

Order Reference Order No.

ACP 3003_3/24 610mm (24inch) Probe.....P-02.710.3
ACP 3003_3/36 915mm (36inch) Probe.....P-02.713.7
ACP 3003_3/48 1220mm (48inch) Probe.....P-02.713.8
ACP 6003_3/24 610mm (24inch) Probe.....P-02.762.1
ACP 6003_3/36 915mm (36inch) Probe.....P-02.762.2
ACP 6003_3/48 1220mm (48inch) Probe.....P-02.762.3

Thank you for buying this product.
For safety reasons and optimum use of this instrument
read through the operating instructions very carefully.

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1 SAFETY

The following symbols appear on the products:



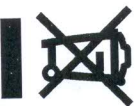
Attention! Refer to Manual



Double/Reinforced Insulation



Do not apply around or remove from HAZARDOUS LIVE conductors without additional protective means. "Additional protective means" can be de-energizing the circuit or wearing protective clothing suitable for high voltage work.



Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler for disposal.



Complies with the relevant European standards.



Underwriters' Laboratory Inc. recognized component.



Read all instructions completely before using this product.

To avoid electric shock:

- Use caution during installation and use of this product; high voltages and currents may be present in circuit under test.
- This product must be used only by qualified personnel practising applicable safety precautions.
- Wear protective clothing and gloves as required.
- Do not install this product on live conductors.
- Always de-energise circuit under test before installing flexible measuring head. Always inspect the electronics unit, connecting cable, and flexible probe for damage before using this product.
- Do not use product if damaged.
- Always connect electronics unit to display device before installing the flexible measuring head.
- Never change batteries while measurement head is installed on conductor.
- Never connect or disconnect the external power supply while the measurement head is installed on a conductor.
- Never connect the output to any equipment with a common mode voltage to earth greater than 30 Volts.
- Always wear protective clothing and gloves if hazardous live parts are present in the installation where the measurement is carried out.
- If the probe is used in a manner not specified by the manufacturer the protection provided by the equipment may be impaired.

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INTRODUCTION

The PRO~flex ACP 3003_3 and ACP 6003_3 are 3 Phase AC current probe utilising the Rogowski principle. They can be used to measure AC current up to 3000A and up to 6000A respectively, when used with oscilloscopes, recorders or data loggers. The flexible probe allows current measurements on conductors that are hard to reach.

The probes provide a 3V full scale AC output proportional to the current being measured with three selectable ranges via robust rotary switch.

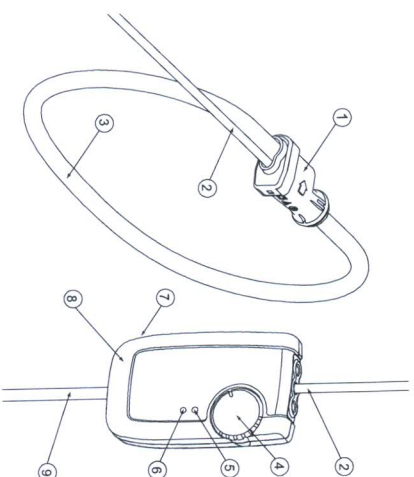


Fig 1

1. Probe Coupling
2. Probe Output Cable
3. Flexible Current Probe
4. Power On / Range Switch
5. RED LED – Overload
6. ORANGE LED – Low Battery
7. External Power Supply Input
8. Integrator Housing
9. Output Cable

3 SPECIFICATIONS

Measuring ranges	ACP 3003_3 ACP 6003_3	30A / 300A / 3000A AC 60A / 600A / 6000A AC
Output sensitivity (AC coupled)	ACP 3003_3 ACP 6003_3	100mV / 10mV / 1mV per A 50mV / 5mV / 0.5mV per A
Accuracy (45-65Hz)		± 1% of reading ± 0.1A (30/300A or 60/600A ranges) ± 1% of reading ± 1A (3000A or 6000A range)
Minimum load		100kΩ for specified accuracy
Frequency range		10Hz to 10KHz (-1dB)
Phase (45-65Hz)		<± 1°
Position sensitivity		± 2% of reading
External field		± 0.2% of range with cable >200mm (8") from the probe
Noise		8mV rms in 30A and 60A ranges 2mV rms in 300A / 3000A and 600A / 6000A ranges
Temperature coeff.		± 0.1 / °C
Power supply		Two AA MN1500 LR6 alkaline batteries or an external power supply (+3V/100mA)
Battery life		1000 hours typical
External Power		Via 2.1mm (0.08") mini power connector
Low battery		Indicated by an orange LED
Overload		Indicated by a red LED
Enclosure		
Material		ARNITE T06-200SNF, UL94 V0
Degree of protection		IP40 (not certified by UL)
Dimensions		110 (l) x 65 (w) x 23 (d) mm
Output connection		0.5m coax cable terminated with 3 safety male BNC

Probe

Probe lengths	610mm (24 inches), double insulated 915mm (36 inches), double insulated 1220mm (48 inches), double insulated
Probe diameter	9.9mm (0.39 inches) nominal
Probe output cable	2m (78.7inches), probe to integrator
Material	Alcryn 2070 NC, LATI LATENE 7H2W V0
Degree of Protection	IP65 (not certified by UL)

General Characteristics

Operating temp.	-20°C to +65°C (-4 °F to +149°F)
Storage temp.	-40°C to +75°C (-40 °F to +167°F)
Operating humidity	15% to 85% (non-condensing)
Safety standards	EN 61010-1:2001 EN 61010-031:2002 EN 61010-2-032:2002
EMC	EN 61326-2-2 : 2006
1000 V _{RMS} , Category III, 600 V _{RMS} , Category IV, Pollution Degree 2 (Probe and Integrator)	
30V maximum between output and earth	
ROHS and WEEE compliant	
Rated for continuous use	

4 OPERATION

4.1 BATTERY INSTALLATION



Never replace batteries with flexible measuring head installed on conductor to be tested or output connected to a display device.

Never operate the unit without the battery cover fitted.

The ACP 3003_3 and ACP 6003_3 require two AA MN1500 LR6 alkaline batteries for operation. The battery compartment is accessed from the rear of the electronics enclosure.

Battery status is indicated by an orange LED on the front of the integrator module. This LED will flash one time when the unit is switched ON. The length of time the LED is lit will increase as battery life decreases. Continuous lighting of LED indicates low battery and requires batteries to be replaced.

Should you suspect a depleted battery or the low battery LED blinking, proceed as follows.

1. Turn "OFF" all power to the unit and measurement circuits.
2. Set the probe selector switch to the "OFF" position.
3. Remove the flexible current probe from around the conductor of your measurement circuit. Disconnect the output from the display unit.
4. Rotate the battery lock screw (1/4 turn) until it aligns with the unlock symbol. The battery cover can now be removed.
5. Install the replacement batteries into the battery holder.
6. Replace the battery cover and turn the battery lock until it aligns with the lock symbol.

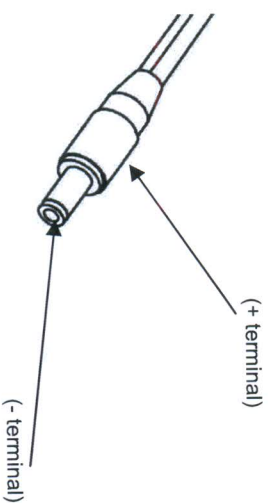
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4.2

EXTERNAL POWER SUPPLY

An optional external power supply can be used with the PRO-flex ACP 3003_3 and ACP 6003_3. The requirements are a stabilised 3VDC supply with a minimum current output of 100mA. The supply is to be terminated with a 2.1mm/5.5mm (0.08"/0.219") power connector (centre negative).

The unit is to be externally powered by a Listed Limited Power supply only.



4.3

MEASURING CURRENT



Read safety section of instructions before operating this product.

Ensure conductor to be tested is de-energised

Connect the output of the electronics to the input of an oscilloscope or other data recording device.



The flexible current probe is not for use on conductors with a potential of over 1000V.

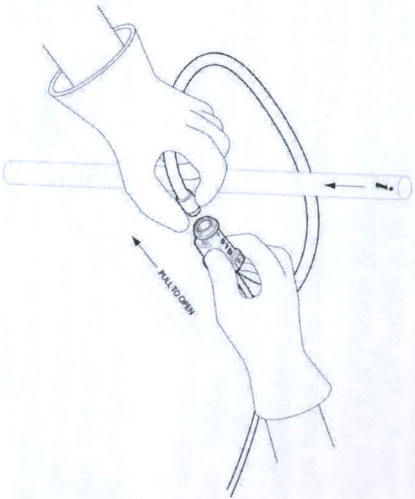
Wrap the flexible probe around the conductor to be tested, close coupling. Energise the circuit under test. Locate the coupling away from nearby conductors.



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Always use appropriate equipment for personal protection. Do not use the flexible current probe to measure bare conductors unless wearing protective clothing suitable for high voltage work.



4.4 OPERATION

To activate unit, move the rotary switch from the "off" position to the required measuring range. If the value of current being measured is unknown, first select the highest range and then reduce accordingly.

4.5 BATTERY STATUS

Battery status is indicated by an orange LED on the front of the integrator module. This LED will flash one time when the unit is switched ON. The length of time the LED is lit will increase as battery life decreases. Continuous lighting of LED indicates low battery and requires batteries to be replaced.



5 MAINTENANCE

Do not use PRO-flex ACP 3003_3 or ACP 6003_3 if damaged.

Always inspect the integrator unit, connecting cable, and flexible probe for damage before use.

To avoid electric shock, keep the probes clean and free of surface contamination.

Use isopropyl alcohol to clean the electronics unit and the probe.

Make sure the flexible probe, connecting cable and electronics enclosure are dry before further use.

6 WARRANTY

Your PRO-flex probe is guaranteed for one year from the date of purchase against defective material or workmanship. If the unit fails during the warranty period, we shall at our discretion, repair or replace it with a new or reconditioned unit provided we are satisfied that the failure is due to defective material or workmanship. To make a claim under warranty, the probe should be returned to us, postage prepaid, with a description of the defect. The use of a battery or external power supply, other than that specified invalidates this warranty.

Goods alleged by the buyer to be defective shall not form the subject of any claim for injury, loss, damage, or any expense howsoever incurred whether arising directly or indirectly from such alleged defects other than death or personal injury resulting from the seller's negligence.

No condition is made or to be implied nor is any warranty given or to be implied as to the life or wear of goods supplied or that they will be suitable for any particular purpose or for use under specific conditions, notwithstanding that such purpose or conditions may be made known to the seller.