Measuring current transformers flexible WF... series

Measuring current transformers

WF170, WF250, WF500, WF800, WF1200

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Comprising signal converter RCC420 and measuring current transformer W...F

Measuring current transformers of the WF... series

Device features

- Flexible measuring current transformer in different lengths
- Allows quick and easy installation in hard to reach areas
- Easy retrofitting into existing installations
- Can be installed without the need to disconnect the conductors
- CT connection monitoring W...F
- For residual current monitoring systems of the RCMS460 / 490 series
- Analogue output (U, I) for external measuring devices

Approvals

AE25

Product description

Flexible measuring current transformers of the WF... series are highly sensitive measuring current transformers, which measure AC currents in conjunction with a residual current evaluator of the RCMS460 / 490 series and convert them into an evaluable measuring signal.

They consist of one flexible measuring current transformer W...F and one signal converter RCC420.

Connection to the respective evaluator is via a two-wire cable.

Application

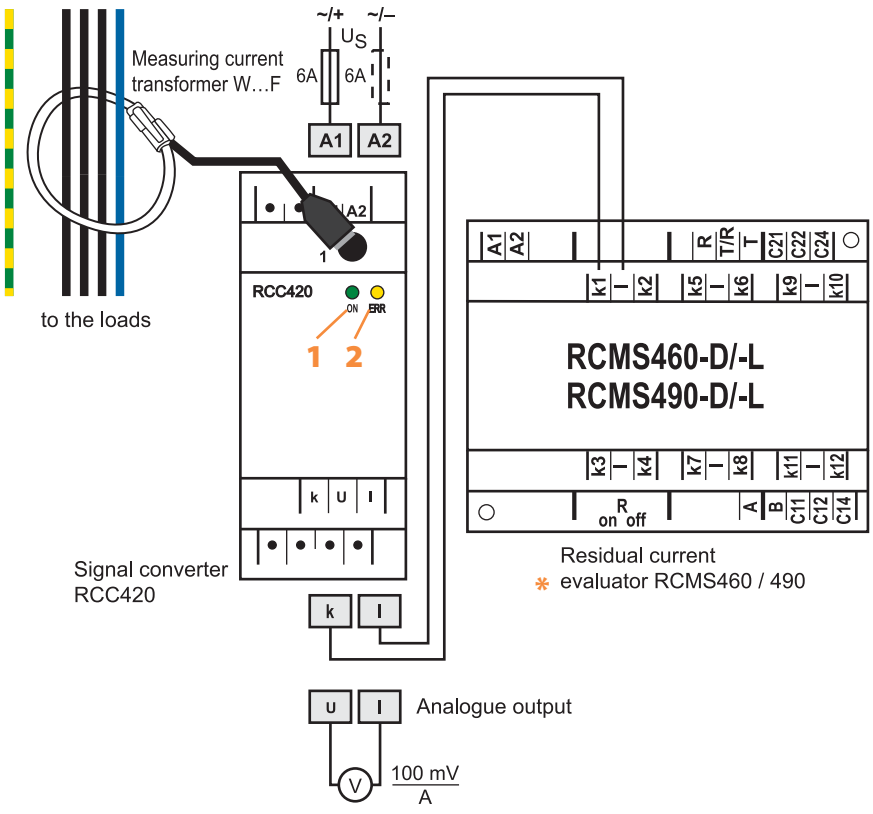
- Residual, fault and nominal current monitoring of loads and systems which cannot be switched off.
- EMC monitoring of TN-S systems for "stray currents" and additional N-PE connections in the central earthing point (CEP).
- Monitoring of PE and equipotential bonding conductors to ensure they are free of current.

Installation instructions

- Make sure to pass all live conductors through the measuring current transformer.
- Arrange the conductors so that they pass centrically at right angle through the opening.
- Do not place the measuring current transformer close to strong magnetic fields.

Wiring diagram

Connection to the respective residual current monitoring evaluator of the RCMS460 / 490 series.

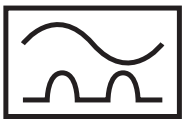


1 - LED Power "ON": Lights up when voltage is available and when the device is in operation.

2 - Alarm LED "ERR": Lights in the event of a short-circuit and interruption of the W...F

* - Up to software version D233 V 2.21
Switch off CT monitoring

Software version D233 V 2.31 or higher
Select the CT type "flex"



Technical data

Electrical safety

Standard: RCC420	IEC 61010-2-030: 2004-05-01
Pollution degree	3
Rated insulation voltage	250 V
Standard: WF…	IEC 1010-1 and IEC 1010-2-032 CAT III
Pollution degree	2
Rated insulation voltage (CAT III)	1000 V_{rms} or DC

Supply voltage

Supply voltage U_S	see ordering information
Power consumption	≤ 3 VA

Measuring circuit

Measuring range	100 mA…20 A
Rated transformation ratio	K_N (U - I): 100 mV / A, K_N (k - I): 1.67 mA / A
Rated burden (signal output k, l)	68 Ω
Rated frequency	42…2000 Hz
Rated continuous thermal current I_{cth}	1 kA
Rated short-time thermal current I_{th}	60 kA / 1 s
Rated dynamic current I_{dyn}	150 kA / 40 ms

EMC

Operating temperature	- 25 °C…+ 55 °C
Climatic class acc. to IEC 60721	
Stationary use (IEC 60721-3-3)	3K5 (except condensation and formation of ice)
Transport (IEC 60721-3-2)	2K3 (except condensation and formation of ice)
Long-time storage (IEC 60721-3-1)	1K4 (except condensation and formation of ice)
Classification of mechanical conditions IEC 60721	
Stationary use (IEC 60721-3-3)	3M4
Transport (IEC 60721-3-2)	2M2
Long-time storage (IEC 60721-3-1)	1M3

Connection RCC420

Connection type	screwless-type terminals
Connection properties rigid	0.2…2.5 mm² (AWG 24…14)
flexible with ferrule	0.2…1.5 mm² (AWG 24…16)
Stripping length	10 mm
Opening force	50 N
Test opening, diameter	2.1 mm
Connection measuring current transformer W…F	PS / 2 plug
Cable length W…F	2 m

Cable lengths RCMS-RCC420…

Single wire ≥ 0.75 mm²	0…1 m
Single wire twisted ≥ 0.75 mm²	0…10 m
Shielded cable ≥ 0.5 mm²	0…40 m
Recommended cable (shielded, shield to terminal l, not connected to earth)	J-Y(ST)Y min. 2 x 0.8

Other

Operating mode		continuous operation
Position of normal use		any
Degree of protection, internal components / terminal (DIN EN 60529)		IP 30 / IP 20
Enclosure material RCC420		polycarbonate
Flammability class		UL94V-0
DIN rail mounting acc. to		IEC 60715
Screw fixing		2 x M4 with mounting clip
Operating manual		TBP409020deen
Weight	RCC 420 ≤ 160 g	WF500 ≤ 200 g
	WF170 ≤ 160 g	WF800 ≤ 230 g
	WF250 ≤ 180 g	WF1200 ≤ 310 g

Note:
The measuring current transformer is adapted to the associated signal converter RCC420.

Ordering information

Type	Length A measuring current transformer	Supply voltage U_S*	Art. No.
WF170-1	170 mm	DC 9.6…94 V / AC 42…460 Hz 16…72 V	B 7808 0201
WF170-2	170 mm	DC 70…300 V / AC 42…460 Hz 70…300 V	B 7808 0202
WF250-1	250 mm	DC 9.6…94 V / AC 42…460 Hz 16…72 V	B 7808 0203
WF250-2	250 mm	DC 70…300 V / AC 42…460 Hz 70…300 V	B 7808 0204
WF500-1	500 mm	DC 9.6…94 V / AC 42…460 Hz 16…72 V	B 7808 0205
WF500-2	500 mm	DC 70…300 V / AC 42…460 Hz 70…300 V	B 7808 0206
WF800-1	800 mm	DC 9.6…94 V / AC 42…460 Hz 16…72 V	B 7808 0207
WF800-2	800 mm	DC 70…300 V / AC 42…460 Hz 70…300 V	B 7808 0208
WF1200-1	1200 mm	DC 9.6…94 V / AC 42…460 Hz 16…72 V	B 7808 0209
WF1200-2	1200 mm	DC 70…300 V / AC 42…460 Hz 70…300 V	B 7808 0210

* absolute values

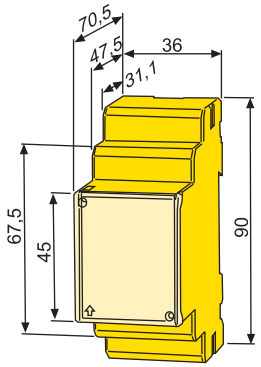
Accessories

Type	Art. No.
Mounting clip for XM420 enclosure (RCC420) (one unit required per device)	B 9806 0008

Dimension diagram XM420

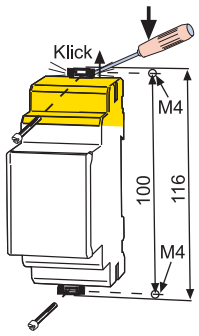
Dimensions in mm

Open the front plate cover in direction of arrow!



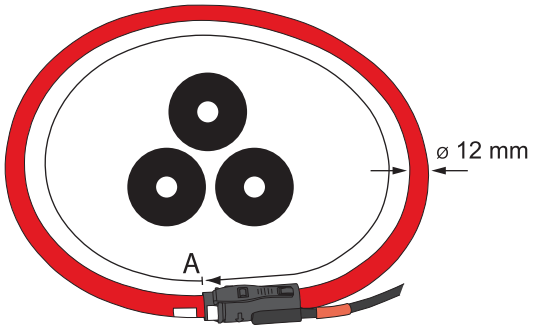
Screw fixing

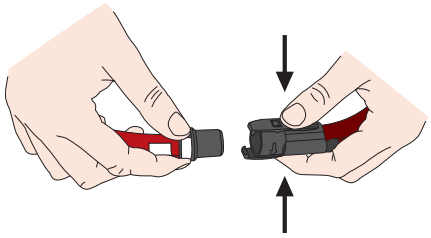
Note: The upper mounting clip must be ordered separately (see ordering information).



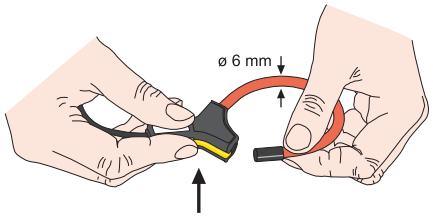
Dimension diagram measuring current transformer series W…F

A = For details about the length of the measuring current transformer refer to ordering information.





Locking connector measuring current transformer W500F…W1200F
Keep the locking connector clean



Locking connector measuring current transformer W170F…W250F

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