

Measuring current transformers

W0-S20...W5-S210

W10/600



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Product description

The highly sensitive W0-S20...W5-S210 series measuring current transformers convert residual currents up to 100 A into evaluable RCM or EDS signals. The CTs are connected to the respective evaluator by two wires. Depending on the connecting lead used, the distance between the CT and the evaluator may be up to 40 m.

Care should be taken that all current-carrying conductors are passed through the CT and that these conductors are not shielded.

Never route a PE conductor through the measuring current transformer!

Typical applications

- For residual current monitors (RCM)
- For residual current monitoring systems (RCMS)
- For insulation fault locators with additional EDS in AC and DC systems

Standards

W0-S20...W5-S210 series measuring current transformers comply with the device standard: IEC 61869-1.

Approvals



Measuring current transformer W0-S20

Ordering information



Measuring current transformer W1-S35

Inside diameter	Approvals			Type	Art. No.
	UL	EAC	LR		
10 mm	–	–	–	W10/600	B911761
20 mm	–	■	■	W0-S20	B911787
35 mm	■	■	–	W1-S35	B911731
70 mm	■	■	–	W2-S70	B911732
105 mm	■	■	–	W3-S105	B911733
140 mm	■	■	–	W4-S140	B911734
210 mm	■	■	–	W5-S210	B911735

Technical data

Insulation coordination acc. to IEC 60044-1

Highest system voltage for electrical equipment U_m	AC 720 V
Rated impulse withstand voltage U_{isol}	3 kV

Measuring circuit

Rated transformation ratio	600/1
Rated burden	180 Ω (18 Ω at 100 A)
Phase displacement	<4°
Rated primary current	≤10 A (100 A)
Rated primary current	≥10 mA
Nominal power	50 mVA
Rated frequency	15...400 Hz
Internal resistance	5...8 Ω
Secondary overvoltage protection	with suppressor diode P6KE6V8CP
Accuracy class	3
Rated continuous thermal current	100 A
Rated short-time thermal current	14 kA 1 s
Rated dynamic current	35 kA 30 ms

Environment

Shock resistance IEC 60068-2-27 (device in operation)	15 g/11 ms
Bumping IEC 60068-2-29 (transport)	40 g/6 ms
Vibration resistance IEC 60068-2-6 (device in operation)	
W1-S35...W3-S105	1 g/10...150 Hz
W4-S140, W5-S210	1 g/10...150 Hz/0.075 mm
Vibration resistance IEC 60068-2-6 (device not in operation)	2 g/10...150 Hz
Ambient temperature (during operation/during storage)	-10...+50 °C/-40...+70 °C
Climatic class acc. to DIN IEC 60721-3-3	3K5

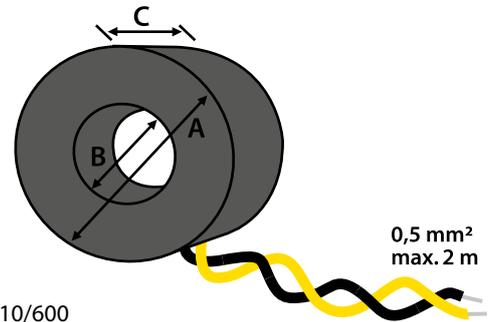
Connection

Connection	screw-type terminals
Connection rigid/flexible	0.2.../4/0.2...2.5 mm ²
flexible with ferrules with/without plastic sleeve	0.25...2.5 mm ²
Conductor sizes (AWG)	24...12
Connection to the evaluator	
single wire ≥ 0.75 mm ²	0...1 m
single wire, twisted ≥ 0.75 mm ²	0...10 m
shielded cable ≥ 0.6 mm ²	0...40 m
Shielded cable (shield connected to PE on one side)	recommended cable J-Y(St)Y min. 2 x 0.6

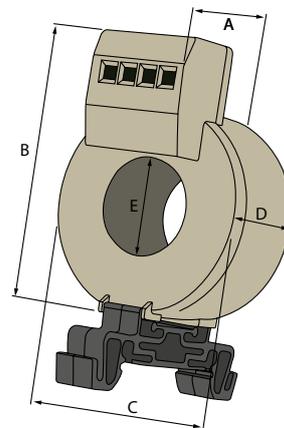
Other

Operating mode	continuous operation
Mounting	any position
Degree of protection, internal components (DIN EN 60529)	IP40
Degree of protection, terminals (DIN EN 60529)	IP20
Screw mounting	M5
Flammability class	UL94 V-0
Documentation number	D00142 (W(0-5)-S) D00143 (W10)

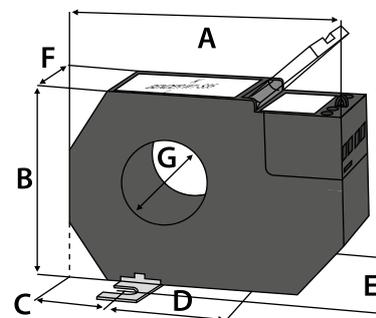
Dimension diagrams



Type W10/600



Type W0-S20

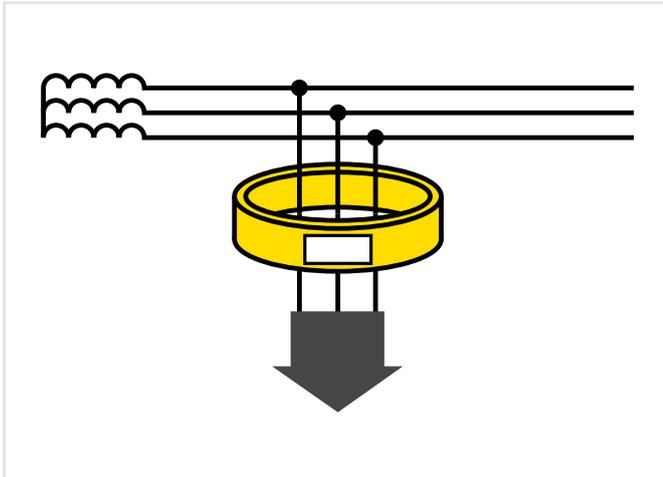


Type W1-S35...W5-S210

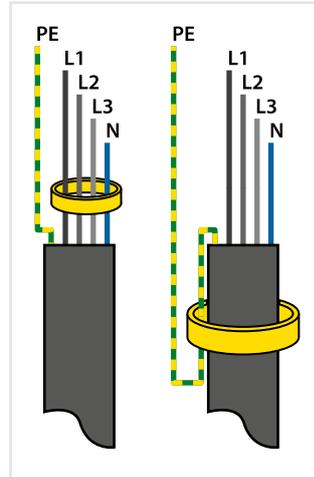
Type	Dimensions (mm)							Weight
	A	B	C	D	E	F	G	
W10/600	∅ 37	∅ 10	18	–	–	–	–	85 g
W0-S20	32,4	60	∅ 46	23,2	∅ 20	–	–	70 g
W1-S35	100	79	26	48,5	33	46	∅ 35	250 g
W2-S70	130	110	32	66	33	46	∅ 70	380 g
W3-S105	170	146	38	94	33	46	∅ 105	700 g
W4-S140	220	196	48,5	123	33	46	∅ 140	1500 g
W5-S210	299	284	69	161	33	46	∅ 210	2500 g

Installation instructions

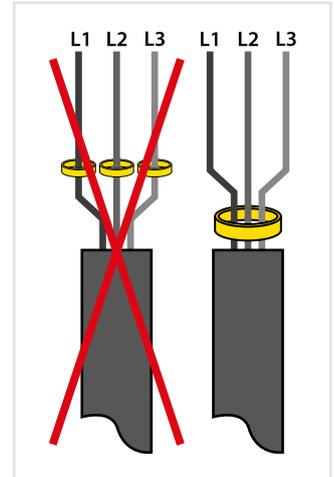
- Do not pass shielded cables through the measuring current transformer.
- As a general principle, the PE conductor and low-resistance conductor loops must not be passed through the measuring current transformer!



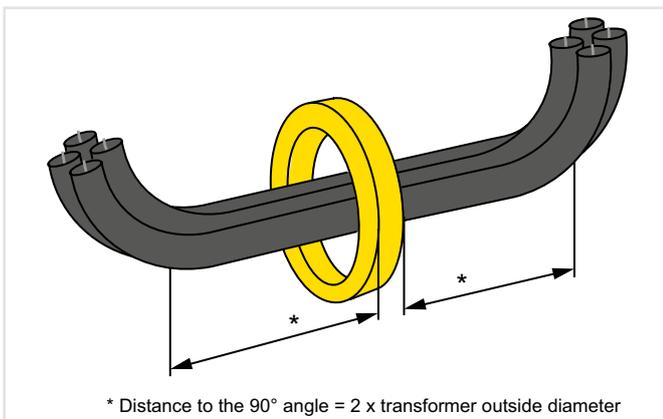
It is important that the leads are passed through the measuring current transformer in the right direction



Never pass a PE conductor through the measuring current transformer

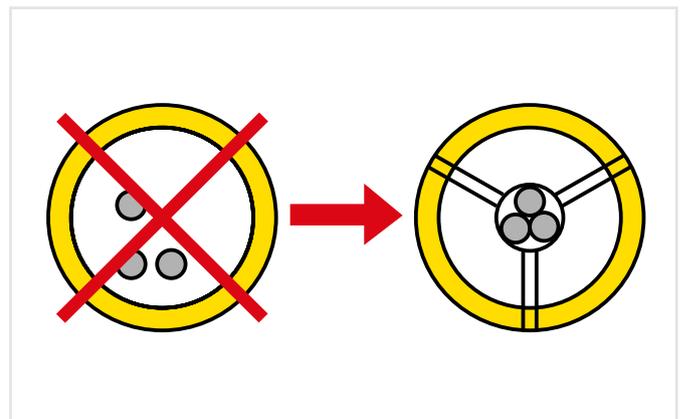


Make sure that all current-carrying leads are passed through the measuring current transformer



* 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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