

## W Series

Current Transformers for AC Systems

Used with RCM, RCMS, and EDS Series Devices



## Current Transformers W and W...-8000 Series



Measuring current transformers W60 – W60-8000

### Product description

The W and W-800 series of current transformers are highly sensitive measuring tools which measure AC currents and convert them into evaluable signals. These are specially designed to work with BENDER RCM and RCMS series ground fault monitors for grounded and high-resistance grounded systems, as well the EDS series of ground fault location evaluators for ungrounded systems.

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

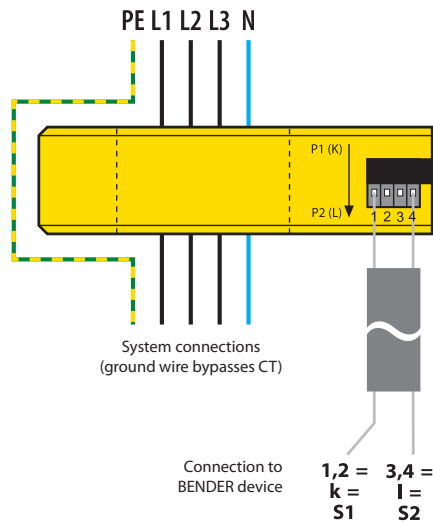
### Installation instructions

- All conductors, including the neutral if it is being used, should be routed through the current transformer.
- The ground wire should not be routed through the current transformer.



W20 – W20-8000 mounted on DIN rail

### Wiring diagram



### Features

#### W... Series Current Transformers

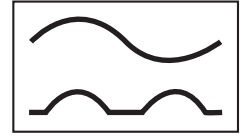
- For ground fault monitors for grounded and high-resistance grounded AC systems (RCM470LY, RCM420, RCMS460, etc.)
- For ground fault location systems for ungrounded systems (EDS460 / EDS490)

#### W...-8000 Series Current Transformers

- For ground fault location systems for ungrounded low-voltage systems (EDS 461 / EDS491)

### Approvals





**Technical data**

**Insulation coordination acc. to IEC 60664 -1 / IEC 60664-3**

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

**CT circuit W...**

Rated primary ground fault current	10 mA... 10 A
Rated secondary ground fault 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 $I_{tth}$	$60 \times I_{cth} = 2.4 \text{ kA} / 1 \text{ s}$
Rated dynamic current $I_{dyn}$	$2.5 \times I_{tth} = 6.0 \text{ kA} / 40 \text{ ms}$

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

Rated primary ground fault current	1 A
Rated secondary ground fault current	0.125 mA
Rated transformation ratio $K_N$	1 A / 0.125 mA
Rated burden	2400 $\Omega$
Nominal power	0.0375 VA
Frequency range	42 Hz... 3 kHz
Rated continuous thermal current $I_{cth}$	6 A
Rated short-time thermal current $I_{tth}$	$60 \times I_{cth} = 0.36 \text{ kA} / 1 \text{ s}$
Rated dynamic current $I_{dyn}$	$2.5 \times I_{tth} = 0.9 \text{ kA} / 40 \text{ ms}$

**Environmental conditions**

Operating temperature	-25 °C... +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**

Type of connection	cage clamp spring terminal
rigid / flexible / conductor sizes	0.08...2.5 / 0.08...2.5 mm / 28...12 AWG
Stripping length	8...9 mm

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

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 on one side connected to line conductor, not connected to PE)	J-Y(ST)Y min. 2 x 0.8

**Other**

Degree of protection, internal components (IEC 60529)	IP40
Degree of protection, terminals (IEC 60529)	IP20
Screw mounting	M5 with mounting brackets
Flammability class	UL94V-0
Standards	IEC 60044-1
Instruction leaflet W...	BP409013
Instruction leaflet W...-8000	BP108018
Approvals	UL under consideration, GOST

\* The rated burden may vary depending on the respective device data sheet.

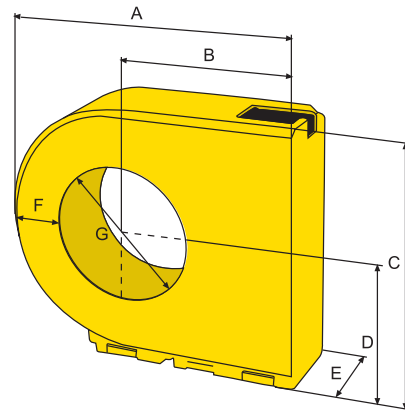
**Ordering information**

Type	Inside diameter	DIN rail	Fixing Mounting brackets	Art. No.
W20	20 mm	×	×	B 9808 0003
W35	35 mm	×	×	B 9808 0010
W60	60 mm	×	×	B 9808 0018
W120	120 mm	--	×	B 9808 0028
W210	210 mm	--	×	B 9808 0034
W20-8000*	20 mm	×	×	B 9808 0009
W35-8000*	35 mm	×	×	B 9808 0017
W60-8000*	60 mm	×	×	B 9808 0027

**Accessories**

Type	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**



**Dimensions**

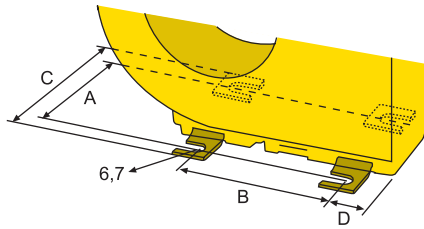
Type	A	B	C	D	E	F	G	Weight
W20	76.4	50	56.3	29.8	30	16.4	$\varnothing 20$	0.13 kg
W35	99.5	62	79.2	41.7	30	20	$\varnothing 35$	0.175 kg
W60	135	79	116.4	60.4	37	24	$\varnothing 60$	0.315 kg
W120	210	116.5	191.5	98	37	33.5	$\varnothing 120$	0.96 kg
W210	323	173	304.5	154.5	45	45	$\varnothing 210$	2.9 kg
W20-8000*	76.4	50	59	29.8	30	16.4	$\varnothing 20$	0.15 kg
W35-8000*	99.5	62	85	41.7	30	20	$\varnothing 35$	0.205 kg
W60-8000*	135	79	119	60.4	37	24	$\varnothing 60$	0.355 kg

Dimensions in mm

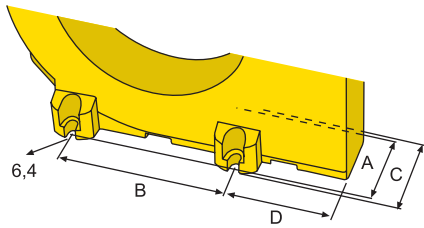
\* "8000" series current transformers are used with the EDS461 / EDS491 ground fault location systems.

## Mounting details

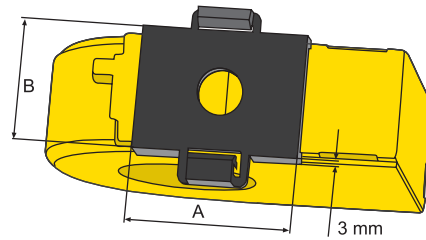
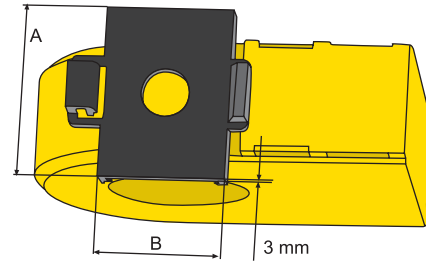
Screw mounting with mounting brackets: W20, W35, W60 and W20-8000, W35-8000, W60-8000



Screw mounting: W120, W210



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



Dimensions screw mounting				
Type	A	B	C	D
W20 / W20-8000 (fixing with two mounting brackets, diagonally)	47	31.4	63	18.6
W35 / W35-8000 (fixing with two mounting brackets, diagonally)	47	49.8	63	12.1
W60 / W60-8000 (fixing with four mounting brackets)	54	66	70	17.7
W120 screw mounting	51	103	60.6	65
W210 screw mounting	59	180	68.6	83

Dimensions in mm

Dimensions snap-on mounting		
Type	A	B
W20 / W20-8000	43.5	32
W35 / W35-8000	43.5	32
W60 / W60-8000	50	39

Dimensions in mm

Selection list								
Type	RCM420	RCM470LY	RCMS460 / 490	EDS460 / 490	EDS461 / 491	EDS470	EDS473	EDS474
W20	×	×	×	×	--	×	--	--
W35	×	×	×	×	--	×	--	--
W60	×	×	×	×	--	×	--	--
W120	×	×	×	×	--	×	--	--
W210	×	×	×	×	--	×	--	--
W20-8000	--	--	--	--	×	--	×	×
W35-8000	--	--	--	--	×	--	×	×
W60-8000	--	--	--	--	×	--	×	×



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