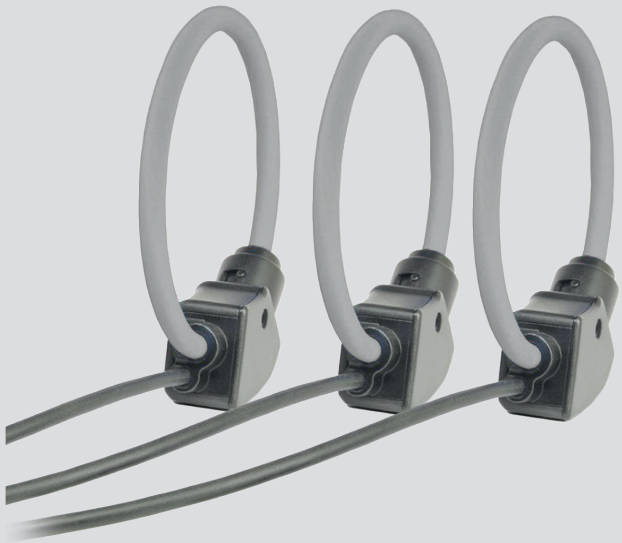
Smart Energy & Power Quality Solutions



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ROGOWSKI COILS

MFC150 series

Data sheet

Janitza®

ROGOWSKI COILS

MFC150 series

General description

MFC150 is a flexible current transducer based on the Rogowski principle.

Due to its design, the flexible Rogowski coil proves to be the optimum solution for current measurement in environments with high demands on flexibility and adaptability. It can be used in a number of cases where traditional current transducers are less suitable.

The MFC150 coil is provided with a shield against the influence of external magnetic fields, therefore it grants a stable measurement from low currents to several kA.

Depending on the version (see part numbers), the MFC150 coil is equipped with a mini-DIN plug for direct connection to the RCM 201-ROGO residual current monitoring device.

Certification

Flexible Rogowski coil MFC150

- Suitable for current measurement in the range from mA up to several kA.
- High linearity over the measuring range
- Uniform measurement almost independent of the positioning of the conductor in the coil
- Delivered already calibrated
- Bayonet connector
- Thin coil diameter: approx. 8 mm (0.33 in)
- Useful in conjunction with large or awkwardly shaped ladders or in places that are difficult to access
- No danger from voltage peaks with open secondary circuit
- Not damaged by overloads
- Non-intrusive, no power drawn from the main
- Easy handling of the coil in the event of replacement
- Totally shielded

TECHNICAL DATA

Rogowski Coil

Environmental conditions	
Protection degree	IP67 (UL Recognized UL 61010-1)
Altitude	Up to 2000 m (1.24 mi) over sea-level
Operating temperature	-30 ... +80°C (-22 ... +176°F)
Storage temperature	-40 ... +80°C (-40 ... +176°C)
Relative humidity	0 ... 95%
Installation and use	Indoor

Coil	
Coil length	ca. 40 ... 190 cm (15.75 ... 74.80 in) (see part numbers)
Sensor internal diameter	ca. 12 ... 58 cm (4.72 ... 22.83 in) (see part numbers)
Coil diameter	8.3 ± 0.2 mm (0.33 ± 0.008 in)
Jacket material	Thermoplastic polyurethane UL94-V0
Fastening	Bayonet holder
Weight	150 ... 500 g (0.33 ... 1.10 lb)

Electrical characteristic	
Nominal output rate	100 mV / kA @ 50 Hz (RMS values)
Max measurable current	100 kA
Coil resistance	70 ... 900 Ω
Accuracy class	Class 1-A1 according to IEC 61869-10
Positioning error	Better than ±1% of reading
Frequency	50/60 Hz
Overvoltage category	1000 V CAT III, 600 V CAT IV
Pollution degree	2
Insulation test voltage	7400 V_{RMS} / 5 seconds

Connection cable	
Type	2 x 22 AWG shielded
Length	3 m (118.1 in)

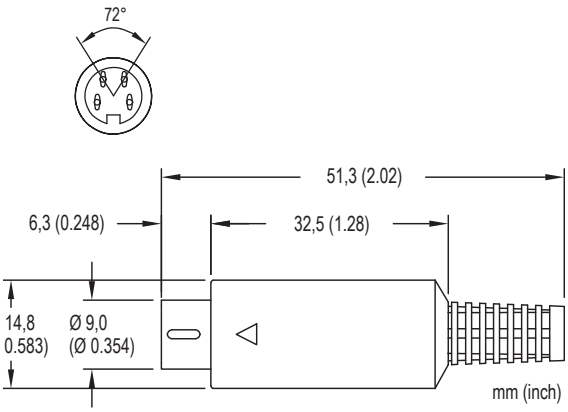
Standard compliance	
Standards	EN 61010-1, EN 61010-2-032, EN IEC 63000

TECHNICAL DATA

Connector

Part numbers 15.03.622 - 626

Connector	
Type	Male mini-DIN plug, 4 pin, for direct connection to RCM 201-ROGO
Insulator material	PBT glass filles, rated UL94V-0
Insulator color	Black
Contacts material	Brass
Shield material	Copper alloy, tin plated
Contact plating	Nickel on mating area, tin over copper underplate on solder area
Operating temperature	-25°C (-13°F) to +70°C (158 °F)
Operating voltage	100V AC / 12V DC max.
Current rating	Mini-DIN: 1 A max.
Contact resistance	20 mΩ max. initial
Insulation resistance	500 MΩ min.
Dielectric withstanding voltage	500V AC for 1 minute

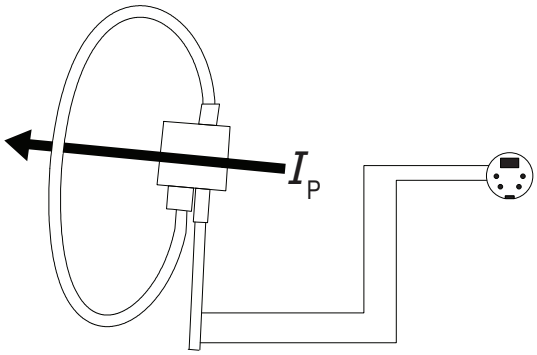


PART NUMBERS

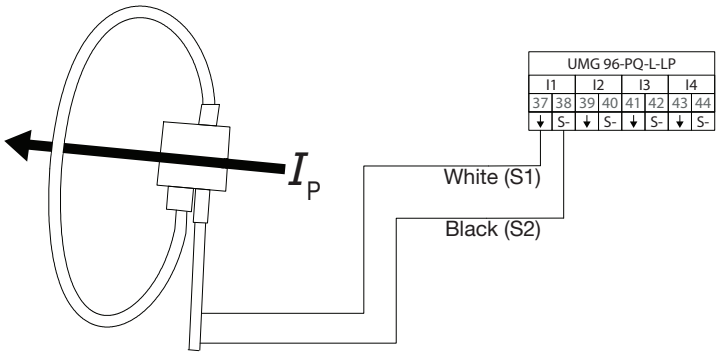
Part no.		Diameter (ca.)	Length (ca.)
With connector	Without connector		
15.03.622	15.03.635	120 mm (4.7 in)	375 mm (14.7 in)
15.03.623	15.03.636	200 mm (7.9 in)	630 mm (24.8 in)
15.03.624	15.03.637	290 mm (11.4 in)	910 mm (35.8 in)
15.03.625	15.03.638	390 mm (15.3 in)	1230 mm (48.4 in)
15.03.626	15.03.639	580 mm (22.8 in)	1800 mm (70.9 in)

CIRCUIT DIAGRAM

Connection drawing with connector



Connection drawing without connector



The connecting cable is shielded. The shield is already connected to the blue wire and insulated with shrink tubing. This results in the colors black and white. The ends are fitted with wire end ferrules.

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