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Introduction

The 1A/10A Current Clamp Sets (the Clamp) have been designed for applications with Fluke 1735 and 1740 series products for accurate non-intrusive measurement of ac currents. Using latest technologies (integrated memory for calibration data) provides current ranges from 0.025 A up to 10 A in a frequency range of 40 Hz to 5 kHz.

Contacting Fluke

To contact Fluke, call one of the following telephone numbers:

USA: 1-888-44-FLUKE (1-888-443-5853)

Canada: 1-800-36-FLUKE (1-800-363-5853)

Europe: +31 402-675-200

Japan: +81-3-3434-0181

Singapore: +65-738-5655

Anywhere in the world: +1-425-446-5500

USA Service: 1-888-99-FLUKE (1-888-993-5853)

Safety Instructions

Please read this section carefully. It will familiarize you with the most important safety instructions for handling the Probe. In this instruction sheet, a Warning identifies conditions and actions that pose hazard(s) to the user. A Caution identifies conditions and actions that may damage the calibrator or the test instruments.

Warning

The Clamp may only be used and handled by qualified personnel. To avoid personal injury, follow these precautions:

- To avoid electric shock, use caution during installation; high voltages and currents may be present in circuit under test.
- Do not use the Clamp if damaged. Always connect to display device before it is installed around the conductor.
- Use the Clamp only as specified in the operating instructions; otherwise the safety features may not protect you.
- Adhere to local and national safety codes. Individual protective equipment must be used to prevent the shock and arc blast injury where hazardous live conductors are exposed.
- Before each use, inspect the Clamp. Look for cracks or missing portions of the housing or output cable insulation. Also look for loose or weakened components.

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- Use caution when working with voltages above 60 V dc, 30 V ac rms or 42 V ac peak. Such voltages pose a shock hazard.
- This Clamp is considered to be used in 600 CAT III environments. CAT III equipment is designed to be used in distribution panels, feeders and short branch circuit, and the lighting system in large buildings.
- Do not use the Clamp in damp or wet environments or in locations that hazardous gases exist.
- Do not hold the Current Clamp anywhere beyond the tactile barrier.
- De-energize circuit during installation and removal of Probe.








Operating Instructions

1. Connect the Clamp to the current input jack of the product. Verify that the product has recognized that a current Clamp is connected.
2. In case of uninsulated conductors, de-energize the circuit before placing the Clamp. Re-energize the circuit.
3. Observe and take measurements as required. Positive output indicates that the current flow is in the direction shown by the arrow on the Clamp.
4. In case of uninsulated conductors, de-energize before removal of the Clamp.

Cleaning

Clean the Probe periodically by wiping it with a damp cloth and detergent. Do not use abrasive cleaners or solvents. Do not immerse the Probe in liquids.

Symbols

	Do not dispose of this product as unsorted municipal waste. Go to Fluke's website for recycling information.
	Risk of Danger. Important Information. See manual.
	Hazardous Voltage. Risk of electric shock.
	Double insulation.
	Do not apply around or remove from HAZARDOUS LIVE conductors.
	Conforms to relevant Canadian Standards Association directives.
	Conforms to relevant European Union directives.

Electrical Characteristics

Nominal current In: 1 / 10 A ac rms

Overload: up to 13 A rms.

Max. Non-destructive current: 100 A ac rms

Conductor position influence: <0.5 % of range at 50/60 Hz

Error due to adjacent conductor: ≤15 mA / A at 50 Hz

Phase shift at 2 kHz at 10 A: < ±1 degree

Frequency range: 40 Hz to 5 kHz (-3 dB)

Temperature coefficient: 0.015 % of range / °C

Working voltage (see section safety): 600 V ac rms or dc

Order reference:

3-phase 3024413: I1A/10A CLAMP PQ3

3-phase+N 3024424: I1A/10A CLAMP PQ4

Specifications

General Specifications

Maximum Conductor Size: 15 mm (0.59 in) diameter bus bar
15 x 17 mm (0.59 x 0.66 in)

Cable length: 2 m (6.56 ft)

Length of measuring head: 122 cm (4 ft)

Operating temperature range: -10 °C to +55 °C
(14 °F to 131 °F)

Storage temperature range: -20 °C to +70 °C
(-4 °F to 158 °F)

Operating humidity

(non-condensing): 15 % to 85 % rh

Weight: PQ4 730 g (1.6 lb); PQ3 560 g (1.25 lb)

Reference Conditions

Environment temperature range: +18 °C to +26 °C
(64.4 °F to 78.8 °F)

Humidity: 20 to 75 % rh

Altitude: max. 2000 m (1.24 mi)

Current: sinusoidal waveform, 48 Hz to 65 Hz, distortion factor: <1 %, no dc component

Load impedance for voltage output: ≥1 MΩ, <100 pF

Safety Standards

IEC/EN61010-1: 2001

IEC/EN61010-2-032:2002

IEC/EN61010-031:2002

Safety Specifications

Category Rating: 600 V CAT III, pollution degree 2

EMC Standards: IEC/EN 61326-1:2006

Measurement Considerations

Observe the following guidelines when making measurements:

- Center the conductor inside the Clamp jaw.
- Make sure the Clamp is perpendicular to the conductor.
- For optimal reading, make sure the conductor is positioned between the alignment marks on the jaws of the Clamp.
- Avoid taking measurements close to other current-carrying conductors.

Accuracy (at 50 Hz)

Primary current	0.025 A to 0.5 A	0.5 A to 2.5 A	2.5 A to 5 A	5 A to 10 A
Operating error in % of reading	±2.5 %	±1.5 %	±0.5 %	±0.5 %
Phase shift	Not specified	<2 °	<0.5 °	<1 °



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