



-power in control

TECHNICAL DOCUMENTATION



Primary winding current transformer, type WSK

Data sheet

Frequency	50/60 Hz (16 2/3 to 400 Hz on request)
Nominal Voltage	≤ 720 V AC ≤ 1200 V AC for ASK 165.5, 205.5
Isolation Class	E
Test Voltage	3000 V, 1 min, 50 Hz (Nominal Voltage ≤ 720 V) 6000 V, 1 min, 50 Hz (Nominal Voltage ≤ 1200 V)
Thermal Continuous Thermal Current	$I_{cth} = 1.0 \times I_n$ $I_{cth} = 1.2 \times I_n$ for ASK 165.5, 205.5
Rated Short-Time Thermal Current	$I_{th} = 40 \times I_n$, 1 sec (max. 100 kA) for WSK, KSU, SUSK
Rated Dynamic Current	$I_{dyn} = 2.5 \times I_{th}$
Instrument Security Factor	FS 5 to 15 (see product label for specific value)
Operating Temperature	-5°C to 50°C
Storage Temperature	-25°C to 70°C
Standard References	IEC / DIN EN 61869/1+2 DIN 42600/1+2



Current transformers overview

Click on a product name or check mark to jump to information page.

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Primary nominal current	WSK 30*	WSK 40*	WSK 40 N*	WSK 60	WSK 70.6 N	WSK 31.5											Primary nominal current
A																	A
1	✓	✓															1
2.5	✓	✓															2.5
5	✓	✓		✓													5
10	✓	✓		✓													10
15	✓	✓		✓													15
20	✓	✓		✓													20
25		✓		✓	✓	✓											25
30		✓	✓	✓	✓	✓											30
40			✓		✓	✓											40
50			✓		✓	✓											50
60					✓	✓											60
75					✓	✓											75
80					✓	✓											80
100					✓	✓											100
125																	125
150						✓											150
200																	200
250																	250
300																	300
400																	400
500																	500
600																	600
750																	750
800																	800
1000																	1000
1200																	1200
1250																	1250
1500																	1500
1600																	1600
1800																	1800
2000																	2000
2500																	2500
3000																	3000
3200																	3200
4000																	4000
5000																	5000
6000																	6000
7500																	7500
Primary conductor in mm																	Primary conductor in mm
Round conductor in mm																	Round conductor in mm
Transform. width in mm	61	71	71	71	60	70											Transform. width in mm

* For the current transformers above, click-on mountings are available for fitment onto 35mm DIN-rails (DIN 50022).

Primary winding current transformer

Based on the physical operating principle of current transformers, the required core volume transferring an amount of power, increases rapidly with a decreasing nominal current. As there are limits on increasing the transformer size, Primary winding current transformer are being used.

Interim current transformers also belong to the group of Primary winding current transformer. This construction is mainly used for primary currents of up to 10A, and achieves a transformation at a higher or lower secondary current values. In addition to their application in adapting a measuring circuit on existing measuring units, interim current transformers are being used also for lowering the power loss by the transmission of analogically measured values over great distances. This is made possible by means of a squared dependence of the power loss from the flowing current.

$$PV = I^2 \times Z[\text{VA}]$$

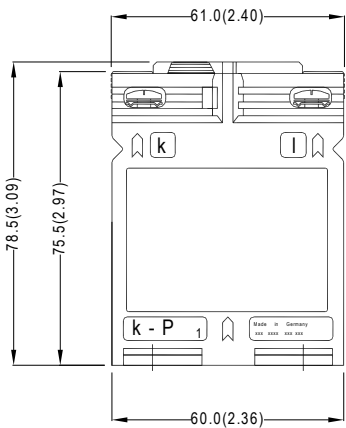
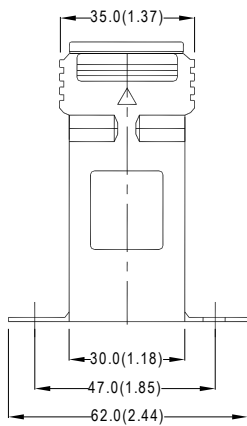
apparent power [VA]

This means when the original nominal current is halved, the conductor loss drops down to 25% of its original value.

Indication: The selection of the nominal power of the initially activated main transformer is achieved through the application of the following measurement comparisons.

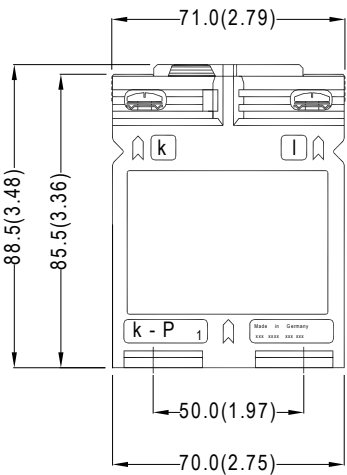
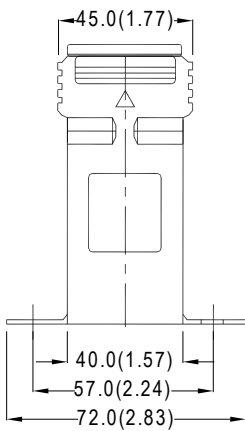
$$P_{GH} = P_Z \times \left(\frac{I_2}{I_1}\right)^2 + P_E + P_{HZ}$$

P_{GH}	apparent power of the main transformer
P_Z	secondary performance of the interim transformer (nominal performance inclusive of conductor losses)
P_E	consumption of the interim transformer by nominal current
P_{HZ}	conductor losses between main- and interim transformer by nominal current
I_1	primary nominal current of the interim transformer
I_2	secondary nominal current of the interim transformer



Secondary current		5A		1A	
Primary current A	Burden VA	Accuracy class		Accuracy class	
		1	0.5	1	0.5
		Art.-no.	Art.-no.	Art.-no.	Art.-no.
1	2.5	✓	✓	✓	✓
	5	✓		✓	
2.5	2.5	✓	✓	✓	✓
	5	✓		✓	
5	2.5	✓	✓	✓	✓
	5	✓		✓	
10	2.5	✓	✓	✓	✓
	5	✓		✓	
15	2.5	✓	✓	✓	✓
	5	✓		✓	
20	2.5	✓	✓	✓	✓
	5	✓		✓	

Weight	0.200-0.450kg (0.44-0.99lbs)
Security factor	FS 5
DIN rail mounting	Item number: 1213990001
Sealed shutter	Type: 59040

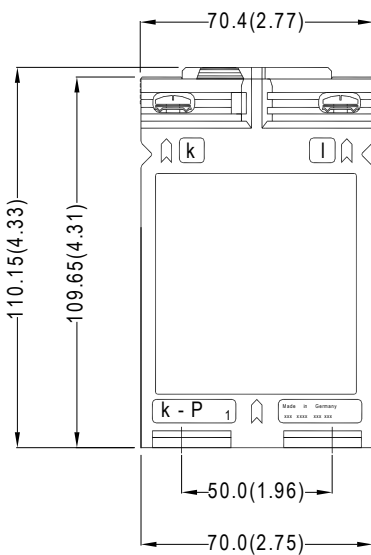
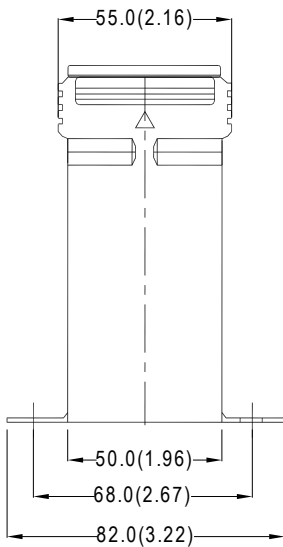


Secondary current		5A		1A	
Primary current A	Burden VA	Accuracy class		Accuracy class	
		1 Art.-no.	0.5 Art.-no.	1 Art.-no.	0.5 Art.-no.
1	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
2.5	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
5	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
10	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
15	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
20	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
25	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
30	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓

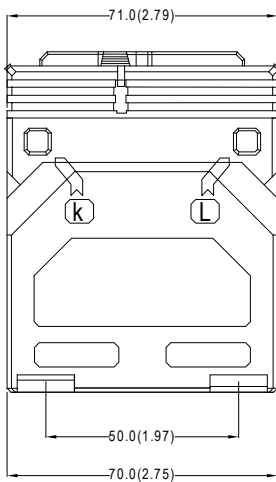
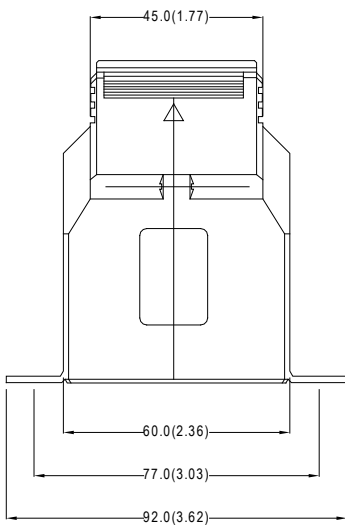
Weight	0.230-0.500kg (0.51-1.10lbs)
Security factor	FS 5
DIN rail mounting	Item number: 1213990004
Sealed shutter	Type: 59041



Secondary current		5A		1A	
Primary current A	Burden VA	Accuracy class		Accuracy class	
		1	0.5	1	0.5
		Art.-no.	Art.-no.	Art.-no.	Art.-no.
30	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
40	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
50	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓

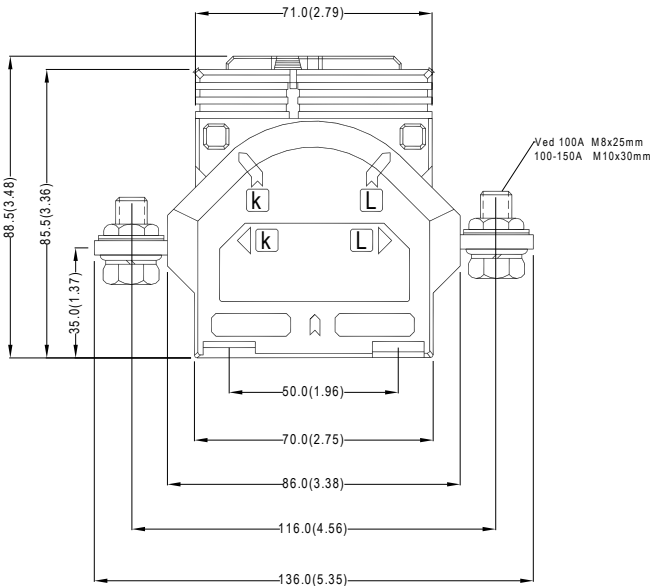
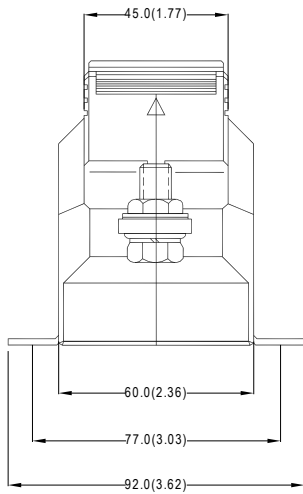


Weight	0.320-0.560kg (0.71-1.23lbs)
Security factor	FS 5
DIN rail mounting	Item number: 1213990003
Sealed shutter	Type: 59041



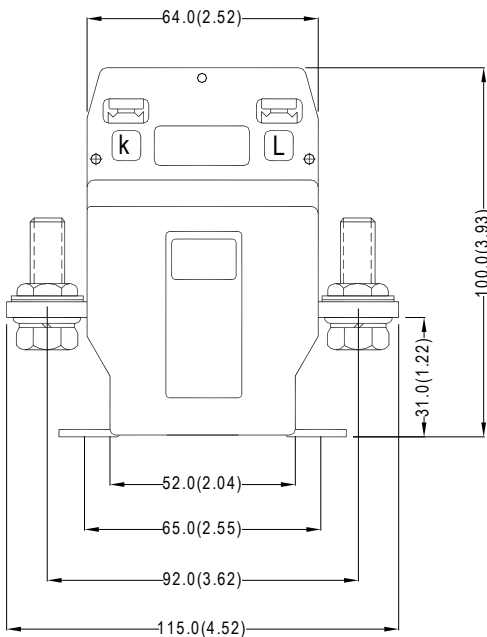
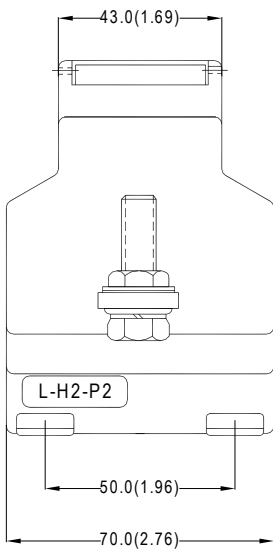
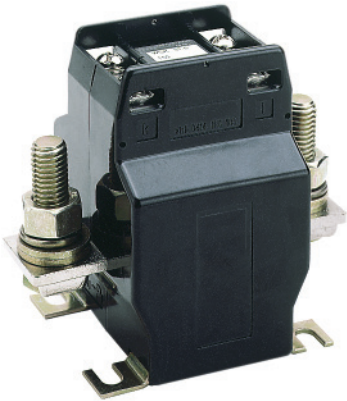
Secondary current		5A		1A	
Primary current A	Burden VA	Accuracy class		Accuracy class	
		1	0.5	1	0.5
		Art.-no.	Art.-no.	Art.-no.	Art.-no.
5	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
10	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
15	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
20	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
25	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
30	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	

Weight	0.290-0.610kg (0.64-1.34lbs)
Security factor	FS 5
DIN rail mounting	Not available
Sealed shutter	Type: 59041



Secondary current		5A		1A	
Primary current A	Burden VA	Accuracy class		Accuracy class	
		1 Art.-no.	0.5 Art.-no.	1 Art.-no.	0.5 Art.-no.
25	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
30	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
40	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
50	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
60	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
75	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
80	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	
100	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓		✓	

Weight	0.400-0.800kg (0.88-1.76lbs)
Security factor	FS 5
DIN rail mounting	Not available
Sealed shutter	Type: 59041



Secondary current		5A		1A	
Primary current A	Burden VA	Accuracy class		Accuracy class	
		1 Art.-no.	0.5 Art.-no.	1 Art.-no.	0.5 Art.-no.
25	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
30	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
40	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
50	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
60	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
75	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
80	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
100	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓
150	2.5	✓	✓	✓	✓
	5	✓	✓	✓	✓
	10	✓	✓	✓	✓
	15	✓	✓	✓	✓

Weight	0.800-1.000kg (1.76-2.20lbs)
Security factor	FS 5
DIN rail mounting	Not available
Sealed shutter	Type: 59045

Test certificate

On request, we can provide you with a test certificate for a specific current transformer along with the CT. Please inform us when placing your order.

Sealed shutter

On request, we can supply a transparent plastic cover. The cover seals the connections on the CT in a way that leaves the type label visible. Please check availability on each individual data sheet.



Excitation curve

On request, we can provide you with an excitation curve for a specific current transformer along with the CT. Please inform us when placing your order.

Optional frequency

Frequency range for a standard CT is 50-60Hz. On request, we can provide you with a frequency range from 16 2/3 – 400Hz. Please inform us when placing your order.

Cast resin

Cast resin is standard for all CT's with a nominal current $>4,000A$. On request, all CT's with a nominal current $<4,000A$ can be produced with cast resin. Please inform us when placing your order. The min. and max. weight specification for each type refers to standard versions. The specification is different if cast resin is ordered for CT's $<4,000A$.

Mounting

Foot angle for screw mounting and busbar mounting screws with isolating protection caps are supplied along with the CT. DIN-rail mounting for tubes, plug-ins and protection transformers is available on request for certain CT types. Please check availability on each individual data sheet.

