

WF... series flexible measuring

current transformers

Consisting of an RCC420 signal converter and a W...F measuring current transformer

Flexible measuring current transformers
WF170, WF250, WF500, WF800, WF1200



WF... series measuring current transformers

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 RCMS460/490 series residual current monitoring systems
- Analogue output (U, I) for external measuring devices
- RCC420 with push-wire terminals (two terminals per connection)

Approvals and certifications



Product description

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

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

Connection to the respective residual current monitor is via a two-wire cable.

Application

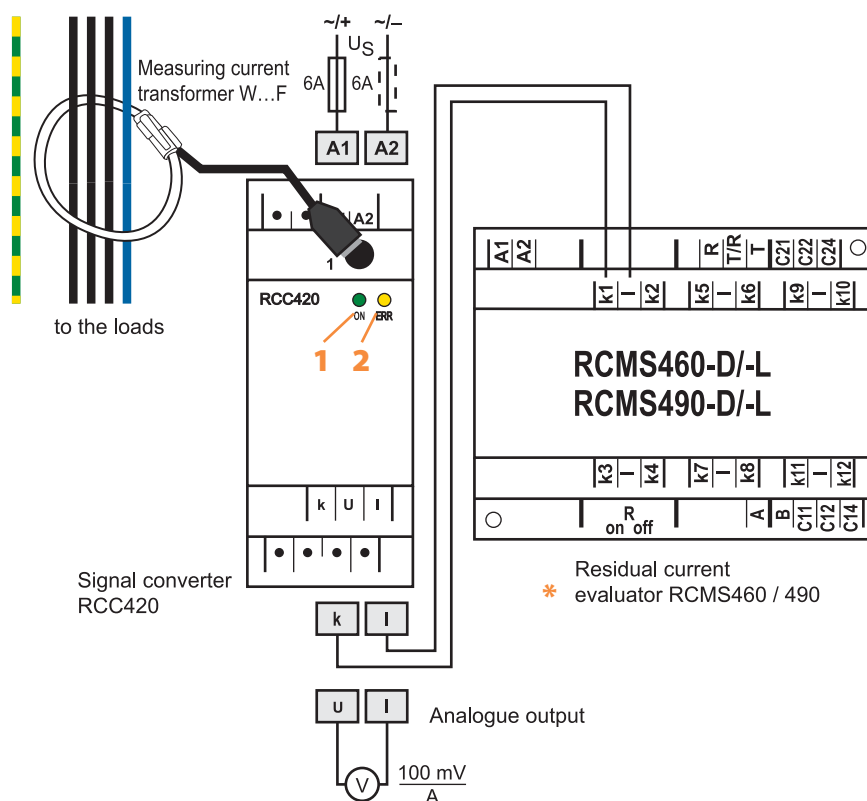
- Residual, fault and nominal current monitoring of loads and systems which cannot be switched off
- EMC monitoring of TN-S systems for "stray currents" and additional N-PE connections in the central earthing point (CEP)
- Monitoring of PE and equipotential bonding conductors to ensure they are free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

Installation instructions

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

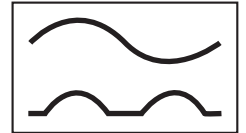
Wiring diagram

Connection to the respective RCMS460 / 490 series residual current evaluator



- 1 - Power On LED "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 and higher
Set the CT type to "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 61010-1 and IEC 61010-2-032 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	$K_n (U - I): 100 \text{ mV} / A, K_n (k - I): 1.67 \text{ mA} / A$
Rated burden (signal output k, l)	68 Ω
Rated frequency	42...2000 Hz
Rated continuous thermal current I_{th}	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	push-wire terminals	
Connection properties	rigid	0.2...2.5 mm ² / AWG 24-14
	Flexible without ferrule	0.2...2.5 mm ² / AWG 24-14
	Flexible with ferrule	0.2...1.5 mm ² / 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 $\geq 0.75 \text{ mm}^2$	0...1 m
Single wire, twisted $\geq 0.75 \text{ mm}^2$	0...10 m
Shielded cable $\geq 0.5 \text{ mm}^2$	0...40 m
Recommended cable (shielded, shield to terminal l, not connected to earth)	J-Y(St)Y min. 2x0.8

Other

Operating mode	continuous operation
Mounting	any position
Degree of protection, internal components /terminal (DIN EN 60529)	IP30 / IP20
Enclosure material RCC420	polycarbonate
Flammability class	UL94V-0
DIN rail mounting acc. to	IEC 60715
Screw mounting	2 x M4 with mounting clip
Operating manual	TBP409020
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

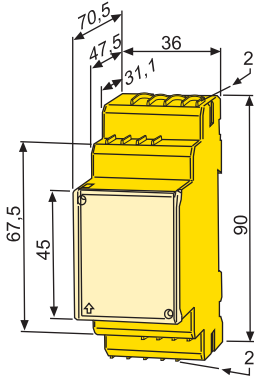
Accessories

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

Dimension diagram XM420

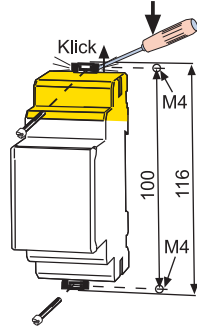
Dimensions in mm

Open the front plate cover in direction of arrow!



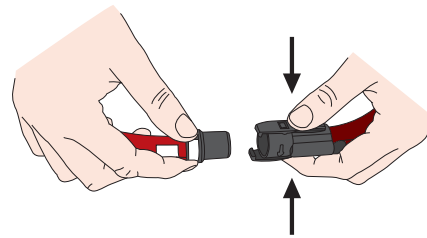
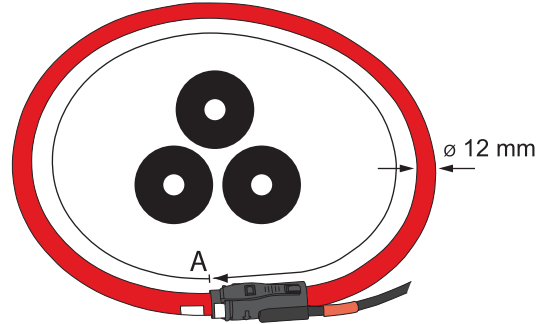
Screw mounting

Note: The upper mounting clip must be ordered separately (see "Accessories")

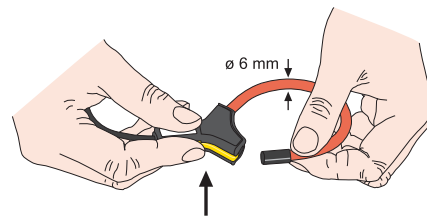


Dimension diagram W...F series measuring current transformers

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