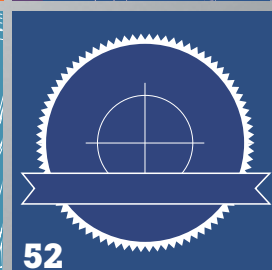
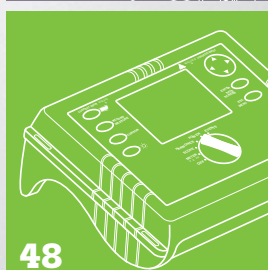
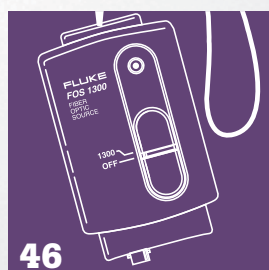
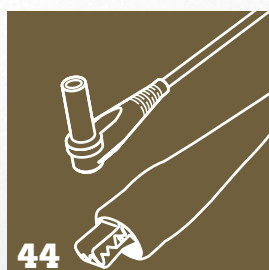
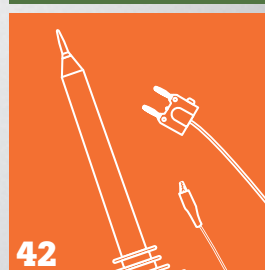
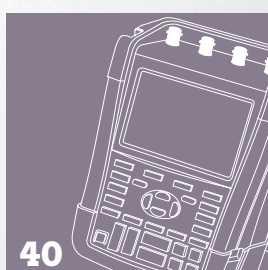
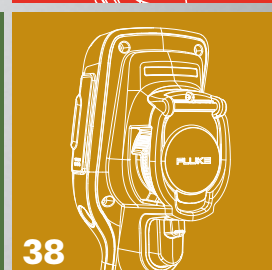
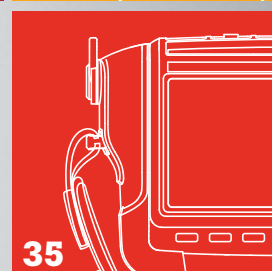
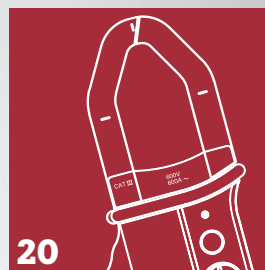
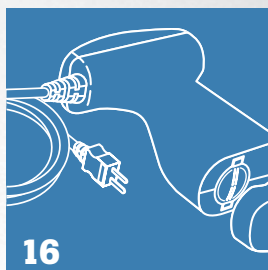
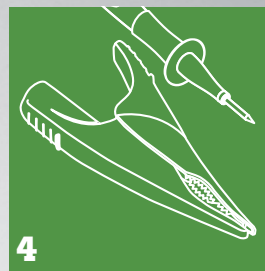
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Left to right: AC283, AC280, TP175, AC285, AC220, and TL224

### Clips and probes compatibility chart

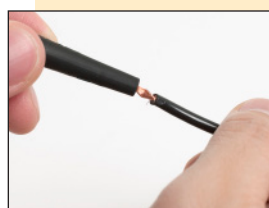
Model number	TL71	TL75	TL76	TL221	TL222	TL224	TL910
AC175	•	•	•				
AC87				•	•	•	
AC89				•	•	•	
AC220				•	•	•	
AC280				•	•	•	
AC283				•	•	•	
AC285				•	•	•	
AC288				•	•	•	
FTP-1				•	•	•	
TLK290				•	•	•	
TLK291				•	•	•	
TP1				•	•	•	
TP2				•	•	•	
TP4				•	•	•	
TP38				•	•	•	
TP74				•	•	•	
TP80				•	•	•	
TP175				•	•	•	
TP220				•	•	•	
TP912							•
TP920	•	•					
T5 Starter Kit	(compatible with T5/T+/T+Pro/330 Series Clamp Meters)						
TP165X	(compatible with 1503/1507/1577/1587)						

### Did you know?

Because they are an integral part of the complete measurement system, worn or under-rated test leads can cause inaccurate readings and pose a serious shock or electrocution hazard if live wires are read as being de-energized.

**To avoid these risks, use these precautions:**

- Use the correct test probe for the application. Confirm that your meter and test accessory safety ratings meet or exceed the voltage level you plan to test. See the “Electrical measurement category ratings for test tools” chart on page 11 of this catalog for more information.
- Inspect your test leads before use to ensure the insulation is not nicked or cracked from age. Typically, you should plan on replacing your test leads every 18 months.
- Ensure there are no gaps or cracks at the junction between the insulated wire and banana plugs or probes at each end of the lead.
- Conduct a simple ohms measurement to confirm that your tools are electrically reliable and carry a signal within allowable loss parameters.





## Test lead/probe-in-one

Test lead and probe-in-one accessories offer the convenience of a test lead and probe-in-one unit with a variety of connections.

### TL175 TwistGuard™ 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
- WearGuard™ test lead wear indicator show white inner layer when leads are damaged or worn and in need of replacement
- Probes always show correct category rating for tip length being used
- Advanced strain relief exceeds 5,000 bend life
- 2 mm (0.08 in) diameter probe tips
- Available as a modular test probe under TP175 (page 10)

### TL75 Hard Point™ Test Lead Set

One pair (red, black) comfort grip probes with PVC-insulated, right-angle shrouded 4 mm (0.16 in) banana plugs.

- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



TL75



TL71

### TL71 Premium Test Lead Set

One pair (red, black) comfort grip probes with flexible silicone-insulated, right-angle test leads.

- Heat and cold resistant
- 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 (0.16 in) banana plugs.

- Removable lantern tip for use with European wall sockets, 4 mm (0.16 in) diameter
- Removable lantern tip for easy access to terminal blocks, 2 mm (0.08 in) diameter
- GS38 probe caps (removable) allow probing in CAT II, III and CAT IV environments
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



TL76



TL76



TL40



TL26A

### 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 mm 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

One pair (red, black) silicone-insulated leads with five different ways to connect.

- U-shaped nose for blade-shaped terminals
- Notched jaw for gripping screw heads, bare wire or terminals
- Serrated teeth for gripping threaded or wire-wrapped terminals
- Sharp needle cluster for piercing small gauge (#22-#28 AWG) wires
- Large piercing needle
- Safety rating: 30 V, 10 A

### TL910 Electronic Test Probes

One pair (red, black) leads with very small tips to access hard-to-reach electronic test points.

- Includes three sets of spring-loaded gold tips and two sets of stainless steel tips
- Tip length up to 100 mm (4 in)
- Tip diameter: 1 mm (0.04 in)
- Safety rating: CAT II 1000 V, 3 A



**TP912 Replacement Tips for TL910**

Five sets of spring-loaded, tips to refurbish TL910 Electronic Test Probes.

- Very small 1 mm (0.04 in) tips to access hard-to-reach electronic test points
- Probe tip length up to 100 mm (4 in)
- Three sets of gold-plated and two sets of stainless steel tips

**TP165X Remote Control Probe**

Probe with integrated test button simplifies measurement when accessing hard-to-reach points.

- Probe designed for 1500 Series insulation and 1650 Series installation testers
- Tip length up to .735 in
- Tip diameter: 1 mm (0.04 in)
- Safety rating: CAT II 1000 V, (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A

**Probe-in-one clips**

Probe-in-one clips and adapters expand the application of probe-in-one test leads.

**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
- 1 mm diameter probe tip extends out to 8.4 mm (0.33 in) length
- Recommended for use with the TL224, TL222, TL221 test leads
- Safety rating: CAT III 1000 V, CAT IV 600 V

**AC173 Alligator Clip Set**

One pair (red, black) slide-on alligator clips.

- 8 mm (0.32 in) clip opening
- Slide-on alligator clips are compatible with 4mm banana plugs and test leads, such as the TL221, TL222, TL224
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A

**AC175 Alligator Clip Set**

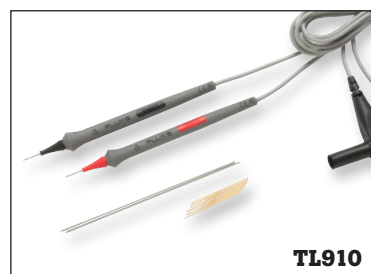
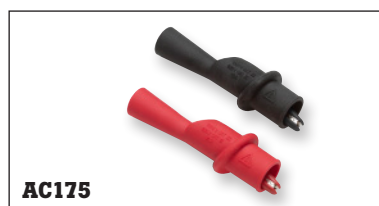
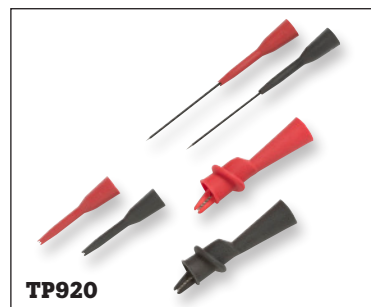
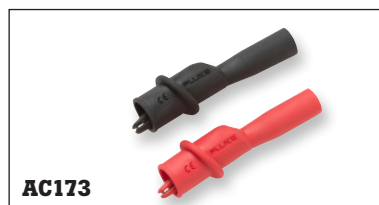
One pair (red, black) slide-on alligator clips.

- 8 mm (0.32 in) 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 (0.3 in)
- Safety rating: IC test adapter CAT II 300 V, extended probe tips CAT II 300 V, medium alligator clips CAT II 1000 V



## Modular test leads

Modular test leads provide the convenience of attaching clips, hooks and grabbers, as needed. All of these leads are 1.5 m (59 in) long, offer reinforced strain relief, and include banana jack terminations that allow a great variety of test lead configurations.

# Test leads



TL221



TL27

### TL221 SureGrip™ Test Lead Extensions Set

One pair (red, black) silicone-insulated leads with safety-shrouded, 4 mm (0.16 in) banana plugs.

- Couplers have female connectors on both ends
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A

### TL224 SureGrip™ Insulated Test Leads

One pair (red, black) silicone-insulated test leads with safety-shrouded 4 mm (0.16 in) banana plugs.

- Right angle connector on one end and straight connector on the other
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



TL222

### TL222 SureGrip™ Silicone Insulated Test Leads

One pair (red, black) silicone-insulated test leads (red, black) with safety-shrouded, 4 mm (0.16 in) banana plugs.

- Right angle connectors on both ends



TL224

### TL27 Heavy-duty Test Lead Set

One pair (red, black) rugged, EPDM-insulated test leads with safety-shrouded 4 mm (0.16 in) banana plugs.

- Straight connectors on both ends
- Safety rating: CAT III 1000 V, 10 A

## Test lead holder

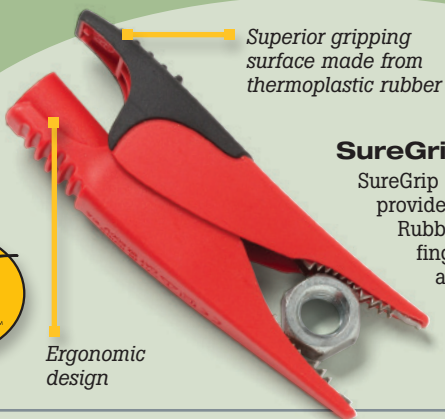


H900

### H900 Test Lead Holder

Heavy-duty holder for conveniently storing test lead wires.

- Mounting holes for securing to wall or other surfaces
- For test lead wires up to 8 mm (0.31 in) in diameter
- Overall dimensions (LxWxH): 27.9 cm x 8.9 cm x 3.2 cm (11 in x 3.5 in x 1.25 in)



Superior gripping surface made from thermoplastic rubber

### SureGrip™ accessories

SureGrip accessories were designed to provide a reliable grip in slippery hands. Rubber-overmolded surfaces and finger-hugging curves give the user a comfortable, steady hold on the accessory so they can focus on making an accurate measurement.

Ergonomic design





**Modular clips** (for use with modular test leads)

Using modular test leads, this wide variety of clips allows the configuration of leads to individual needs.

**AC285 SureGrip™ Alligator Clips**

One pair (red, black) large alligator clips with insulated, nickel-plated steel jaws.

- Multi-purpose tooth pattern grips anything from fine gauge wire to a 20 mm (0.8 in) bolt
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A

**AC220 SureGrip™ Alligator Clips**

One pair (red, black) of small, insulated, nickel-plated jaws.

- Blunt tip grabs round screw heads up to 9.5 mm (0.37 in)
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A

**AC280 SureGrip™ Hook Clips**

One pair (red, black) nickel-plated hook-style clips.

- Profile narrows to 5.6 mm (0.22 in) at tip
- Hook opening 6.4 mm (0.25 in) at front
- Base opening of 0.2 mm (0.08 in)
- Safety rating: CAT IV 600 V, CAT III 1000 V, 3 A

**AC283 SureGrip™ Pincer Clips**

One pair (red, black) nickel-plated pincers open to 5 mm (0.2 in). Perfect for continuity testing on circuit board components such as diodes.

- 11.4 cm (4.49 in) flexible insulated shaft
- Safety rating: CAT IV 600 V, CAT III 1000 V, 1 A

**AC89 Heavy Duty Insulation Piercing Test Clip**

Ideal probe for establishing accurate contact through insulation.

- Pierces 0.25 mm to 1.5 mm (0.01 in to 0.06 in) insulated wire
- Safety rating: 1000 V, 10 A

**AC87 Heavy Duty Bus Bar Clip Set**

One pair (red, black) flat, right angle clips designed for connecting to bus bars.

- Adjustable collar provides two ranges of jaw openings up to 30 mm (1.18 in)
- Safety rating: CAT III 600 V, 5 A



AC280



AC283



AC285



AC89



AC220



AC87

## Modular test probes (for use with modular test leads)

Using modular test leads, this wide variety of test probes allows the configuration of leads for a wide variety of needs, whether industrial, electrical, or electronic.



TP175

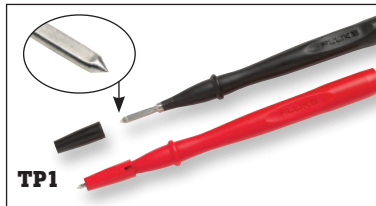
### TP175 TwistGuard™ Test Probes

- Modular test probes of the popular TL175 Test Leads (page 6)
- Patented extendable tip guard meets CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements
- 2 mm (0.08 in) diameter stainless steel probe tips

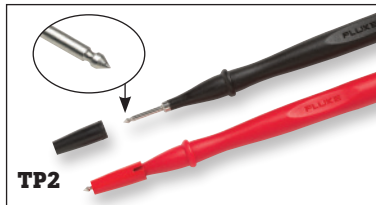
### TP220 SureGrip™ Industrial Test Probes

One pair (red, black) industrial test probes with stainless steel tip.

- Sharp, 12 mm (0.47 in) tips
- Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



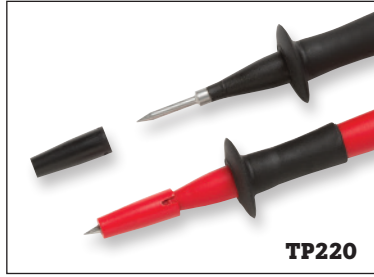
TP1



TP2



TP4



TP220

### TP1 Slim Reach™ Test Probes

One pair (red, black) slender probes with flat stainless steel blade to hold securely in blade-type electrical wall sockets.

- Tip length up to 14.7 mm (0.58 in)
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)

### 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.

- 2 mm (0.08 in) diameter tip
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)

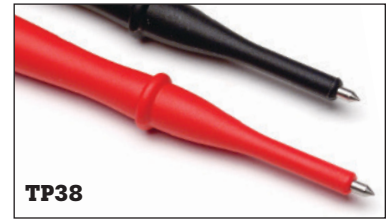
### TP4 Slim Reach™ Test Probes

One pair (red, black) slender stainless steel probes for accessing closely-spaced or recessed electrical terminals.

- 4 mm (0.16 in) diameter probe tip designed to fit securely into IEC (C13 and C14) electrical wall outlets
- Safety rating: CAT II 1000 V, 10 A



TP74



TP38

### TP80 Electronic Test Probes

One pair (red, black) electronics test probes.

- IC-insulated cap prevents shortening of IC legs for probing high density components or boards
- Tip length up to 3.9 mm (0.157 in)
- Tip diameter: 1 mm (0.04 in)
- Safety rating: CAT III 1000 V, 1 A

### TP74 Lantern Tip Test Probes

One pair (red, black) featuring nickel-plated brass ends.

- Banana-style 4 mm (0.16 in) spring contacts
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)

### TP38 Slim Reach™ Test Probes

One pair (red, black) slender stainless steel probes for accessing closely-spaced or recessed terminals.

- Tip length: 24 mm (0.95 in) which includes the insulated part of the tip
- Probe tip insulated to 4 mm (0.16 in) from the end
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



TP80



## How to choose the best test probe for your job?

### IEC 61010 electrical measurement category ratings for test tools

Make sure that your accessory ratings meet or exceed the rating of your measurement environment.

Measurement category	In brief	Examples
<b>CAT IV</b>	Three-phase at utility connection, any outdoor mains conductors	<ul style="list-style-type: none"> <li>Refers to the “origin of installation,” i.e., where low-voltage connection is made to utility power</li> <li>Electricity meters, primary overcurrent protection equipment</li> <li>Outside and service entrance, service drop from pole to building, run between meter and panel</li> <li>Overhead line to detached building, underground line to well pump</li> </ul>
<b>CAT III</b>	Three-phase distribution, including single-phase commercial lighting	<ul style="list-style-type: none"> <li>Equipment in fixed installations, such as switchgear and polyphase motors</li> <li>Bus and feeder in industrial plants</li> <li>Feeders and short branch circuits, distribution panel devices</li> <li>Lighting systems in larger buildings</li> <li>Appliance outlets with short connections to service entrance</li> </ul>
<b>CAT II</b>	Single-phase receptacle connected loads	<ul style="list-style-type: none"> <li>Appliance, portable tools, and other household and similar loads</li> <li>Outlet and long branch circuits                             <ul style="list-style-type: none"> <li>– Outlets at more than 10 meters (30 feet) from CAT III source</li> <li>– Outlets at more that 20 meters (60 feet) from CAT IV source</li> </ul> </li> </ul>

### Patch cords

Patch cords connect two test points or two test instruments or accessories together.

#### TL932 Patch Cords (90 cm)

One pair (red, black) multi-stacking banana plug patch cords, 90 cm (35.4 in) long.

- Nickel-plated, 4 mm (0.16 in) banana plugs
- 90 cm long PVC insulated leads
- 30 V rms or 60 V dc, 15 A

#### TL930 Patch Cords (60 cm)

One pair (red, black) multi-stacking banana plug patch cords, 61 cm (24 in) long.

- Nickel-plated, 4 mm (0.16 in) banana plugs
- 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 multi-stacking banana plug patch cords in different lengths.

- Nickel-plated, 4 mm (0.16 in) banana plugs
- 60 cm, 90 cm, and 120 cm (23.6 in, 35.4 in, and 47.2 in) long PVC insulated leads
- 30 V rms or 60 V dc, 15 A

#### TL940 Mini-Hook Test Leads

One pair (red, black) of test leads with multi-stacking 4 mm banana plugs and mini-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

#### TL950 Mini-Pincer Test Leads

One pair (red, black) of test leads with multi-stacking 4 mm banana plugs and mini-pincers.

- Mini-pincers open to 2.3 mm
- 90 cm long PVC insulated leads
- 30 V rms or 60 V dc, 3 A

#### TL960 Micro-Hook Test Leads

One pair (red, black) of test leads with multi-stacking 4 mm banana plugs and micro-hooks.

- Micro-hooks attach to component leads up to 1 mm diameter
- 90 cm long PVC insulated leads
- 30 V rms or 60 V dc, 3 A

#### TL970 Hook and Pincer Set

- TL940 Mini-Hook Test Lead Set
- TL950 Mini-Pincer Test Lead Set
- TL960 Micro-Hook Test Lead Set

Expand your testing capability or update your tools with these test lead sets and kits. Designed for industrial, electrical, and electronic needs, these collections range from starter to master test lead selections.

TLK-225

## Test lead sets and kits

12

### Test lead sets and kits compatibility chart

Model number	TL27	TL80A	TL81A	TL220	TL223	TL225	TL238	TLK-220	TLK-225	TLK287	TLK289	TLS430
10/11/12/12B	•	•	•	•	•	•	•	•	•	•	•	•
110/111/112	•	•	•	•	•	•	•	•	•	•	•	•
114/115/116/117	•	•	•	•	•	•	•	•	•	•	•	•
20/70 Series	•	•	•	•	•	•	•	•	•	•	•	•
27	•	•	•	•	•	•	•	•	•	•	•	•
70/73 III	•	•	•	•	•	•	•	•	•	•	•	•
175/177	•	•	•	•	•	•	•	•	•	•	•	•
179	•	•	•	•	•	•	•	•	•	•	•	•
80 Series III/83V	•	•	•	•	•	•	•	•	•	•	•	•
87/89 IV	•	•	•	•	•	•	•	•	•	•	•	•
87V	•	•	•	•	•	•	•	•	•	•	•	•
187/189	•	•	•	•	•	•	•	•	•	•	•	•
287/289	•	•	•	•	•	•	•	•	•	•	•	•
45/8845/8846	•	•	•	•	•	•	•	•	•	•	•	•
39/41B	•	•	•	•	•	•	•	•	•	•	•	•
43B	•	•	•	•	•	•	•	•	•	•	•	•
90 Series	•	•	•	•	•	•	•	•	•	•	•	•
120 Series	•	•	•	•	•	•	•	•	•	•	•	•
190 Series	•	•	•	•	•	•	•	•	•	•	•	•
323/324/325	•	•	•	•	•	•	•	•	•	•	•	•
370 Series, 381	•	•	•	•	•	•	•	•	•	•	•	•
705/707	•	•	•	•	•	•	•	•	•	•	•	•
712/713	•	•	•	•	•	•	•	•	•	•	•	•
715	•	•	•	•	•	•	•	•	•	•	•	•
716/717	•	•	•	•	•	•	•	•	•	•	•	•
718	•	•	•	•	•	•	•	•	•	•	•	•
725/726	•	•	•	•	•	•	•	•	•	•	•	•
741/743	•	•	•	•	•	•	•	•	•	•	•	•
744	•	•	•	•	•	•	•	•	•	•	•	•
787/789	•	•	•	•	•	•	•	•	•	•	•	•
1577/1587	•	•	•	•	•	•	•	•	•	•	•	•

(compatible with 430 Series Power Quality Analyzer)



**Clips and probes compatibility chart**

Model number	TL27	TL80A	TL81A	TL220	TL223	TL225	TL238	TLK-220	TLK-225	TLK287	TLK289
AC175		•	•								
AC87	•		•	•	•	•	•	•	•	•	•
AC89	•		•	•	•	•	•	•	•	•	•
AC220	•		•	•	•	•	•	•	•	•	•
AC280	•		•	•	•	•	•	•	•	•	•
AC283	•		•	•	•	•	•	•	•	•	•
AC285	•		•	•	•	•	•	•	•	•	•
FTP-1	•		•	•	•	•	•	•	•	•	•
TLK290			•	•	•	•	•	•	•	•	•
TLK291			•	•	•	•	•	•	•	•	•
TP1	•		•	•	•	•	•	•	•	•	•
TP2	•		•	•	•	•	•	•	•	•	•
TP4	•		•	•	•	•	•	•	•	•	•
TP38	•		•	•	•	•	•	•	•	•	•
TP74	•		•	•	•	•	•	•	•	•	•
TP80	•		•	•	•	•	•	•	•	•	•
TP175	•		•	•	•	•	•	•	•	•	•
TP220	•		•	•	•	•	•	•	•	•	•
TP912										•	
TP920		•	•								
T5 Starter Kit	(compatible with T5/T+/T+Pro/330 Series Clamp Meters)										
TP165X	(compatible with 1503/1507/1577/1587/1650 Series)										



**TLK289**

**TLK289 Industrial Master Test Lead Set**

Designed for electrical and electronics testing in today's industrial environment including clips and probes for dependable contact with a variety of test points. Includes eight items:

- One pair each (red, black)
  - AC285 SureGrip™ Alligator Clips
  - AC220 SureGrip™ Alligator Clips
  - AC280 SureGrip™ Hook Clips
  - TP220 SureGrip™ Industrial Test Probes
- TPAK ToolPak™
- 80BK-A Integrated DMM Temperature Probe
- C116 Soft Carrying Case



**TLK287**

**TLK287 Electronics Master Test Lead Set**

The perfect test lead set for today's 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 for virtually every electronics need
- Modular test leads and lead-probe combinations
- Couplers for long lead applications



TL81A

### 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 to 10 A

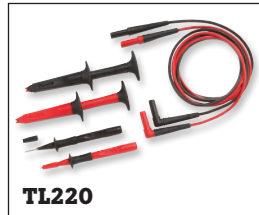
### TL220 SureGrip™ Industrial Test Lead Set

Handy all-in-one set that includes essential test items for industrial environments. Three-item set includes:

- AC220 SureGrip™ Alligator Clips
- TP220 SureGrip™ Industrial Test Probes CAT II 1000 V, 10 A without protective cap
- TL224 SureGrip™ Silicone Insulated Test Leads
- Safety rating: all CAT IV 600 V, CAT III 1000 V



TL80A



TL220

### TL80A Basic Electronic Test Lead Kit

The fundamental accessories for testing are included in this four-item kit.

- Medium alligator clip CAT II 1000 V, 10 A
- Extended probe tips CAT II 300 V, 3 A
- TL71 Premium Test Lead Set
- C75 Accessory Case

### TLK-225 SureGrip™ Master Accessory Set

Set includes all the SureGrip™ leads, clips, and probes in a handy roll-up pouch. This 13-item set includes:

- AC220 SureGrip™ Alligator Clips
- AC280 SureGrip™ Hook Clips
- AC283 SureGrip™ Pincer Clips
- AC285 SureGrip™ Alligator Clips
- TP175 TwistGuard™ Test Probes
- TL224 SureGrip™ Insulated Test Leads
- Six-pocket storage pouch
- Safety rating: all CAT IV 600 V, CAT III 1000 V

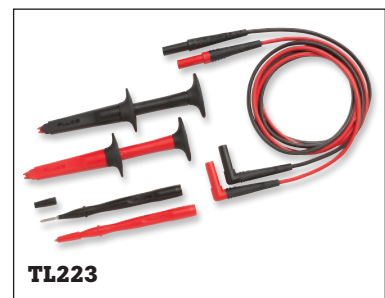
### TL223 SureGrip™ Electrical Test Lead Set

All-in-one set includes three test lead accessories:

- AC220 SureGrip™ Alligator Clips
- TP1 Slim Reach Test Probes (flat-bladed)
- TL224 SureGrip™ Insulated Test Leads
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



TLK-225



TL223



TLK-220

### TLK-220 US SureGrip™ Industrial Test Lead Kit

Special-value SureGrip™ five-piece kit for industrial applications, in a roomy carrying case. Kit includes:

- AC220 SureGrip™ Alligator Clips
- AC285 SureGrip™ Alligator Clips
- TP220 SureGrip™ Industrial Test Probes
- TL224 SureGrip™ 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



**FTP-1 / FTPL-1 SureGrip™ 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™ Silicone Insulated Test Leads
- 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 SureGrip™ 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 Three-Phase Power Quality Analyzers.

- Set includes five each (4 black, 1 green) of test leads and alligator clips
- Safety rating: CAT IV 600 V, CAT III 1000 V

**TL238 SureGrip™ Test Lead Set for High Energy Environments**

This kit is specially designed for high energy environments. Three-piece kit includes:

- TP238 SureGrip™ Insulated Test Probe Set
- TP280 SureGrip™ Test Probe Extender
- TL224 SureGrip™ 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 4 mm (0.16 in) 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 (0.16 in and 0.32 in) sockets
- Alligator clip opening: 20 mm (0.8 in)
- Safe contact such as in CEE 16 A and CEE 32 A plugs
- Safety rating: CAT II 1000 V, 8 A

**TLK291 Fused Test Probe Set**

One pair (red, black) fused test probes offer added measurement protection by providing firm and secure contact. Probes fit on modular leads or on fixed-lead test tools.

- Each probe contains a 500 mA/1000 V/50 kA fuse
- Safety rating: CAT IV 600 V, CAT III 1000 V

**TL225 SureGrip™ 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™ Insulated Test Leads
- TP238 Insulated Test Probes
- C75 Accessory Case
- Safety rating: All CAT IV 600 V, CAT III 1000 V, 10 A

For more information on the adapter, see page 47.



FTP-1

FTPL-1



TLK291



T5 Starter Kit



TL225



TLK290



TL238



TLS430





The innovative SureGrip™ design from Fluke is available in select temperature probes. The soft rubber handle and comfortable ergonomic shape make it easier to hold the probe and focus on the measurement.



Left to right: 80PK-27, 80PK-26, 80PK-24

### 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
10/11/12/12B			*			•	•		*		*		
110/111/112			*			•	•		*		*		
114/115/116/117	116	116	◆						▲		▲		
20/70 Series			*			•	•		*		*		
27						•	•		*		*		
70/73 III			*			•	•		*		*		
175/177			*			•	•		*		*		
179	•	•	▲						▲		▲		
80 Series III/83V			*			•			*		*		
87/89 IV	•	•	▲						▲		▲		
87V	•	•	▲						▲		▲		
187/189	•	•	▲				•		▲		▲		
287/289	•	•	▲				•		▲		▲		
45/8845/8846			*			•	•		*		*		
43B			*			•	•		*		*		
90 Series			*			•	•		*		*		
120 Series			*			•	•		*		*		
190 Series			*			•	•		*		*		
50S/50D			•	•				•	•		•	•	
51/52/53/54 II			•	•	•			•	•	•	•	•	
63/66/68													66/68
714			•	•	•			•	•	•	•	•	
715			*			•	•		*		*		
725/726			•	•	•			•	•	•	•	•	
741/743/744			•	•	•			•	•	•	•	•	
787/789			*			•	•		*		*		
902	•	•	•						•				
1587	•	•	▲						▲		▲		
1577	•		▲										
561			•										
574/576			•										

• Compatible; \* Requires 80TK; ▲ Requires 80AK-A; ◆116 only: requires 80AK-A

## Temperature probes

These temperature probes expand the functionality of Fluke thermometers, while offering the same rugged reliability of Fluke test tools.



80PK-1



80PK-3A



80PK-9



80PK-27



80PK-26



80PK-25



80PK-24



80PK-22

### General purpose measurements

#### 80PJ-1 or 80PK-1 Bead Probe

Type J or K thermocouple probe for general-purpose applications. Ideal for troubleshooting.

- 1 m (39 in) lead
- 1 mm (0.04 in) probe with Teflon® 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.

- 1 m (39 in) lead
- 15.25 cm (6 in) stainless steel probe
- Measurement range: -40 °C to 260 °C (-40 °F to 500 °F)

#### 80PK-26 SureGrip™ Tapered Temperature Probe

Type K thermocouple probe with tapered tip for speedy air, surface, non-caustic gas, and liquid measurements.

- 1 m (39 in) lead
- 203 mm (8 in) stainless steel probe
- Measurement range: -40 °C to 816 °C (-40 °F to 1500 °F)

### Surface measurements

#### 80PK-3A Surface Probe

Type K thermocouple with exposed junction for flat or slightly convex surfaces such as plates and rollers.

- 1.3 m (4 ft) lead
- 9.525 cm (3.75 in) probe with Teflon® insulation
- Measurement range: 0 °C to 260 °C (32 °F to 500 °F)

#### 80PK-27 SureGrip™ Industrial Surface Temperature Probe

Type K thermocouple probe for surfaces in rugged environments.

- 1 m (39 in) lead
- 20.32 cm (8 in) stainless steel probe
- Measurement range: -127 °C to 600 °C (-197 °F to 1112 °F)

### Piercing measurements

#### 80PK-25 or 80PT-25 SureGrip™ Piercing Temperature Probe

Type K or T thermocouple suitable for food industry, liquids, and gels. Sharp tip pierces solid surfaces.

- 1 m (39 in) lead
- 10.16 cm (4 in) stainless steel probe
- Measurement range:
  - Type K: -40 °C to 350 °C (-40 °F to 662 °F)
  - Type T: -196 °C to 350 °C (-321 °F to 662 °F)

### Air measurements

#### 80PK-24 SureGrip™ Air Temperature Probe

Type K thermocouple probe for air and non-caustic gas measurements.

- 1 m (39 in) lead
- 21.59 cm (8.5 in) Inconel® probe
- Bead protected by perforated baffle
- Measurement range: -40 °C to 816 °C (-40 °F to 1500 °F)

### Immersion measurements

#### 80PK-22 SureGrip™ Immersion Temperature Probe

Type K thermocouple probe for use in liquids and gels.

- 1 m (39 in) lead
- 21.27 cm (8.375 in) Inconel® probe
- Measurement range: -40 °C to 1090 °C (-40 °F to 1994 °F)

### Pipe measurements

#### 80PK-8 and 80PK-10 Pipe Clamp Temperature Probe

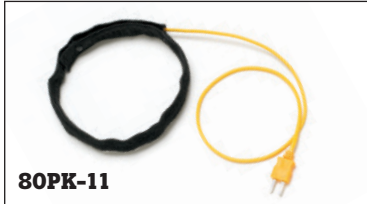
Type K thermocouple clamps securely to pipes for fast temperature and superheat measurements.

- Durable ribbon sensor
- 1 m (39 in) lead
- 80PK-8 for pipe diameters 6.4 mm to 34.9 mm (0.25 in to 1.375 in)
- 80PK-10 for pipe diameters 32 mm to 64 mm (1.25 in to 2.5 in)
- Measurements are repeatable to 0.56 °C (1 °F)
- Measurement range: -29 °C to 149 °C (-20 °F to 300 °F)





80PK-8  
80PK-10



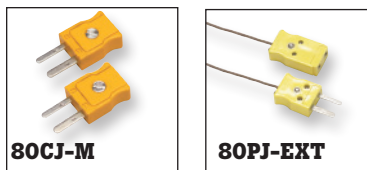
80PK-11



80PR-60



80TK



80CJ-M

80PJ-EXT

### 80PK-11 Type-K Velcro® Thermocouple Temperature Probe

Type K Velcro cuff for use with any temperature-measuring instrument that accepts type K thermocouples.

- Use multiples and leave in place for route-based routine maintenance
- 1 m (39 in) lead
- 48 cm (19 in) Velcro® cuff
- Measurement range: -30 °C to 105 °C (-22 °F to 221 °F)

### 80PK-18 Pipe Clamp Temperature Probe Kit

- Includes both 80PK-8 and 80PK-10 Type K clamps
- Provides full range of pipe measurement sizes
- Includes soft carrying case to conveniently keep both clamps



80T-150UA



80AK-A



80BK-A

handy for any situation

### Contact measurements (for use with non-contact infrared thermometers)

#### 80PR-60 RTD Temperature Probe

This probe expands the utility of an RTD non-contact infrared thermometer by simultaneously taking contact and non-contact temperature readings.

- For use with the Fluke 66 and 68 Infrared Thermometers
- 1 m (39 in) lead
- 90 mm (3.5 in) platinum 1 KW probe
- 3.5 mm (0.14 in) phono type jack
- Measurement range: -40 °C to 260 °C (-40 °F to 500 °F)

### Temperature adapters for DMMs

#### 80AK-A Thermocouple Adapter

Adapts type K thermocouple mini-connector to dual shrouded 4 mm (0.16 in) 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 (0.16 in) banana jack.

- Compatible with Fluke DMM with temperature measurement functions
- 1 m (39 in) lead
- 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
- 1 m (39 in) lead
- Measurement range: -50 °C to 1000 °C (-58 °F to 1832 °F) (probe dependent)

### 80T-150UA Universal Temperature Probe

Adapts any DMM using shrouded 4 mm (0.16 in) 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
- 1.1 m (42 in) lead
- 15.7 cm (6.2 in) probe tip
- Measurement range: -50 °C to 150 °C (-58 °F to 302 °F)
- Output: switchable, from 1 mV/°C to 1 mV/°F

### Other temperature accessories

#### 80CJ-M or 80CK-M Male Mini-Connectors

Type J or K thermocouple, suitable for up to 20-gauge thermocouple wire.

- Isothermal screw terminal for J wire
- Two per package

#### 80PJ-EXT, 80PK-EXT, or 80PT-EXT Extension Wire Kit

This kit extends and repairs type J, K, or T thermocouple wires for thermometers.

- Includes 3 m (118 in) of thermocouple wire and one pair of male/female mini-connectors
- Maximum continuous exposure temperature: 260 °C (500 °F)

Fluke current clamps extend the current ranges of digital multimeters, power quality analyzers, and oscilloscopes and are available for both ac and ac/dc environments. Most clamps are made with a soft, non-slippery overmold handle to prevent accidental touching of live wires.

i400

## Current clamps: AC

20

### AC current clamp specifications

	i5s	i200	i200s	i400	i400s	i800	i1000s	i3000s
<b>AC range</b>	10 mA to 5 A	0.5 A to 240 A	0.5 A to 240 A	1 A to 400 A	0.5 A to 400 A	0.1 A to 800 A	100 mA to 1000 A	1 A to 3000 A
<b>Accuracy</b>	10 mA to 1 A 1% + 5 mA 1 A to 5 A 1%, 48 Hz to 65 Hz	≤ 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	.5 A to 40 A, 2% + .015 A, 5 A to 400 A, 2% + .04 A, 45 Hz to 400 Hz	± 2% of rdg., 50 Hz to 1 kHz ± 3% of rdg., (typical) 30 Hz to 50 Hz and 1 kHz to 10 kHz	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 A to 30 A: 2% + 0.1 A 1 A to 300 A: 2% + 0.5 A 1 A to 3000 A: 2% + 2 A 48 Hz to 65 Hz
<b>Bandwidth (-3 dB)</b>	40 Hz to 5 kHz	10 kHz to 40 kHz	40 Hz to 40 kHz	5 Hz to 20 kHz	5 Hz to 10 kHz	30 Hz to 10 kHz	10 Hz to 100 kHz	10 Hz to 100 kHz
<b>Maximum conductor dia.</b>	15 mm (0.59 in)	20 mm (0.8 in)	20 mm (0.8 in)	32 mm (1.25 in)	32 mm (1.25 in)	54 mm (2.13 in)	54 mm (2.13 in)	64 x 100 mm (2.52 in x 3.94 in)
<b>Maximum conductor size</b>	2 AWG	300 MCM	300 MCM	750 MCM	750 MCM	2-500 MCM or 1-1000 MCM	2-500 MCM or 1-1000 MCM	64 mm (2.52 in)
<b>Output levels</b>	400 mV/A	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
<b>Output cable</b>	2.5 m to BNC termination	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
<b>Warranty</b>	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year
<b>Safety rating</b>	CAT III 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	CAT III 600 V	CAT III 600 V	CAT III 600 V

	i430-flex	i2000 flex	i3000s flex-24/i3000s flex-36	i6000s flex-24/i6000s flex-36
<b>AC range</b>	30 A to 3000 A	20 A to 2000 A	30 A to 3000 A	60 A to 6000 A
<b>Accuracy</b>	± 1% of reading at 25 °C, 50 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, Ranges: 60 A, 600 A, 6000 A
<b>Bandwidth (-3 dB)</b>	10 Hz to 7 kHz	10 Hz to 20 kHz	10 Hz to 50 kHz	10 Hz to 50 kHz
<b>Maximum conductor dia.</b>	177 mm (7 in)	177 mm (7 in)	177 mm (7 in) or 265 mm (10.4 in)	177 mm (7 in) or 265 mm (10.4 in)
<b>Maximum conductor size</b>	610 mm (24 in) circumference	610 mm (24 in) circumference	610 mm (24 in) circumference	610 mm (24 in)/915 mm (36 in) circumference
<b>Output levels</b>	85 mV at 1000 A rms, 50 Hz	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
<b>Output cable</b>	2.5 m to BNC termination	2 m with double shrouded banana plugs	2.1 m to BNC termination	2 m to BNC termination
<b>Battery life</b>	No battery		400 hours	400 hours
<b>Warranty</b>	One-year	One-year	One-year	One-year
<b>Safety rating</b>	CAT III 1000 V, CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V



Left to right: i800, i400, i200s

**AC clamp-on current probe compatibility**

Model number	i5s	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 FLEX <sup>1</sup>	i3000s FLEX	i6000s FLEX <sup>3</sup>
10/11/12/12B/16/18			1 A to 200 A		1 A to 400 A*		0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 A
110/111/112			3 A to 200 A		30 A to 400 A*		3 A to 1000 A*	30 A to 3000 A	3 A to 2000 A	3 A to 3000 A	6 A to 6000 A
114/116			1 A to 200 A		0.6 A to 400 A*		0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 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	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 A
21/23/73/75/77 Series III		1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	0.1 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	6 A to 6000 A
26/79 Series III		1 A to 40 A	1 A to 200 A	1 A to 40 A/ 200 A to 400 A	2 A to 400 A*	0.4 A to 40 A, 200 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	6 A to 6000 A
27		1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	0.1 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	6 A to 6000 A
70 Series III			1 A to 200 A		1 A to 400 A*		0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 A
77-IV						0.1 A to 800 A					6 A to 6000 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	6 A to 6000 A
1577/1587		3 A to 200 A	1 A to 200 A	3 A to 400 A	3 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	6 A to 6000 A
83III/83V/88V		2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	0.25 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	6 A to 6000 A
85/87 Series III 87 Series V		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	6 A to 6000 A
87/89 Series IV 187/189		2.5 A to 200 A	1 A to 200 A	2.5 A to 400 A	0.5 A to 400 A*	2.5 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	6 A to 6000 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	
8060A/8062A		2 A to 200 A	1 A to 200 A	2 A to 400A	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	6 A to 6000 A
860 Series		1 A to 200 A	1 A to 200 A	1 A to 400 A	3 A to 400 A*	1.5 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	6 A to 6000 A
39/41B			1 A to 200 A <sup>2</sup>		1 A to 400 A <sup>2</sup>		0.2 A to 1000 A <sup>2</sup>	1 A to 3000 A <sup>2</sup>	2 A to 2000 A <sup>2</sup>	3 A to 3000 A <sup>2</sup>	6 A to 6000 A
43B			0.5 A to 200 A		0.5 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	20 A to 2000 A	30 A to 3000 A	60 A to 6000 A
434/435	10 mA to 6 A		0.5 A to 200 A		0.5 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	20 A to 2000 A	30 A to 3000 A	60 A to 6000 A
9X Series			0.5 A to 200 A		0.5 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	20 A to 2000 A	30 A to 3000 A	60 A to 6000 A
120 Series			0.5 A to 200 A		0.5 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	20 A to 2000 A	30 A to 3000 A	60 A to 6000 A
190 Series			0.5 A to 200 A		0.5 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	20 A to 2000 A	30 A to 3000 A	60 A to 6000 A
45 DMM		1.5 A to 100 A	1 A to 200 A	1.5 A to 100 A	1.5 A to 400 A*	1.5 A to 100 A, 500 A to 800 A	0.15 A to 1000 A*	1.5 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 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	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 A
8845A/8846A		1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	0.5 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	6 A to 6000 A
75X Series			1.1 A to 200 A		11 A to 400 A*		1.1 A to 1000 A*	11 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 A
787/789		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 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	6 A to 6000 A

\*Requires PM9081/001 Adapters. <sup>1</sup>Three range version. <sup>2</sup>Current and watt readings will be multiples of 10 higher or lower than actual on some ranges. <sup>3</sup>Current readings will read half of the expected cardinal value on all meters.



## AC-only clamps

Fluke current clamps provide accurate current measurements without breaking electric circuits.

### i800 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 (0.16 in) banana plugs and has an ac milliamp range.

- Current range: 100 mA to 800 A rms ac
- Frequency range: 30 Hz to 10 kHz (-3 dB)
- Safety rating: CAT III 600 V rms

### i400 AC Current Clamp

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. It is compatible with most digital multimeters or any other current measurement device that accepts 4 mm (0.16 in) shrouded banana plugs and has an ac milliamp range. 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 ac.

- 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 4 mm (0.16 in) banana plugs. It is compatible with most digital multimeters or other current measurement device that accepts shrouded 4 mm (0.16 in) banana plugs and has 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

### i200s AC Current Clamp

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 meters with banana inputs. It is an ideal companion to a ScopeMeter, power quality meter, or digital multimeter.

- Current ranges: 0.1 A and 200 A ac switchable
- Frequency range: 40 Hz to 10 kHz
- Safety rating: CAT III 600 V

### i2000 Flex AC Current Clamp

This current probe utilizes the Rogowski (air-cored coil) principle. It can be used to measure currents up to 2000 A when used in conjunction with multimeters, recorders, or 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
- Safety rating: CAT III 600 V

### 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
- Frequency range: 10 Hz to 100 kHz
- Accurate displays due to a passive filter that eliminates noise and ring on rapidly-rising di/dt waveforms
- Optional PM9081/001 Dual Banana Plug Male to Female BNC Adapter is available for digital multimeters
- Safety rating: CAT III 600 V



**i3000s AC Current Clamp**

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 4 mm (0.16 in) banana input plugs. This clamp is optimized for measurement on power distribution systems.

- Current range: 1 A to 3000 A
- Frequency range: 10 Hz to 100 kHz
- Safety rating: CAT III 600 V

**i3000s Flex-24 or -36 AC Current Clamp**

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-to-reach areas without batteries or an external power source. This clamp fits around large conductors and is available in 610 mm and 914 mm (24 in and 36 in) lengths.

- Current range: 30 A, 300 A, and 3000 A switchable
- Frequency range: 10 Hz to 50 kHz
- Safety rating: CAT III 600 V

**i3000s Flex-24 is available in a convenient four-pack (i3000s Flex 4 Pack)**

**i5s AC Current Clamp**

This compact 5 A ac clamp, specially configured to provide low-current accuracy while taking measurements on secondary current transformers, expands the use of the Fluke 430 Series Three-Phase Power Quality Analyzer.

- Current range: 10 mA to 5 A
- Frequency range: 40 Hz to 5 kHz
- Safety rating: CAT III 600 V (for insulated conductors only)

**Also available in a convenient three-pack (i5sPQ3)**

**i6000s Flex-24 or -36 AC Current Clamp**

This ac current clamp utilizes the Rogowski (air-cored coil) principle and measures three ranges of currents up to 6000 A when used in conjunction with oscilloscopes, recorders, or data loggers. The flexible 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 (24 in and 36 in) 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



**i2000**



**i6000s**



**i3000s Flex-24 and -36**



**i1000s**



**i5s**



**i3000s**



i1010

# Current clamps: AC/DC

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## AC/DC current clamp specifications

	i30	i30s	80i-110s	i310s	i410	i1010
<b>DC range</b>	30 mA to 30 A	30 mA to 30 A	0.1 A to 100 A	0.1 A to 300 A	1 A to 400 A	1 A to 1000 A
<b>AC range</b>	30 mA to 20 A rms	30 mA to 20 A rms	0.1 A to 70 A	0.1 A to 300 A	1 A to 400 A	1 A to 600 A
<b>Accuracy</b>	± 1 % of reading, ± 2 mA	± 1 % of reading, ± 2 mA	0.1 A to 10 A; dc to 1 kHz: ± 3 % + 50 mA; up to 100 A add 15 %; up to 20 kHz add 12 %	30 A range: 1 % + 50 mA 300 A range: 1 % + 300 mA	3.5 % + 0.5 A for dc or ac (45 Hz to 400 Hz)	2 % + 0.5 A for dc or ac (45 Hz to 400 Hz)
<b>Bandwidth (-3 dB)</b>	dc to 20 kHz (-0.5 dB)	dc to 100 kHz (-0.5 dB)	100 kHz	dc to 20 kHz	3 kHz	10 kHz
<b>Zero error adjustment</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Maximum conductor diameter</b>	19 mm (0.75 in)	19 mm (0.75 in)	11.8 mm (0.46 in)	19 mm (0.75 in)	30 mm (1.18 in)	30 mm (1.18 in)
<b>Maximum conductor size</b>	250 MCM	250 MCM	1 AWG	250 MCM	750 MCM or 2-500 MCM	750 MCM or 2-500 MCM
<b>Output levels</b>	100 mV/A	100 mV/A	10 mV/A, 100 mV/A	10 mV/A, 1 mV/A	1 mV/A	1 mV/A
<b>Output cable</b>	1.5 meter with shrouded dual banana plug	2 meter with BNC termination	1.6 meter with BNC termination	2 meters with BNC termination and a BNC to safety shrouded banana adapter	1.2 meter with shrouded banana plugs	1.2 meter with shrouded banana plugs
<b>Battery life (hours)</b>	30	30	40	30	60	60
<b>Warranty</b>	One-year	One-year	One-year	One-year	One-year	One-year
<b>Safety</b>	CAT III 300 V	CAT III 300 V	CAT II 600 V, CAT III 300 V	CAT III 300 V	CAT III 600 V	CAT III 600 V



Left to right: i410, 80i-110s, i30

**AC/DC clamp-on current probe compatibility**

Model number	80i-110s	i410	i1010	i30	i30s	i310s
10/11/12/12B/16/18	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	5 A to 400 A dc/ 7 A to 400 A ac	5 A to 1000 A dc/ 7 A to 600 A ac	40 mA to 30 A dc/ 60 mA to 20 A ac	40 mA to 30 A dc/ 60 mA to 20 A ac	0.4 A to 450 A dc/ 0.6 A to 300 A ac
110/111/112	0.14 A to 100 A dc/ 3 A to 70 A ac*	5 A to 400 A dc/ 300 A to 400 A ac	5 A to 1000 A dc/ 300 A to 600 A ac	40 mA to 30 A dc/ 3 A to 20 A ac	40 mA to 30 A dc/ 3 A to 20 A ac	0.4 A to 450 A dc/ 30 A to 300 A ac
114/115/116/117	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1.4 A to 400 A dc/ 6 A to 400 A ac	1.4 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 0.6 A to 300 A ac
21/23/70/73/ 75/77 Series III	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 5 A to 400 A ac	1 A to 1000 A dc/ 5 A to 600 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	0.1 A to 450 A dc/ 0.4 A to 300 A ac
26/79 Series III	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
27	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
77-IV	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 5 A to 400 A ac	1 A to 1000 A dc/ 5 A to 600 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	0.1 A to 450 A dc/ 0.4 A to 300 A ac
175/177/179	0.11 A to 100 A dc/ 0.3 A to 70 A ac*	1.6 A to 400 A dc/ 30 A to 400 A ac	1.6 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
1577/1587	0.1 A to 100 A dc/ 0.3 A to 70 A ac*	1.2 A to 400 A dc/ 30 A to 400 A ac	1.2 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
83-III/83-V/88-V	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
85-III/87-III/87-V	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
87-IV/89-IV/ 187/189	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 2.5 A to 400 A ac	1 A to 1000 A dc/ 2.5 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.25 A to 300 A ac
287/289	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
8060A/8062A	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
860 Series	0.1 A to 100 A dc/ 0.3 A to 70 A ac*	1 A to 400 A dc/ 30 A to 400 A ac	1 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
39/41B	Usable but will read 10 or 100 times higher	1 A to 400 A ac** Not spec'd for dc	1 A to 600 A ac** Not spec'd for dc	Usable but will read 100 times higher**	Usable but will read 100 times higher	Not spec'd for dc 0.6 A to 300 A ac
9X Series	0.1 A to 100 A dc/ 0.1 A to 70 A ac	1 A to 400 A dc/ 5 A to 400 A ac**	1 A to 1000 A dc/ 5 A to 600 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac	0.1 A to 450 A dc/ 0.5 A to 300 A ac
120 Series	0.1 A to 100 A dc/ 0.1 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 mA to 30 A dc/ 250 mA to 20 A ac**	30 mA to 30 A dc/ 250 mA to 20 A ac	0.1 A to 300 A dc/ 0.1 A to 300 A ac
190 Series	0.1 A to 100 A dc/ 0.1 A to 70 A ac	1 A to 400 A dc/ 5 A to 400 A ac**	1 A to 1000 A dc/ 5 A to 600 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac	0.1 A to 300 A dc/ 0.1 A to 300 A ac
45 DMM	0.1 A to 100 A dc/ 0.15 A to 70 A ac*	1 A to 400 A dc/ 15 A to 400 A ac	1 A to 1000 A dc/ 15 A to 600 A ac	30 mA to 30 A dc 150 mA to 20 A ac	30 mA to 30 A dc 150 mA to 20 A ac	0.1 A to 450 A dc/ 1.5 A to 300 A ac
8808A	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 2 A to 400 A ac	1 A to 1000 A dc/ 2 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.2 A to 300 A ac
8845A/8846A	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 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, no 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, no ac
74X Series	0.1 A to 100 A dc/ 1.1 A to 70 A ac*	1 A to 400 A dc/ 110 A to 400 A ac	1 A to 1000 A dc/ 110 A to 600 A ac	30 mA to 30 A dc/ 1.1 A to 20 A ac	30 mA to 30 A dc/ 1.1 A to 20 A ac	0.1 A to 450 A dc/ 11 A to 300 A ac
787/789	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	3 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac

\*Requires PM9081/001 Adapters. \*\*Requires PM9082/001 Adapter