

OWEN BROTHERS

METERING UK LTD



NCR Series

Flexible Rogowski Coil

The flexible Rogowski coil current sensors are designed for measuring in combination with portable devices

The coils have different sizes to cope with different conductors.

The coils strengthen the shielding layer and greatly reduces the influence of external magnetic fields.

Advantage

- Excellent linearity
- Wide dynamic range
- Not damaged by large overloads
- Excellent degree of rejection to the external current conductor
- No danger from open-circuited secondary
- Zero power consumption
- Small position error
- Soft and light, easy to install
- Long-term stability
- Wide dynamic range
- IP68 protection level

Applications

- Smart meter
- Rectifier current measurement
- Power quality analysis
- Motor overload/short circuit protection
- Current monitoring of power frequency and intermediate frequency welding machine
- Medium and high voltage switchgear protection system
- Remote Terminal Unit (RTU)
- Synchronous Phasor Measurement Unit (PMU)
- Current measurement on the secondary side of the electric furnace



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Specification

At 25°C, RL = 100 kΩ

Reference Rated current		100A,600A,3000A,6000A...(Unlimited)
Ratio @50Hz	Calibrated (Manufacturing tolerance<0.5%)	... 22.5mV/kA 50mV/kA 85mV/kA 100mV/kA ...
	Uncalibrated (Manufacturing tolerance<5%)	... 56mV/kA 95mV/kA 108mV/kA
Sensitivity temperature drift coefficient		Uncalibrated, <50ppm/°C
		Calibrated, <100ppm/°C
Internal resistance temperature drift coefficient ¹⁾		Uncalibrated, <3800ppm/°C
Read Accuracy		0.5%class (Vertically centered position)
Internal resistance		50~250 Ω
Position Error ²⁾		<1%
Output on 0A (zero drift)		<0.05mV
Phase error		<0.5° (45Hz~65Hz)
Linearity		±0.1% (1%~100%)
Bandwidth(3dB)		1Hz~20kHz
Operating temperature		-40°C~85°C
Coil Section		8mm
Lead length(default)		2 meter

Remark:

- 1) The internal resistance temperature drift characteristic diagram of the coil with calibration, please contact customer service to obtain;
- 2) The position error of the metering type A-NRC series is less than 0.5%.



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Materials

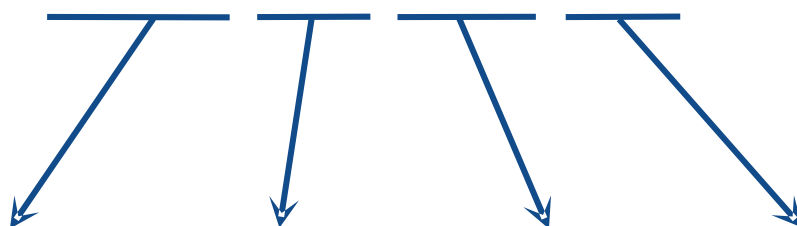
Coil & cable	Thermoplastic rubber flame retardant UL 94 V-0 rated
Couplings	PC, ABS, UL 94 V-0 rated
Color(coil)	Orange, Yellow, Red, Green, Blue , Grey

Insulation coordination

Applicable voltage range	1000V CATIII, 600V CATIV
Dielectric strength	7400Vac @ 50/60Hz 1 minute
Certifications	CE, IP68, Rohs 2.0

Model rules

NRC-100-22.5-3M



Rogowski coil series	Window size:	Ratio:	Lead length:
	Φ 60	22.5mV/kA	0.5M
	Φ 80	50mV/kA	1M
	Φ 100	56mV/kA	1.5M
	Φ 150	85mV/kA	2M
	Φ 200	95mV/kA	3M
	Φ 300	100mV/kA	5M
	...	108mV/kA	...
		...	

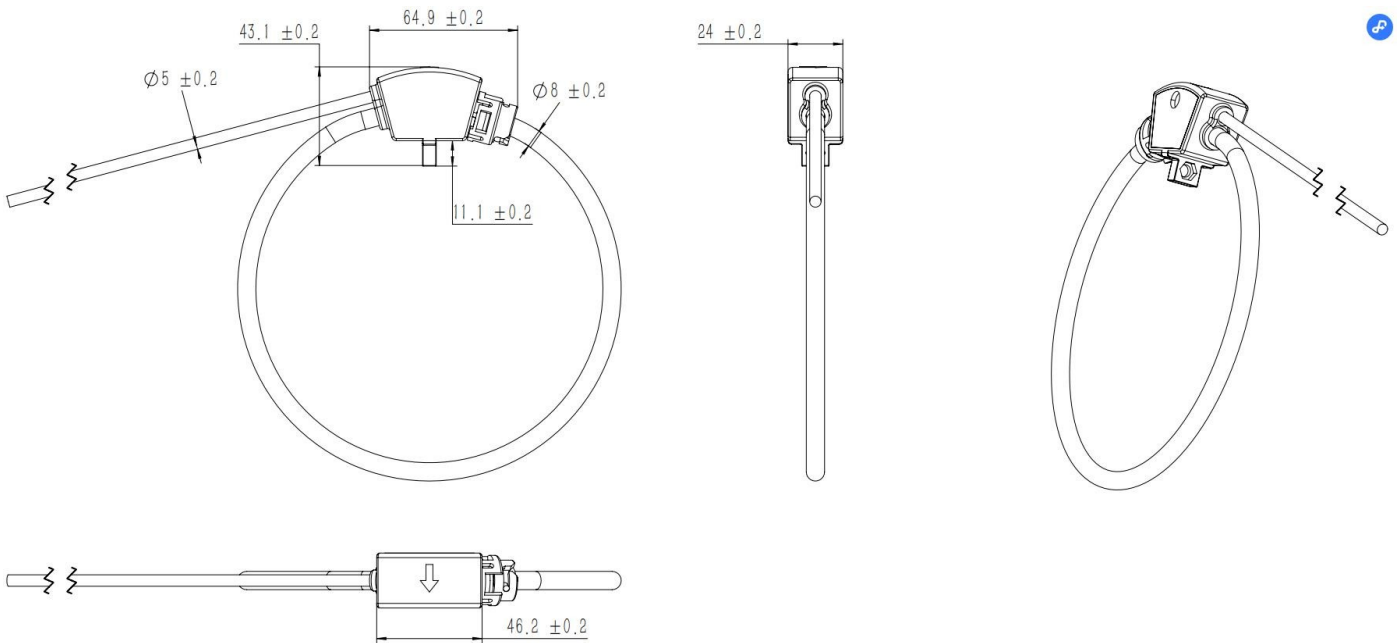


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Dimensions



Installation Options



Copper row bracket installation



Three-axis bracket installation



Fix with tie



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Safety and warning notes

Rogowski coils can only be used within the proper parameters to ensure safety. Please read the following instructions carefully.

WARNING

Ignoring the warnings can lead to serious injury and/or cause damage!

Installation should only be performed by qualified personnel, familiar with related procedures, regulations and risks.

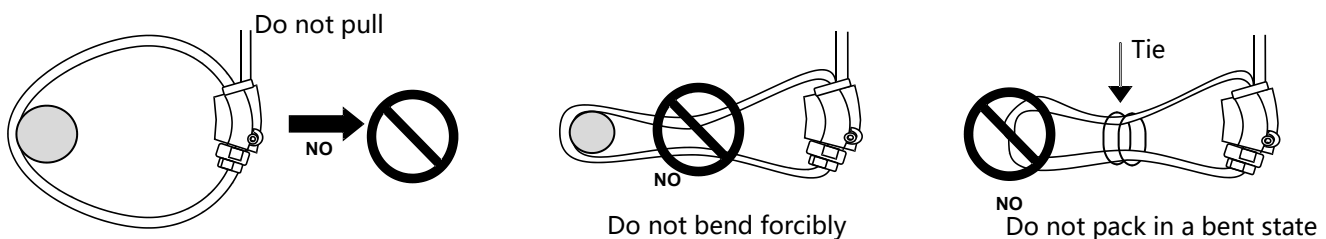
ELECTRIC SHOCK WARNING!

When operating the transducer, certain parts of the module may carry hazardous live voltage (e.g., Primary conductor). The user shall ensure to take all measures necessary to protect against electrical shock. The transducer is a built-in device containing conducting parts that shall not be accessible after installation. A protective enclosure or additional insulation barrier may be necessary. Installation and maintenance must always be carried out when the mains supply is disconnected unless it is clear there are no hazardous live parts in or in close proximity to the system and safety regulations are fully observed.

NOTICE!

Safe and trouble-free operation of this transducer can only be guaranteed if storage and installation are carried out correctly and operation and maintenance are carried out with care.

Do not stress the coil by applying any kind of mechanical force (transport, storage pressure, tight bending.) which will dramatically degrade the device's accuracy.



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