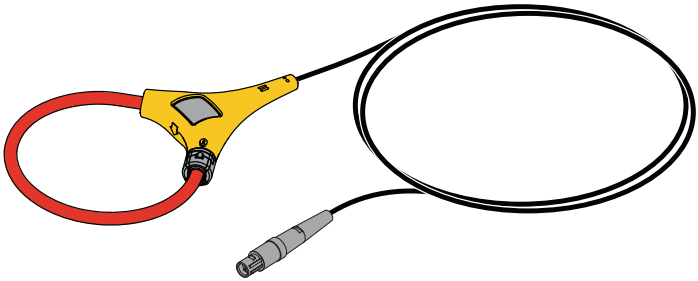
3210-PR-TF

Thin Flex Current Probe

Instruction Sheet



Introduction

The 3210-PR-TF Flex Thin Flex Current Probe (the Probe or Product) is an ac current probe utilizing the Rogowski principle. The Probe is designed for use with the Fluke 1750 Power Recorder and measures current from very low frequencies up to the 50th harmonic of a 50/60 Hz power supply. The flexible and lightweight measuring head allows quick and easy installation in hard to reach areas and around large conductors.

Contacting Fluke

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

- Technical Support USA: 1-800-44-FLUKE (1-800-443-5853)
- Calibration/Repair USA: 1-888-99-FLUKE (1-888-993-5853)
- 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

Or, visit Fluke's website at www.fluke.com.

To register your product, visit http://register.fluke.com.

To view, print, or download the latest manual supplement, visit http://us.fluke.com/usen/support/manuals.

PN 3986209
April 2011

Symbols

The table below lists the symbols used on the Probe and/or in this instruction sheet.

Symbol	Description
	Do not dispose of this product as unsorted municipal waste. Go to Fluke's website for recycling information.
	Important Information. See manual.
	Hazardous Voltage. Risk of electric shock.
	Double insulation.
	Do not apply to or remove from hazardous, live conductors, without using personal protective equipment.
	Canadian Standards Association- Complies with relevant North American Safety Standards.
	Complies with the relevant European standards.
	Conforms to relevant Australian standards.
CAT III	Equipment is designed to protect against transients in equipment in fixed equipment installations, such as distribution panels, feeders and short branch circuits, and lighting systems in large buildings.
CAT IV	Equipment is designed to protect against transients from the primary supply level, such as an electricity meter or an overhead or underground utility service.

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 Probe or the test equipment.

Warning

To prevent possible electrical shock, fire, or personal injury:

- **The Probe is to only be used and handled by qualified personnel.**
- **Always connect to display device before it is installed around the conductor.**
- **Use the Product only as specified, or the protection supplied by the Product can be compromised.**
- **High voltages and currents can be in adjacent circuits under test.**
- **Before each use, examine the Product. Look for cracks or missing pieces of the clamp housing or output cable insulation. Also look for loose or weakened components. Carefully examine the insulation around the jaws.**
- **Do not use if the output cable wear indicator shows (contrasting color inner insulation).**
- **Do not use and disable the Product if it is damaged.**

- **Comply with local and national safety codes. Use personal protective equipment (approved rubber gloves, face protection, and flame-resistant clothes) to prevent shock and arc blast injury where hazardous live conductors are exposed.**
- **Do not work alone.**
- **Limit operation to the specified measurement category, voltage, or amperage ratings.**
- **De-energize the circuit or wear personal protective equipment in compliance with local requirements before you apply or remove the Flexible Current Probe.**
- **Do not touch voltages > 30 V ac rms, 42 V ac peak, or 60 V dc.**
- **Equipment is to be used in 600 V CAT IV and 1000 V CAT III environments.**
- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**

Operating Instructions

1. Connect the Probe to the 1750 via the 1750 current input jack.
2. Wear protective equipment or de-energize the circuit and place the Probe around the conductor under test. To lock the coil, see Figure 1.
3. Re-energize the circuit.
4. Observe and take measurements as required. Positive output indicates that the current flow is in the direction shown by the arrow on the Probe.
5. Wear protective gloves or de-energize the circuit before removal of the Probe.

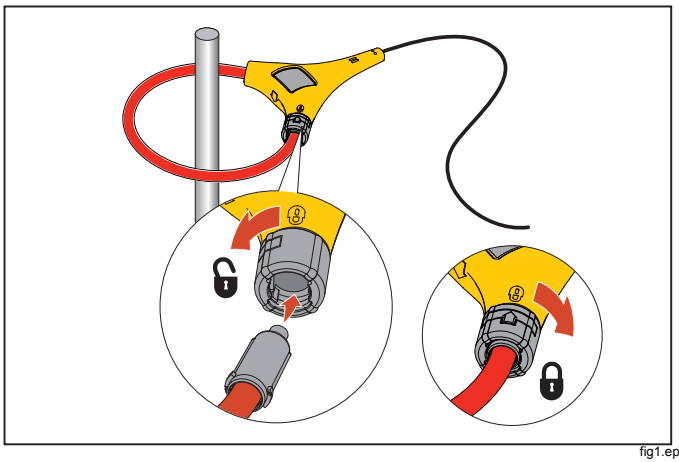


fig1.eps

Figure 1. Locking the Coil

Maintenance

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.

Specifications

Electrical Characteristics

Measurement Range	20 to 1000 A (with a crest factor ≤3)
Frequency Range	40 Hz to 5 kHz
Accuracy (@ 25 °C)	±1 % of reading
Linearity (10 % to 100 % of range)	±0.2 % of reading
Temperature Coefficient	±0.05 % of reading per °C
Position Sensitivity (with cable >25 mm from the coupling)	±2 % of reading
External Field (with cable >200 mm from the head)	±1 % of reading
Working Voltage (see Safety Standards)	1000 V ac rms or dc

General Characteristics

Probe and Cable Material	Alcryn 2070NC, reinforced insulation, UL94 V0, Color: RED
Probe Cable Length	24 in. (610 mm)
Probe Cable Diameter	0.3 in. (8 mm)
Transducer Bend Radius (min)	1.5 in. (38.1 mm)
Output Cable	2 core screened, double insulated, 3 meters long
Output Connector	LEMO 6 pin male connector
Operating Temperature Range	-4 to +158 °F (-20 to +70 °C) (the temperature of the conductor under test shall not exceed 176 °F /80 °C)
Storage Temperature Range	-40 to 176 °F (-40 to +80 °C)
Operating Humidity	15 % to 85 % (non condensing)
Altitude	max 6562 ft. (2000 m)
Degree of ingress protection	IP40 (IEC 60529)

Safety Standards

EN/IEC 61010-1:2001
EN/IEC 61010-031:2002+A1:2008
EN/IEC 61010-2-032:2002
Pollution Degree 2
Use of the Probe on uninsulated conductors is limited to 1000 V under CAT III installations and 600 V under CAT IV installations ac rms or dc and frequencies below 1 kHz.
Note that the safety rating for the output to ground is limited to 30 V ac rms or dc by the connector specified.

LIMITED WARRANTY AND LIMITATION OF LIABILITY

This Fluke product will be free from defects in material and workmanship for one year from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Fluke's behalf. To obtain service during the warranty period, contact your nearest Fluke authorized service center to obtain return authorization information, then send the product to that Service Center with a description of the problem.
THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

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