

The **RGF** from *Power Electronic Measurements Ltd.* is a range of low cost / high performance flexible AC current probes.

The **RGF** is a dual sensitivity ac current probe suitable for measuring pulsed, sinusoidal or quasi-sinusoidal currents from 20A to 60kA.



Features

- ➔ Current range from **20A to 60,000A**
- ➔ **Dual sensitivity switch**
- ➔ Bandwidth from **1Hz to 1MHz**
- ➔ Instantaneous $\pm 6V$ peak to peak output to plug directly into scope, data acquisition equipment, DVM or power recorders.
- ➔ Rogowski technology with all the intrinsic benefits
 - ➔ Easy to insert probe in confined spaces
 - ➔ Non-intrusive – loading the circuit under test by only a few pH.....
- ➔ **CE Marked**
- ➔ Battery and / or 12V DC powered with a single 9V battery providing 100hrs+ life
- ➔ Accuracy $\pm 1\%$ of reading.
- ➔ Thin and flexible 'clip-around coil' in three lengths 300mm, 500mm and 700mm
- ➔ Coil peak voltage insulation capability up to 10kV

Applications

- ➔ **Monitoring high frequency sinusoidal currents**
 - ➔ Induction heating
 - ➔ High frequency power measurement
 - ➔ **Power quality measurements**
 - ➔ **Large magnitude currents**
 - ➔ Welding applications
 - ➔ Motor drives
 - ➔ Generators
 - ➔ Power electronic convertors
 - ➔ HVDC
 - ➔ **Pulsed power projects**
 - ➔ Capacitor discharge
 - ➔ Fault monitoring
 - ➔ Large power supplies
- and other applications where currents in excess of 20A at frequencies greater than 50 Hz need monitoring

PERFORMANCE CHARACTERISTICS

Type	Sensitivity (mV/A)		Peak current (kA)		Peak di/dt (kA/μs)		DC offset max (mV) @ 55°C ^{*2}		Noise max ^{*1} (A pk-pk)	Droop typ. (% / ms)	LF (3dB) bandwidth typ. (Hz) <i>f_L</i>	Phase lead at 50Hz typ. (deg)
	x5	x1	x5	x1	x5	x1	x5	x1				
RGF 7.5	20.0	4.0	0.3	1.5	0.5	2.5	5.0	1.0	0.5	1.65	1.7	3.0
RGF15	10.0	2.0	0.6	3.0	1	5	5.0	1.0	0.9	0.9	1.0	1.6
RGF30	5.0	1.0	1.2	6.0	2	6	5.0	1.0	1.2	0.65	0.7	1.2
RGF75	2.0	0.4	3.0	15.0	5	6	1.5	0.5	1.5	0.65	0.6	1.2
RGF150	1.0	0.2	6.0	30.0	6	6	1.5	0.5	3.0	0.55	0.5	1.0
RGF300	0.5	0.1	12.0	60.0	6	6	1.5	0.5	6.0	0.45	0.4	0.8

^{*1}. Distributed around the low frequency (3dB) bandwidth. ^{*2}. Integrator temperature

HIGH FREQUENCY (3dB) BANDWIDTH 1 MHz

TYPICAL LINEARITY (full scale) ±0.05%

TYPICAL ACCURACY (full scale) Calibrated to **UKAS** ±0.2% with conductor central in the loop
Variation with conductor position in the coil loop typically ±1%

Variation with temperature
Integrator – ±0.012 %/°C
Coil - - 0.020 %/°C

ABSOLUTE MAXIMUM VALUES OF di / dt (kA/μs)
(value must not be exceeded)

PEAK RMS 6.0
0.8 @ 70°C (Further information available on request)

COIL AND CABLE

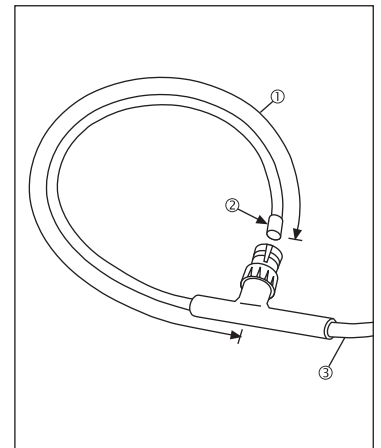
① **COIL CIRCUMFERENCE** 300, 500 or 700mm

② **COIL CROSS SECTION (max)** 8.5mm - (14 mm with sleeve)

PEAK COIL VOLTAGE ISOLATION 2kV (10kV with sleeve)
Safe peak working voltage to earth. 10kV coils are flash tested at 15kV rms for 60 seconds with the sleeve added.
Information about continuous use of the coils at high voltage can be obtained from PEM.

TEMPERATURE RANGE -20°C to 70°C

③ **CABLE LENGTH** (from box to coil) 2.5m



INTEGRATOR

POWER SUPPLY

Single 9V PP3 battery
Battery life 100 hours+
-plus- 2.1 / 2.5mm jack plug socket for **+12V(±10%) DC** (Quiescent supply current - 10mA)

Battery is inoperative with DC supply present

BOX DIMENSIONS(mm) H=137, W=64, D=28

MIN. OUTPUT LOADING 100kΩ (for rated accuracy)

TEMPERATURE RANGE 0°C to 50°C

ORDERING

Type	/	Coil circumference
RGF75	/	500

e.g. order code

If you have any queries regarding the **RGF** or require specifications outside our standard ranges please do not hesitate to contact us.