

# Measuring current transformers of the W..., W...-8000 series



# Measuring current transformers of the W..., W...-8000 series



W60 – W60-8000 measuring current transformers



W20 – W20-8000 mounted on DIN rail

## Device features

### Measuring current transformers W...

- For RCMS460/490 residual current monitoring systems
- For RCM420 residual current monitors
- For EDS470, EDS460/490 and EDS440 insulation fault locators in AC and DC systems

### W...-8000 measuring current transformers

- For EDS461 and EDS491 insulation fault locators

## Approvals



## Product description

The highly sensitive W... and W...-8000 series measuring current transformers convert AC currents into evaluable measurement signals, in combination with RCM resp. RCMS series residual current monitors and evaluators.

In addition, the measuring current transformers can be used in combination with insulation fault location systems (EDS) for IT systems. They are designed to measure the locating current generated by a PGH locating current injector or an ISOMETER® IRDH. In combination with EDS series insulation fault locators the test current is converted into evaluable signals. Connection to the respective devices is via a two-wire cable.

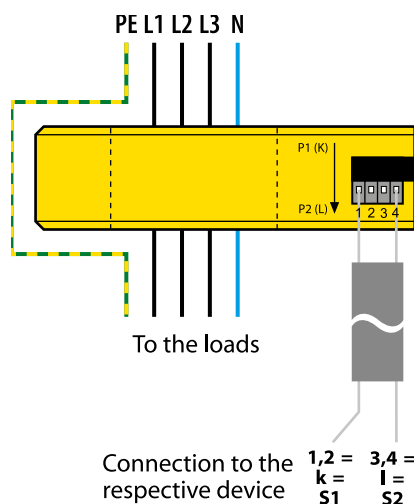
## Standards

WS... and WS...-8000 measuring current transformers comply with the device standards: DIN EN 60044-1, IEC 60044-1

## Installation instructions

- Make sure that all live conductors are routed through the measuring current transformer
- Do not route shielded conductors through the measuring current transformer
- Never route a PE conductor through the measuring current transformer!

## Wiring diagram



### W... measuring current transformers

Connection to the respective RCMS series residual current monitoring system, RCM series residual current monitor or to an EDS series insulation fault location system.

### W...-8000 measuring current transformers

Connection to the respective EDS473(E)-12, EDS474(E)-12, EDS461 and/or EDS491 series insulation fault locator.



**Technical data**

**Insulation coordination acc. to IEC 60664-1**

Rated insulation voltage	800 V
Rated impulse voltage/pollution degree	8 kV/3

**CT circuit W...**

Rated primary residual current	10 A
Rated secondary residual current	0.0167 A
Rated transformation ratio $K_n$	10/0.0167 A
Rated burden	max. 180 $\Omega$
Nominal power	0.05 VA
Frequency range	42 Hz...3 kHz
Rated continuous thermal current $I_{cth}$	40 A
Rated short-time thermal current $I_{tth}$	60 x $I_{cth}$ = 2.4 kA/1 s
Rated dynamic current $I_{dyn}$	2.5 x $I_{tth}$ = 6.0 kA/40 ms

**CT circuit W...-8000**

Rated primary residual current	1 A
Rated secondary residual current	0.125 mA
Rated transformation ratio $K_n$	1 A/0.125 mA
Frequency range	42 Hz...3 kHz
Rated continuous thermal current $I_{cth}$	6 A
Rated short-time thermal current $I_{tth}$	60 x $I_{cth}$ = 0.36 kA/1 s
Rated dynamic current $I_{dyn}$	2.5 x $I_{tth}$ = 0.9 kA/40 ms

**Environment**

Operating temperature	-25...+70 °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)	2K5 (except condensation and formation of ice)
Long-time storage (IEC 60721-3-1)	1K5 (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**

Connection	cage clamp spring terminal
Connection	
rigid/flexible/conductor sizes	0.08...2.5/0.08...2.5 mm <sup>2</sup> (AWG 28...12)
Stripping length	8...9 mm

**Connection EDS, RCM(S) measuring current transformers**

Single wire $\geq 0.75$ mm <sup>2</sup>	0...1 m
Single wire, twisted $\geq 0.75$ mm <sup>2</sup>	0...10 m
Shielded cable $\geq 0.5$ mm <sup>2</sup>	0...40 m
Shielded cable (shield on one side connected to L-conductor, not connected to earth)	recommended: J-Y(St)Y min. 2x0.8

**Other**

Degree of protection, internal components (DIN EN 60529)	IP40
Degree of protection, terminals (IEC 60529)	IP20
Screw mounting	M5 with mounting bracket
Flammability class	UL94 V-0
Documentation number	D00078
Approvals and certifications	UL under development

**Ordering information**

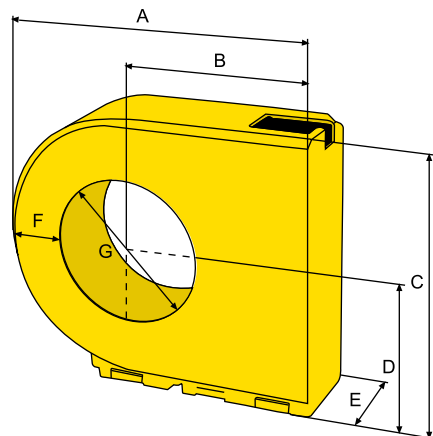
Mounting	Inside diameter	Type	Art. No.
Mounting brackets, DIN rail	20 mm	W20	B 9808 0003
		W20-8000 <sup>1)</sup>	B 9808 0009
	35 mm	W35	B 9808 0010
		W35-8000 <sup>1)</sup>	B 9808 0017
	60 mm	W60	B 9808 0018
		W60-8000 <sup>1)</sup>	B 9808 0027
Mounting brackets	120 mm	W120	B 9808 0028
	210 mm	W210	B 9808 0034

<sup>1)</sup> For EDS461/491 and EDS473/474 insulation fault locators

**Accessories**

Type designation	Width	Art. No.
Snap-on mounting for W20-W35, W20-W35-8000	43.5 mm	B 9808 0501
Snap-on mounting for W60, W60-8000	50 mm	B 9808 0502

**Dimension diagram**



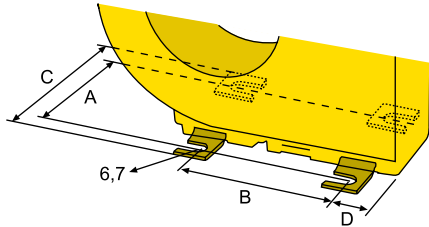
Type	Dimensions (mm)							Weight
	A	B	C	D	E	F	G	
W20	76.4	50	56.3	29.8	30	16.4	ø 20	≤ 130 g
W35	99.5	62	79.2	41.7	30	20	ø 35	≤ 175 g
W60	135	79	116.4	60.4	37	24	ø 60	≤ 315 g
W120	210	116.5	191.5	98	37	33.5	ø 120	≤ 960 g
W210	323	173	304.5	154.5	45	45	ø 210	≤ 2900 g
W20-8000*	76.4	50	56.3	29.8	30	16.4	ø 20	≤ 150 g
W35-8000*	99.5	62	79.2	41.7	30	20	ø 35	≤ 205 g
W60-8000*	135	79	116.4	60.4	37	24	ø 60	≤ 355 g

Tolerance: ± 0.5 mm

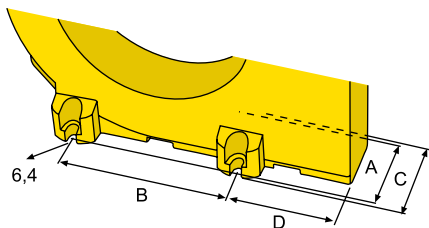
\* For EDS461/491 insulation fault locators

## Mounting details

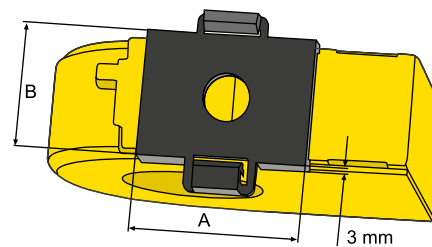
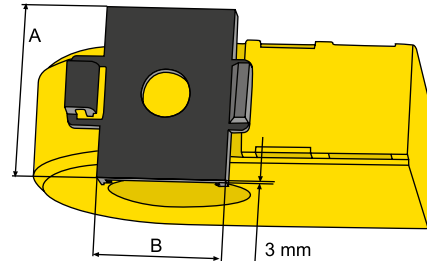
Screw mounting with mounting brackets: W20, W35, W60 and W20-8000, W35-8000, W60-8000



Screw mounting: W120, W210



Snap-on mounting on DIN rail: for vertical or horizontal mounting: W20, W35, W60 und W20-8000, W35-8000, W60-8000



Dimensions (mm)				
Type	A	B	C	D
<b>W20/W20-8000</b> (fixing with two mounting brackets, diagonally)	49	31.4	65	18.6
<b>W35/W35-8000</b> (fixing with two mounting brackets, diagonally)	49	49.8	65	12.1
<b>W60/W60-8000</b> (fixing with four mounting brackets)	56	66	72	17.7
<b>W120</b> (screw mounting)	51	103	60.6	65
<b>W210</b> (screw mounting)	59	180	68.6	83

Dimensions (mm)		
Type	A	B
<b>W20/W20-8000</b>	43.5	32
<b>W35/W35-8000</b>	43.5	32
<b>W60/W60-8000</b>	50	39

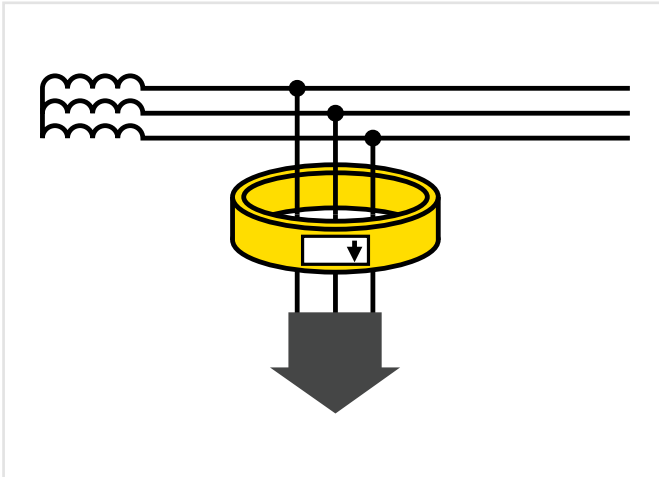
Tolerance for screw mounting with mounting brackets:  $\pm 1.5$  mm

## Selection list

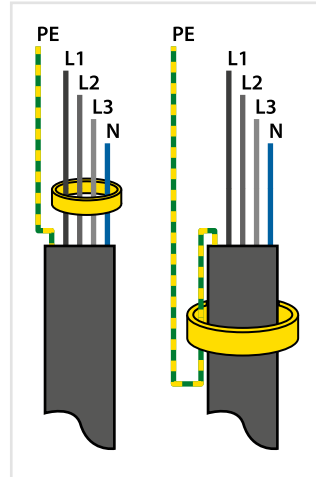
Type	RCM420	RCMS460 RCMS490	EDS460 EDS490	EDS461 EDS491	EDS440
W20	■	■	■	–	■
W35	■	■	■	–	■
W60	■	■	■	–	■
W120	■	■	■	–	■
W210	■	■	■	–	■
W20-8000	–	–	–	■	–
W35-8000	–	–	–	■	–
W60-8000	–	–	–	■	–

**Installation instructions**

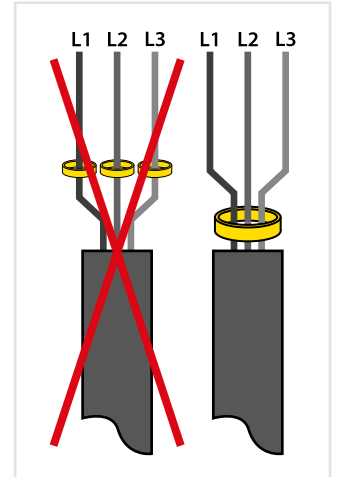
- Do not pass shielded cables through the measuring current transformer.
- As a general principle, the PE conductor and low-resistance conductor loops must not be passed through the measuring current transformer!



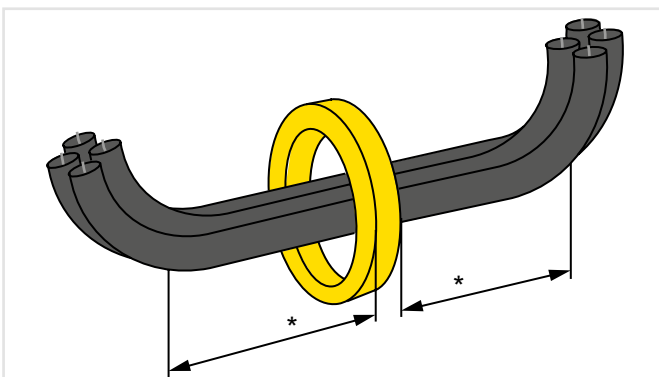
It is important that the leads are passed through the measuring current transformer in the right direction



Never pass a PE conductor through the measuring current transformer

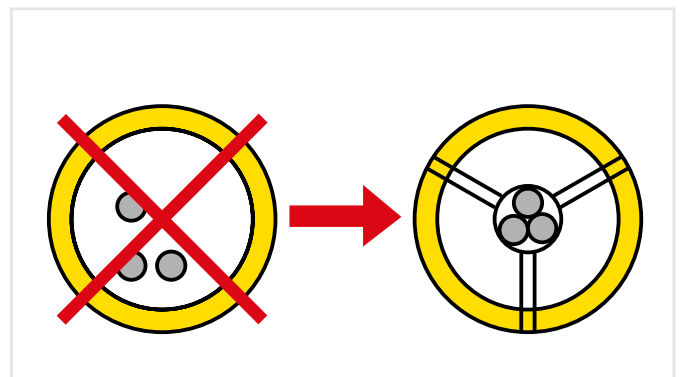


Make sure that all current-carrying leads are passed through the measuring current transformer



\* Distance to the 90° angle = 2 x transformer outside diameter

Bending a lead is only permissible with a certain distance to the current transformer



The leads must be aligned with the centre of the measuring current transformer



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