

# New Flexible Current Probe

## PRO~flex ACF 3000



**IP65**

The new PRO~flex is a flexible AC current probe utilises the Rogowski principle. After appropriate signal conditioning, it can be used with digital multimeters, recorders and other suitable equipment to measure current from very low frequencies up to 20kHz. The flexible and lightweight measuring head allows quick and easy installation in hard to reach areas and with large conductors.

The Current Probe is designed for general measuring applications and is supplied uncalibrated or calibrated to the users specific sensitivity where inter-changeability is required.

### Electrical Characteristics

Typical Voltage Output	$V_{RMS}$ (sinusoidal current) .....	: $(2.052 \times 10^{-6}) \times I_{RMS} \times \text{Frequency}$
	$V_{RMS}$ at 1000 $A_{RMS}$ x 60 Hz .....	: 123.1mV
	$V_{RMS}$ at 1000 $A_{RMS}$ x 50 Hz .....	: 102.6mV

### Common Characteristics

Output Sensitivity Tolerance - Uncalibrated .....	: $\pm 7\%$ max of reading
Output Sensitivity Tolerance – Calibrated versions .....	: $\pm 0.5\%$ of reading (at 25°C)
Interchangability variance calibrated probes .....	: $\pm 0.5\%$ of reading
Linearity (10% to 100% of range) .....	: $\pm 0.2\%$ of reading
Internal Resistance per Probe (24" / 36" / 48") .....	: 157 / 236 / 314Ω nominal
Bandwidth (-1dB) .....	: 10Hz to 20kHz
Phase Error .....	: $\pm 1^\circ$
Temperature Coefficient .....	: $\pm 0.05\%$ of reading / °C
Position Sensitivity .....	: $\pm 2\%$ of reading
External Field (with cable > 100mm from the head) .....	: $\pm 0.25\%$ of range
Working Voltage (see Safety Standards section) .....	: 1000V AC $RMS$ or DC (Probe)

### General Characteristics

Probe Material .....	: Alcryn 2070 NC, LATENE 7H2W V0
Probe Cable Length / Conductor Diameter .....	: 610mm (24") / 194mm (7.6")
.....	: 915mm (36") / 291mm (11.4")
.....	: 1220mm (48") / 388mm (15.2")
Probe Cable Diameter .....	: 9.9mm (nominal)
Output Cable Length .....	: 2m
Operating Temperature Range .....	: -20 to +65°C
Storage Temperature Range .....	: -40 to +75°C
Operating Humidity .....	: 15% to 85% (non condensing)
Degree of protection .....	: IP65
Colour .....	: RAL 120 70 75 Lemon green

ROHS and WEEE Compliant



ACF3000\_090409\_06

## Output Connections

Red	Stripped and tinned 22 AWG stranded wire	Output
Black	Stripped and tinned 22 AWG stranded wire	0V
Screen	Uninsulated, tinned 21 AWG stranded wire	No internal connection

## Safety Standards

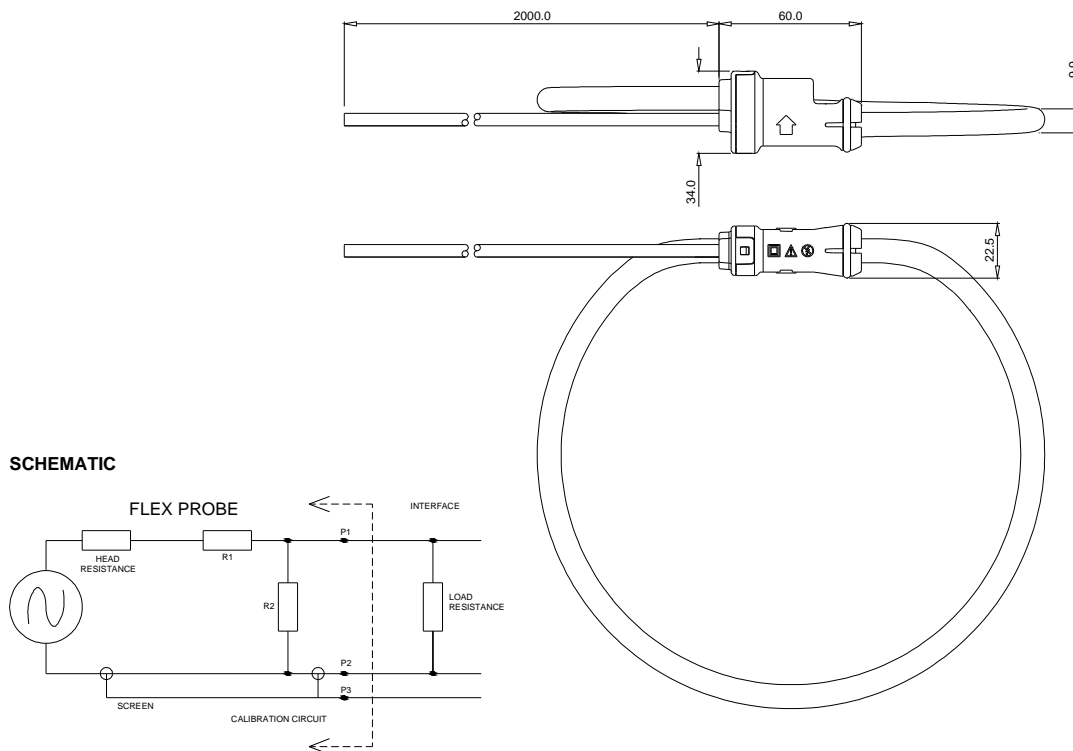
EN 61010-1:2001  
 EN 61010-031:2002  
 EN 61010-2-032:2002  
 UL 610101, 2<sup>nd</sup> Edition, 2005-07-22  
 CAN/CSA-22.2 No. 61010-1, 2<sup>nd</sup> Edition, 2004-07

1000 V<sub>RMS</sub>, Category III, 600 V<sub>RMS</sub>, Category IV, Pollution Degree 2 (Probe and Integrator)

Use of the probe on uninsulated conductors is limited to 1000 V AC<sub>RMS</sub> or DC and frequencies below 1 kHz.

## Dimensions

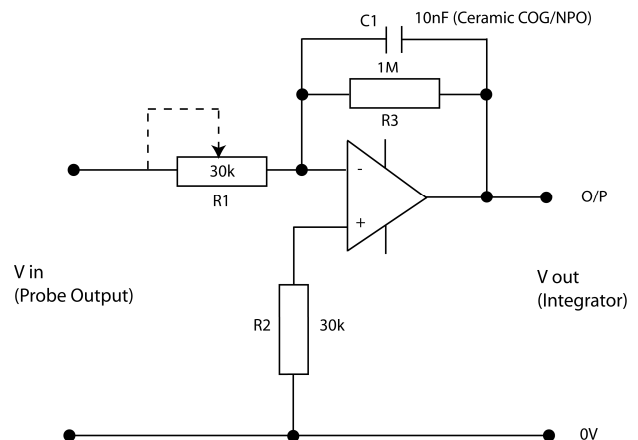
In mm



ACF3000\_090409\_06

## Typical Integrator Circuit

The output signal of the ACF 3000 Current Probes must be conditioned to produce a signal to the measuring instrument, the diagram shows a basic circuit designed to provide a signal of 1mV/A, in order to allow for calibration, resistor R1 should be adjustable



## Customisation

To provide users with probes fitted to application needs the ACF 3000 current probes can be supplied with several standard variable aspects of the specification some of which can be specified by the customer.

## Calibrated Probes

In applications where the probes can be supplied separately from the measuring equipment and interchangeability is required the ACF 3000 current probes can be supplied calibrated to a specific output sensitivity.

## Probe & Cable Lengths

To suit every installation the probe can be supplied in various head lengths from 610mm to 1220mm, the output cables can be supplied in lengths from 2m up to 10m.

## OEM Packaging

To allow measuring equipment manufacturers to incorporate and maintain brand imaging, the probe can be supplied with matched custom colours, custom labelling, customer packaging and user specific connectors where required.