

Measuring current transformer for universal measuring devices



Measuring current transformer for universal measuring devices



Window-type current transformer CTB31/CTB41/CTB51



Split-core current transformer KBR18/KBR32

Device features

CTB31/CTB41/CTB51

- Window-type current transformer
- Screwless connection technique
- Maintenance-free, gas-tight connection
- Max. operating voltages up to 1.2 kV
- Can also be used in 690 V systems
- Unbreakable plastic enclosure, self-extinguishing, UL94-V0, flame-resistant

KBR18/KBR32

- Split-core current transformer (mounting without disconnecting the primary conductor)
- Incl. connecting cable (2.5 m)
- Max. operating voltages up to 0.72 kV

Product description

All measuring devices of the PEM series can be operated with standard measuring current transformers (secondary current 1 A or 5 A). To comply with the accuracy class (e.g. 0.5 S), the measuring device and the measuring current transformers used must comply with class 0.5 S or better.

Standards

The measuring current transformers were designed in accordance with the following standards:

- IEC 61869-1
- IEC 61869-2
- IEC 61010-1

Technical data CTB31

Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N , 1 s
Max. operating voltage U_m	1.2 kV, U_{eff}
Insulation test voltage	6 kV, U_{eff} , 50 Hz, 1 min
Nominal frequency	50/60 Hz
Insulation class	E
Operating temperature	-5...50 °C

Technical data CTB41

Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N , 1 s
Max. operating voltage U_m	1.2 kV, U_{eff}
Insulation test voltage	6 kV, U_{eff} , 50 Hz, 1 min
Nominal frequency	50/60 Hz
Insulation class	E
Operating temperature	-5...50 °C

Technical data CTB51

Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N , 1 s
Max. operating voltage U_m	1.2 kV, U_{eff}
Insulation test voltage	6 kV, U_{eff} , 50 Hz, 1 min
Nominal frequency	50/60 Hz
Insulation class	E
Operating temperature	-5...50 °C

Technical data KBR18

Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N , 1 s
Max. operating voltage U_m	0.72 kV, U_{eff}
Insulation test voltage	3 kV, U_{eff} , 50 Hz, 1 min
Nominal frequency	50 Hz
Insulation class	E
Operating temperature	-5...50 °C

Technical data KBR32

Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N , 1 s
Max. operating voltage U_m	0.72 kV, U_{eff}
Insulation test voltage	3 kV, U_{eff} , 50 Hz, 1 min
Nominal frequency	50 Hz
Insulation class	E
Operating temperature	-5...50 °C

Ordering details window-type current transformer

Model	Primary current	Secondary current	Accuracy	Type	Art. No.
CTB31	60 A	5 A	1	WL605 CL. 1	B98086001
CTB31		1 A	1	WL601 CL. 1	B98086002
CTB31	75 A	5 A	1	WL755 CL. 1	B98086003
CTB31			1	WL751 CL. 1	B98086004
CTB31	125 A	5 A	0.5	WL1255 CL. 0.5	B98086005
CTB31			1	WL1255 CL. 1	B98086007
CTB31		1 A	0.5	WL1251 CL. 0.5	B98086006
CTB31			1	WL1251 CL. 1	B98086008
CTB31	150 A	5 A	0.5	WL1505 CL. 0.5	B98086009
CTB31			1	WL1505 CL. 1	B98086011
CTB31		1 A	0.5	WL1501 CL. 0.5	B98086010
CTB31			1	WL1501 CL. 1	B98086012
CTB31	200 A	5 A	0.5	WL2005 CL. 0.5	B98086013
CTB31			1	WL2005 CL. 1	B98086015
CTB31		1 A	0.5	WL2001 CL. 0.5	B98086014
CTB31			1	WL2001 CL. 1	B98086016
CTB41	250 A	5 A	0.5	WL2505 CL. 0.5	B98086017
CTB41			1	WL2505 CL. 1	B98086019
CTB41		1 A	0.5	WL2501 CL. 0.5	B98086018
CTB41			1	WL2501 CL. 1	B98086020
CTB41	300 A	5 A	0.5	WL3005 CL. 0.5	B98086021
CTB41			1	WL3005 CL. 1	B98086023
CTB41		1 A	0.5	WL3001 CL. 0.5	B98086022
CTB41			1	WL3001 CL. 1	B98086024
CTB41	400 A	5 A	1	WL4005 CL. 1	B98086026
CTB41			0.5	WL4005 CL. 0.5	B98086027
CTB41		1 A	1	WL4001 CL. 1	B98086028
CTB41			0.5	WL4001 CL. 0.5	B98086025
CTB41	500 A	5 A	1	WL5005 CL. 1	B98086029
CTB41			0.5	WL5005 CL. 0.5	B98086031
CTB41		1 A	1	WL5001 CL. 1	B98086032
CTB41			0.5	WL5001 CL. 0.5	B98086033
CTB51	600 A	5 A	1	WL6005 CL. 1	B98086034
CTB51			0.5	WL6005 CL. 0.5	B98086035
CTB51		1 A	1	WL6001 CL. 1	B98086036
CTB51			0.5	WL6001 CL. 0.5	B98086037
CTB51	800 A	5 A	1	WL8005 CL. 1	B98086038
CTB51			0.5	WL8005 CL. 0.5	B98086039
CTB51		1 A	1	WL8001 CL. 1	B98086040
CTB51			0.5	WL8001 CL. 0.5	B98086041
CTB51	1000 A	5 A	1	WL10005 CL. 1	B98086042
CTB51			0.5	WL10005 CL. 0.5	B98086043
CTB51		1 A	1	WL10001 CL. 1	B98086044
CTB51			0.5	WL10001 CL. 0.5	B98086045

Ordering details split-core current transformer

Model	Primary current	Secondary current	Accuracy	Type	Art. No.
KBR18	50 A	1 A	3F55	WLS501 CL. 3F55	B98086046
KBR18	100 A	1 A	3F55	WLS1001 CL. 3F55	B98086047
KBR18	150 A	1 A	3F55	WLS1501 CL. 3F55	B98086048
KBR32	250 A	1 A	3F55	WLS2501 CL. 3F55	B98086049
KBR32	500 A	1 A	3F55	WLS5001 CL. 1F55	B98086050

Selection guide current transformer/PEM

Design specifications of the measuring ranges current transformer/PEM

The secondary current of the current transformer has to be adjusted to the current input of the measuring device. The following table will help you to select the device type.

Current transformer secondary current	PEM353(-x) (5 A)	PEMxxx(-xx5) (5 A)	PEMxxx-xx1 (1 A)
5 A	✓	✓	—
1 A	— ¹⁾	— ¹⁾	✓

¹⁾ Note: In principle, measuring current transformers can also be operated with 1 A secondary current on measuring devices with 5 A current input. In this case, the accuracy class is expected to be reduced by one class (e.g. 0.5 to 1).

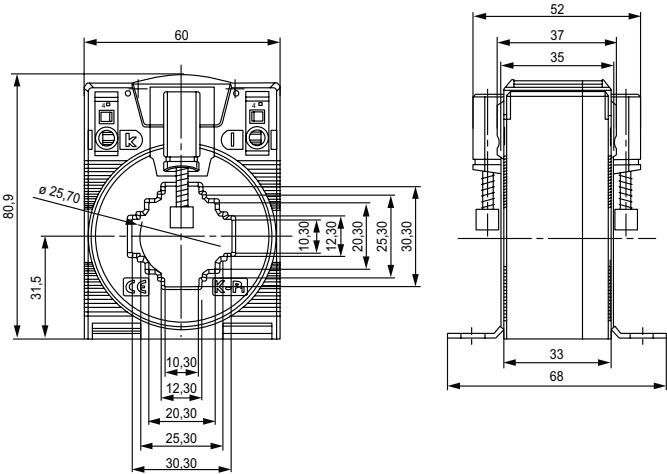
The measurement accuracy classes of the system

The measurement accuracy class of the system is influenced by both the accuracy classes of the measuring current transformers and the measuring device. Refer to DIN EN 61557-12, Annex E.2.

Accuracy classes of measuring current transformers	PEM3xx (0.5 S)	PEM5xx (0.5 S)	PEM735 (0.2 S)
1	1	1	1
0.5	1	1	0.5

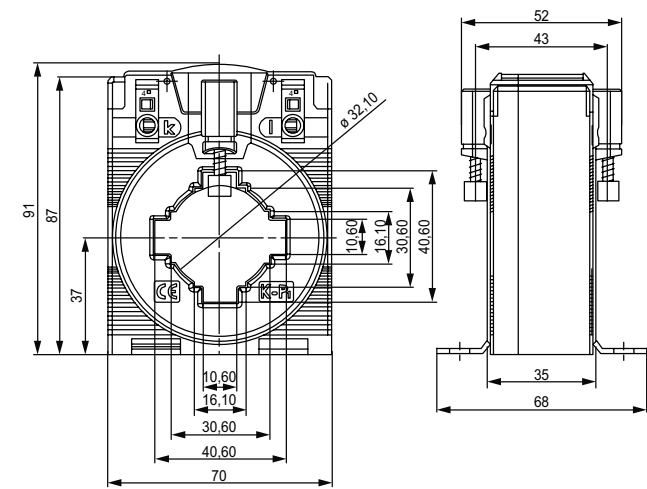
Dimension diagrams

CTB31



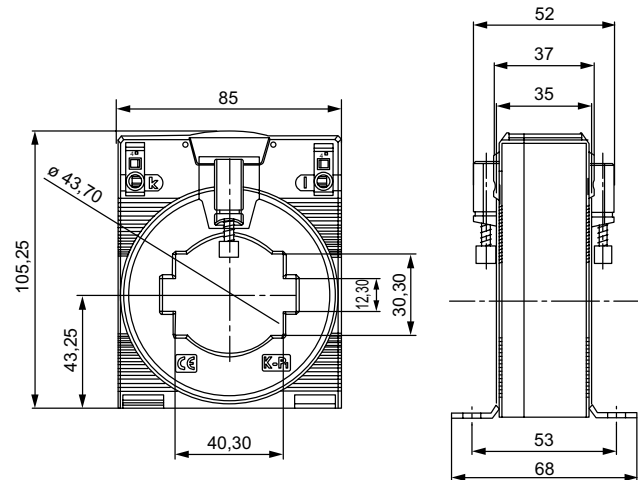
Dimensions (mm)	
Busbar 1	30 x 10
Busbar 2	25 x 12
Busbar 3	20 x 20
Circular conductor	25,7
Installation width	60
Installation height	80,9
Overall depth	52

CTB41



Dimensions (mm)	
Busbar 1	40 x 10
Busbar 2	30 x 15
Circular conductor	32
Installation width	70
Installation height	91
Overall depth	52

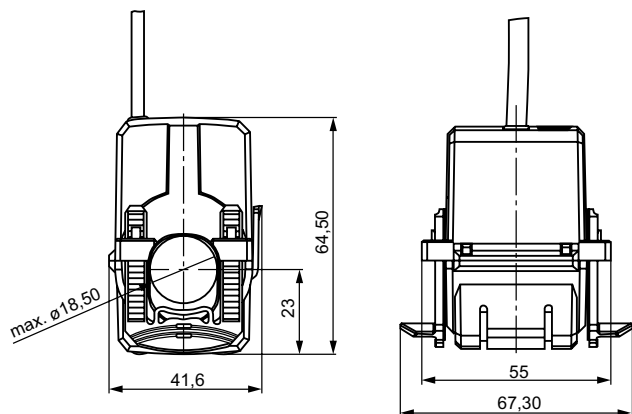
CTB51



Dimensions (mm)	
Busbar 1	50 x 12
Busbar 2	40 x 30
Circular conductor	44
Installation width	85
Installation height	105.25
Overall depth	52

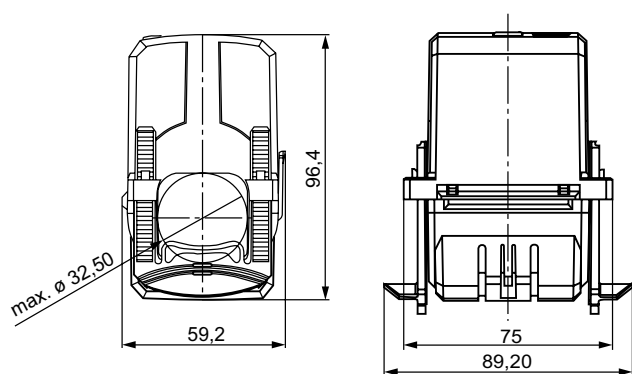
Dimension diagrams

KBR18



Dimensions (mm)	
Circular conductor	18
Installation width	41.6
Installation height	64.5
Installation depth incl. fixation clips	67.3

KBR32



Dimensions (mm)	
Circular conductor	32.5
Installation width	59.2
Installation height	96.4
Installation depth incl. fixation clips	89.2



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The specified standards take into account the
edition valid until 07.2026 unless otherwise
indicated.