

Flexible AC Current Sensor

FlexiSensor

EZ02000123_1 2m

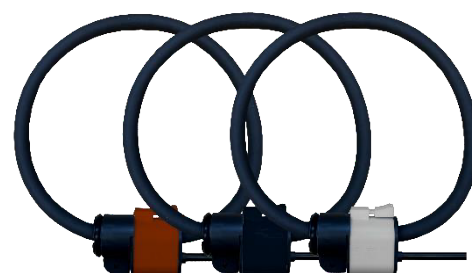
EZ02000055_1 3m

EZ02000124_1 4m

The new FlexiSensor 3 phase flexible current sensor utilises the non-saturating Rogowski principle for measurement of AC current.

A robust but flexible design for retro-fitting in compact situations. Suitable for indoor and outdoor environments for LV substation monitoring, power quality monitoring and building energy monitoring applications.

The FlexiSensor is supplied with the individual head sensitivity and phase error programmed to the EEPROM.



Features

- Advanced winding for improved measurement accuracy class
- Higher frequency bandwidth
- Improved temperature coefficient for stability in all environments
- Flexible sensor for ease of installation
- Lockable coupling to prevent accidental disconnection
- Easily installed whilst wearing PPE
- Coupling band for phase identification
- IP67
- UV Rated for outdoor use

Advantages

- Light weight and flexible
- Excellent accuracy
- Quick to install

Applications

- Ground and Pole mount LV substation monitoring
- Power quality monitoring
- Building energy monitoring

Standards

- EN 61010-1, EN 61010-2-032
- EN 61869-10

UK CA CE RoHS Compliant

	Symbol	Min	Typ	Max	Unit
Rated primary current ¹⁾	I_{pr}		3000		A
Rated secondary voltage @ $I_p = 1\text{kA } 50\text{Hz}^{2)}$	U_{sr}		45		mV
Rated frequency	F_r		50/60		Hz
Rated short-time thermal current @ 50Hz	I_{th}			50	kA
Rated extended primary current	I_{epr}			50	kA
Frequency bandwidth (-3dB)	BW	0.01		70	kHz
Rated phase offset 45 – 65Hz	Φ_{or}		90		°
Phase displacement	$\Delta\Phi_{or}$	-0.5		0.5	°
Temperature coefficient			0.005		%/°C
Coil resistance			33		Ω
Accuracy (all positions) ³⁾		-1		1	%
Error due to external conductor ⁴⁾			0.5		%
Operating temperature range (ambient)		-40		80	°C
Primary conductor temperature				105	°C
Operating humidity (non-condensing)		0		85	%

General Characteristics	
Flammability rating – case material	UL94 V-0
Degree of protection	IP67
Insulation (Primary to Secondary)	Reinforced (7.4 kV AC _{RMS} for 1 min)
Voltage rating (EN 61010-1)	1000 V _{RMS} Category III, 600 V _{RMS} Category IV, Pollution Degree 2
Sensor length (Typical)	16" (406 mm)
Maximum conductor diameter	4.5" (115 mm)
Sensor cable diameter	8.9 mm
Output cable length	2m - 1m connector to splitter 1m splitter to sensor 3m - 2m connector to splitter 1m splitter to sensor 4m - 3m connector to splitter 1m splitter to sensor
Connector	Customised Molex 50579210
EEPROM	Maxim DS2431+

Standards	
EN 61010-1 EN 61010-2-032	1000 VRMS Category III / 600 VRMS Category IV, PD 2 Reinforced Insulation
EN 61869-10 ⁵⁾	Class 0.5 A1, Class 1 A3

¹⁾ The output from a Rogowski coil is linear and does not saturate like a conventional CT.

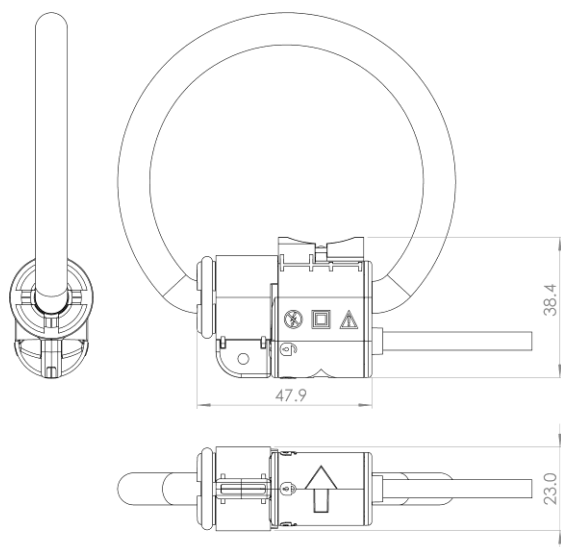
²⁾ Output sensitivity is proportional to frequency, Rogowski coils need to be used with a suitable integrator.

³⁾ At 23°C

⁴⁾ External conductor of at least $\varnothing 15$ mm the same current level as internal conductor, perpendicular and in contact with the Rogowski coil

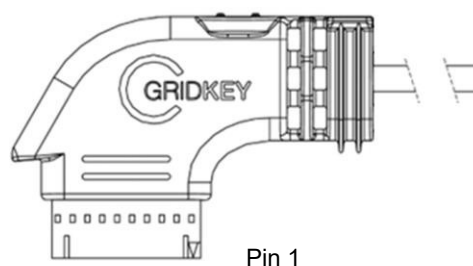
⁵⁾ Only partially fulfills this standard as a Rogowski coils have fundamental differences compared to conventional CT's

Dimensions (in mm):



Connection Details:

Pin 1	L1 (+)	Pin 6	Screen
Pin 2	L1 (-)	Pin 7	L3 (+)
Pin 3	Screen	Pin 8	L3 (-)
Pin 4	L2 (+)	Pin 9	EEPROM GND
Pin 5	L2 (-)	Pin 10	EEPROM



Safe Installation Recommendations

The following symbols appear on the product:



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



Double/Reinforced Insulation



Complies with the relevant European standards



Caution read all instructions completely before using this product



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.



Caution risk of danger read all instructions completely before using this product



Caution risk of electric shock:

- This product must be installed and commissioned only by qualified personnel practicing applicable safety precautions.
- Where possible de-energise circuit under test before this product is installed or maintained.
- The applicable national standards and regulations must be adhered to during the installation, maintenance and operation of this product.
- Always wear protective clothing and gloves if hazardous live parts are present in the installation where the measurement is carried out.
- Always inspect the sensor and connecting cable for damage before using this product, do not use if damaged.
- The sensor MUST be fully closed and the coupling locked before the product is put into operation
- The product may be cleaned using a cloth dampened with Isopropyl alcohol, ensure the product is totally dry before use.
- There are no user serviceable parts on this product, it must be returned to supplier or manufacturer for service.
- If the product is used in a manner not specified by the manufacturer the protection provided by the product may be impaired.