Flexible Rogowski Current Sensor
FLRC-100 Series
FLRC-500 Series

Overview
Flexible Rogowski coil Series FLRC for AC current measurement. The split-core design allows direct mounting on the primary conductor without circuit interruption. Pre-shaped and robust design ensures reliable use in harsh environments like outdoor or underground distribution stations.

Benefits:
- Wide range with standard or customized products
- Pre-shaped for a better installation
- Designed for easy operation with Electrical Safety Gloves

Features:
- Meets IEC 61869-10 Accuracy Class 2
- Phase error <0.03 degree @ 50 / 60 Hz
- Bandwidth up to 210 kHz
- Low influence from external AC magnetic fields
- Immune to DC current
- Low temperature coefficient
- 300V CAT IV / 600V CAT III (IEC 61010-1)
- Protection class: IP67
- Capable for outdoor application
- The lock can be fastened by cable tie
- Due to split core design an easy assembly onto the primary conductor is possible
- Hole for security seal

Applications
- Fault Detection, Isolation & Service Restoration
- Smart Grid Monitoring
- Protection and Safety Solutions
- Transformer Condition Monitoring
- Voltage Regulation & Power Quality Management
- Substation Applications
- Transformer Installations
- Overhead Line Infrastructure
- Underground distribution stations

Electrical Specifications

@ 25°C - Operating Temperature -40°C to +105°C

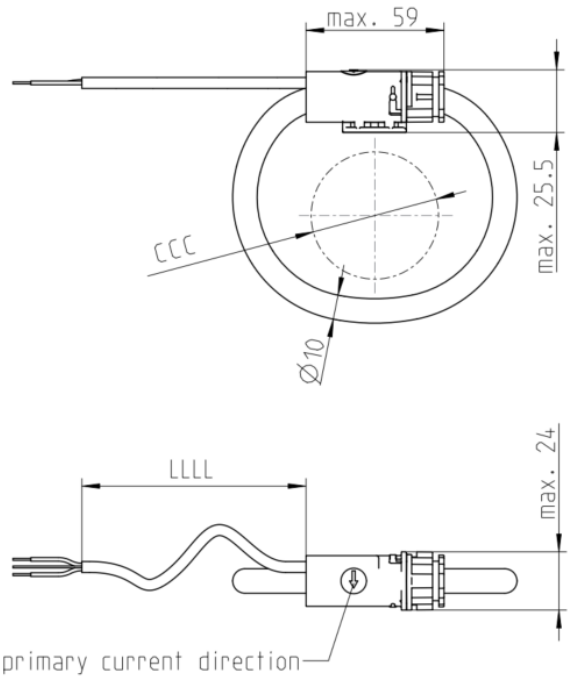
Description	Part Number	Sensitivity mV/kA			typ. Influence of external magnetic field *1)	typ. Influence of external electric field *2)	typ. Resonance frequence	typ. Temperature coefficient	Cable length	Weight with Cable
		50 Hz	60 Hz	Toler-ance	%	mA (@230VAC / 50 Hz)	kHz	ppm / K	mm	g
FLRC-100-CCC-LLLL-O										
Flexible Rogowski Coil – 100 mV/kA ø 75 mm – Standard shielding	FLRC-100-075-0500-S FLRC-100-075-1000-S FLRC-100-075-1500-S	100	120	±2%	1,0	520	210	10	500 ± 25 1000 ± 50 1500 ± 50	78 88 98
Flexible Rogowski Coil – 100 mV/kA ø 75 mm – Improved shielding	FLRC-100-075-0500-I FLRC-100-075-1000-I FLRC-100-075-1500-I					60		15		
Flexible Rogowski Coil – 100 mV/kA ø 100 mm – Standard shielding	FLRC-100-100-0500-S FLRC-100-100-1000-S FLRC-100-100-1500-S	100	120	±2%	1,0	850	185	10	500 ± 25 1000 ± 50 1500 ± 50	85 95 105
Flexible Rogowski Coil – 100 mV/kA ø 100 mm – Improved shielding	FLRC-100-100-0500-I FLRC-100-100-1000-I FLRC-100-100-1500-I					80		15		
Flexible Rogowski Coil – 100 mV/kA ø 125 mm – Standard shielding	FLRC-100-125-0500-S FLRC-100-125-1000-S FLRC-100-125-1500-S	100	120	±2%	1,0	1200	170	10	500 ± 25 1000 ± 50 1500 ± 50	92 102 112
Flexible Rogowski Coil – 100 mV/kA ø 125 mm – Improved shielding	FLRC-100-125-0500-I FLRC-100-125-1000-I FLRC-100-125-1500-I					120		15		
FLRC-500-CCC-LLLL-O										
Flexible Rogowski Coil – 500 mV/kA ø 90 mm – Standard shielding	FLRC-500-090-0500-S FLRC-500-090-1000-S FLRC-500-090-1500-S	500	600	±2%	1,0	350	25	40	500 ± 25 1000 ± 50 1500 ± 50	145 155 165
Flexible Rogowski Coil – 500 mV/kA ø 90 mm – Improved shielding	FLRC-500-090-0500-I FLRC-500-090-1000-I FLRC-500-090-1500-I					60		30		
Flexible Rogowski Coil – 500 mV/kA ø 125 mm – Standard shielding	FLRC-500-125-0500-S FLRC-500-125-1000-S FLRC-500-125-1500-S	500	600	±2%	1,0	650	20	40	500 ± 25 1000 ± 50 1500 ± 50	160 170 180
Flexible Rogowski Coil – 500 mV/kA ø 125 mm – Improved shielding	FLRC-500-125-0500-I FLRC-500-125-1000-I FLRC-500-125-1500-I					140		30		

Mechanicals

FLRC-100-CCC-LLLL-O

Dimensions in mm

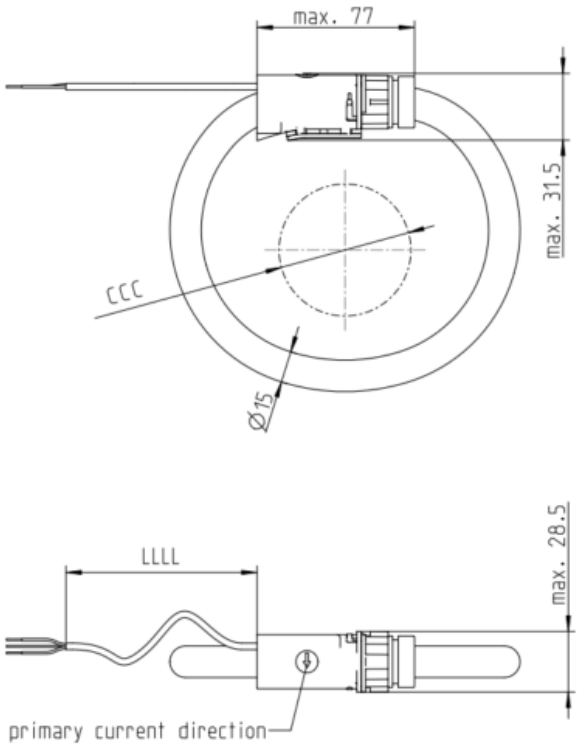
polarity +: black wire
polarity -: red wire
shielding: bare wire



FLRC-500-CCC-LLLL-O

Dimensions in mm

polarity +: black wire
polarity -: red wire
shielding: bare wire



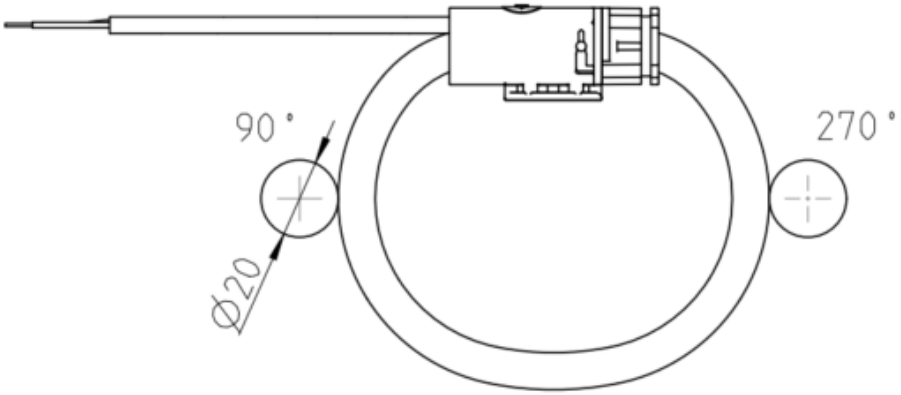
Influence

*1) of external magnetic field:

An external current conductor with specified diameter is closely applied to the outline of the Rogowski coil.

Tests will be done at following positions:
1) 90°
2) 270°

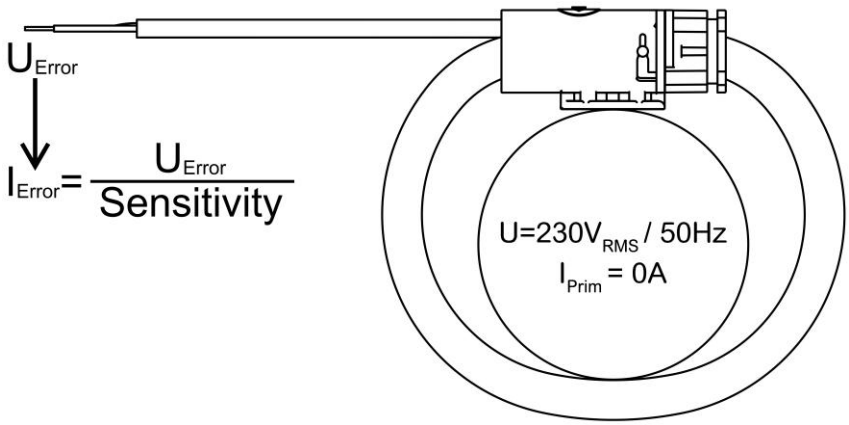
Test setup:



*2) of external electric field:

A conductor is passed through the Rogowski coil, completely filling the coil. This conductor is supplied with a voltage of 230 V_{RMS} / 50 Hz, with no primary current, against earth. The capacitive coupling between the conductor and the Rogowski coil generates a voltage on the Rogowski coil. This voltage is converted into a current using the sensitivity of the Rogowski coil. This indicates the fault current induced by a voltage applied to the primary conductor at 230 V_{RMS} / 50 Hz.

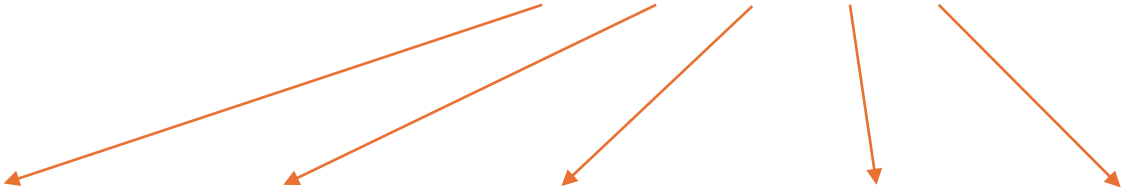
Test setup:



Legend

Codification

FLRC – SSS – CCC – LLLL - O



FLRC:	SSS:	CCC	LLLL:	O: (Options)
Flexible Rogowski Coil	Sensitivity in mV/kA/50Hz	max. primary conductor ø in mm	optional wire length in mm	S: Standard shielding I: Improved shielding

Customizable on request:

- output signal
- coil diameter
- lead wire length
- connectors
- certifications according to specific standards
- outdoor rating

Also in our production scope:

- Combined current transformers (CCT), containing Rogowski coil and Energy harvester
- Integrator circuit for processing the signal of Rogowski coils
- Rigid Rogowski coils

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