

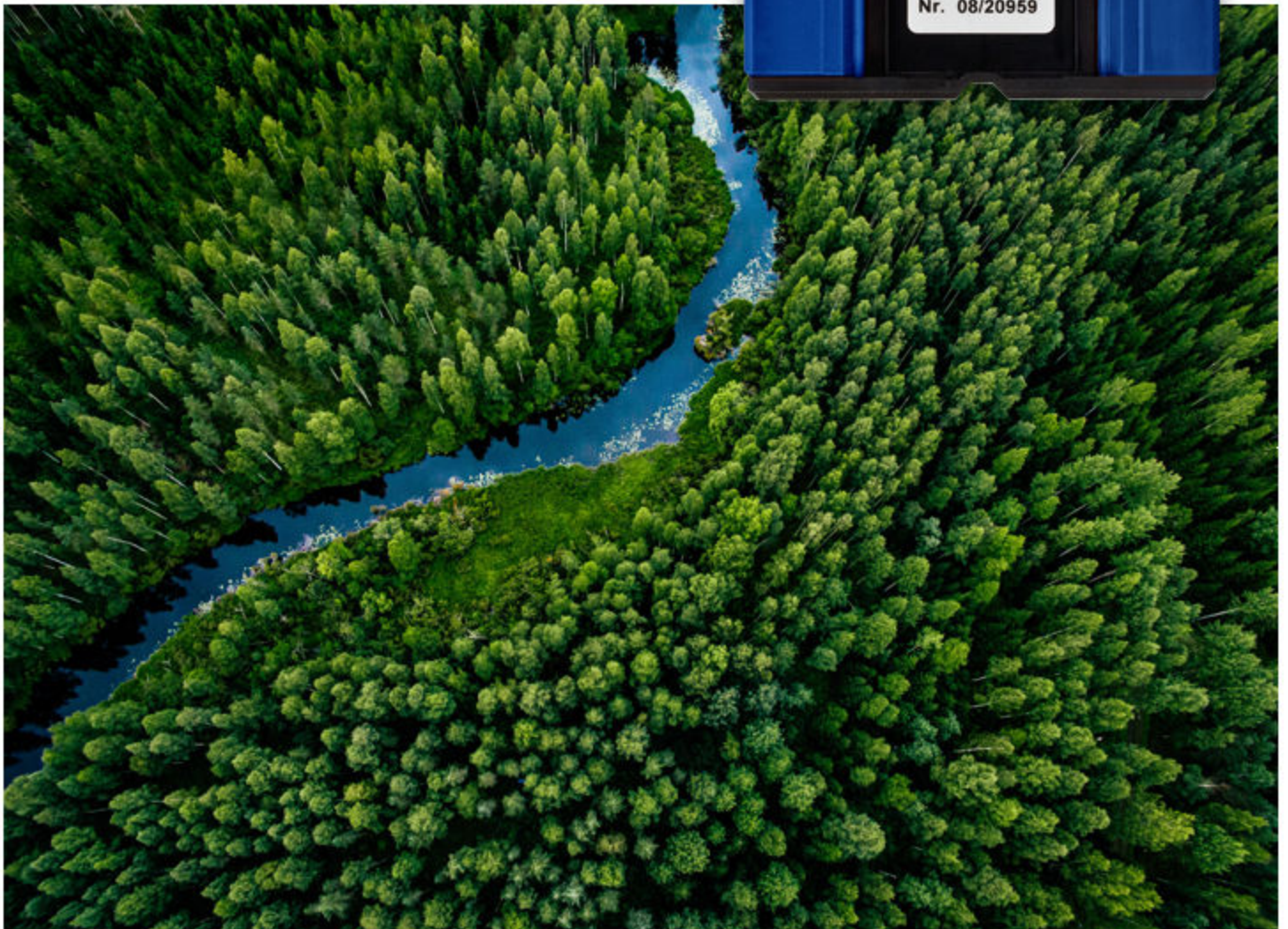
WSK

Primary winding current transformer

Data sheet



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1. About primary winding current transformers

1.1 Principle of operation

The operating principle of a current transformer requires more core volume as the nominal current decreases. Because the transformer size cannot increase indefinitely, primary winding current transformers are used for low primary currents, typically up to 10 A. These transformers provide a higher or lower secondary current as required by the measurement system.

Primary winding current transformers can also reduce power loss when transmitting analogue measurement values over long distances. Because conductor loss is proportional to the square of the current, halving the nominal current reduces conductor loss to 25% of its original value.

1.2 Required apparent power

Use the following formula to select the apparent power rating of the main transformer:

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

P_{GH}	Apparent power of the main transformer.
P_Z	Secondary performance of the interim transformer (includes conductor losses).
P_E	Consumption of the interim transformer at nominal current.
P_{HZ}	Conductor losses between main and interim transformer at nominal current.
I_1	Primary nominal current of the interim transformer.
I_2	Secondary nominal current of the interim transformer.

1.3 General technical specifications

Category	Specification
Frequency	50/60 Hz (16.7 to 400 Hz on request)
Nominal voltage	≤ 720 V AC *
Isolation class	E
Test voltage	3000 V, 1 min, 50 Hz (nominal voltage ≤ 720 V)
Continuous thermal nominal current	$I_{cth} = 1.0 \times I_n$
Rated short-time thermal current	$I_{th} = 60 \times I_n$, 1 sec (max. 100 kA)
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

NOTE * If a higher nominal voltage is need, use ASK 165.5 or ASK 205.5, which support voltages up to 1200 V AC.

1.4 Overview of WSK variants

Primary nominal current [A] ↓	WSK 30*	WSK 40*	WSK 40 N*	WSK 60	WSK 70.6 N	WSK 31.5
1	●	●				
2.5	●	●				
5	●	●		●		
10	●	●		●		
15	●	●		●		
20	●	●		●		
25		●		●	●	●
30		●	●	●	●	●
40			●		●	●
50			●		●	●
60					●	●
75					●	●
80					●	●
100					●	●
150						●
Transformer width	61 mm	71 mm	71 mm	71 mm	60 mm	70 mm

NOTE * For these current transformers, click-on mountings are available for installation onto 35mm DIN-rails (DIN 50022).

1.5 Disclaimer

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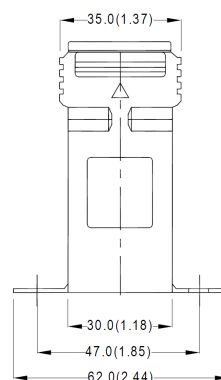
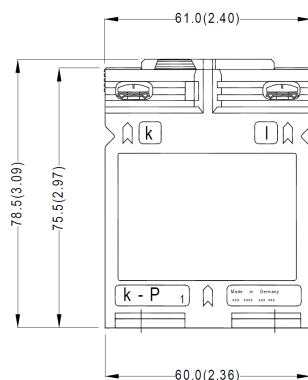
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1.6 Copyright

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2. WSK variants

2.1 WSK 30

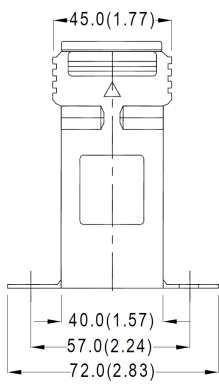
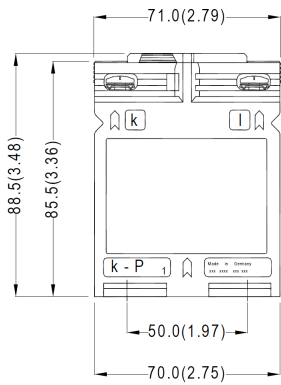


Specifications

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

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
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	●		●	

2.2 WSK 40

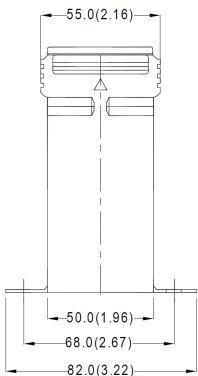
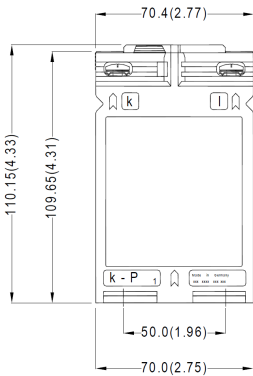


Specifications	
Weight	0.230 - 0.500 kg (0.51 - 1.10 lbs)
DIN rail mounting	Item number: 1213990004
Sealed shutter	Type: 59041

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
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	●	●	●	●

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
30	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●

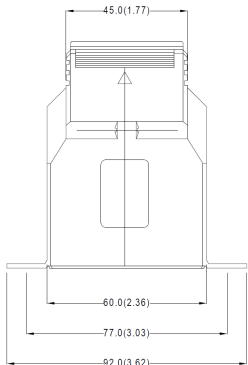
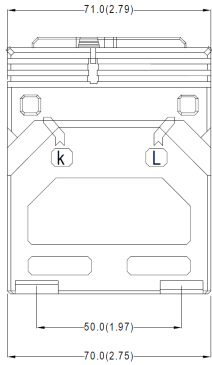
2.3 WSK 40 N



Specifications	
Weight	0.320 - 0.560 kg (0.71 - 1.23 lbs)
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
30	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●
40	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●
50	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●

2.4 WSK 60

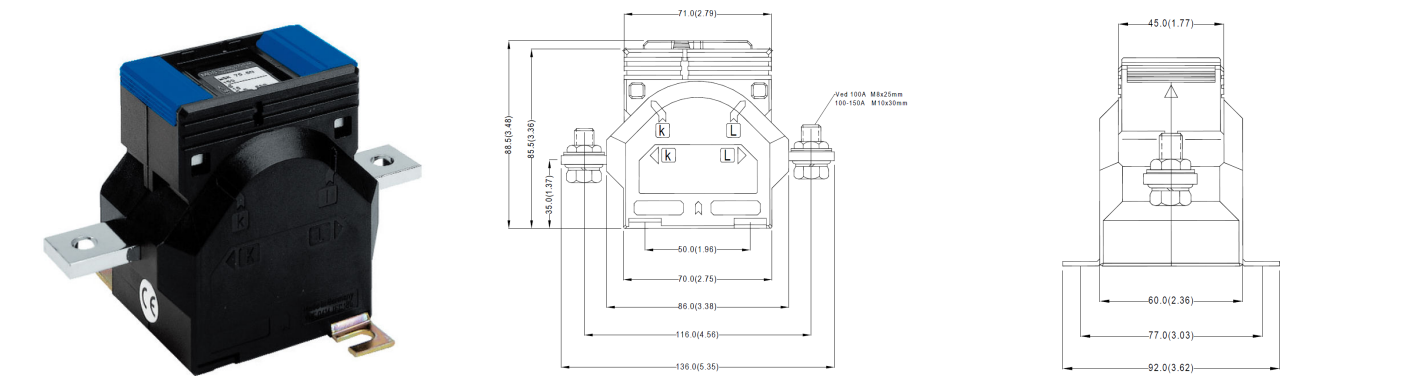


Specifications		
Weight		0.290 - 0.610 kg (0.64 - 1.34 lbs)
DIN rail mounting		Not available
Sealed shutter		Type: 59041

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
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	●		●	

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
30	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●
	15	●		●	

2.5
WSK 70.6 N

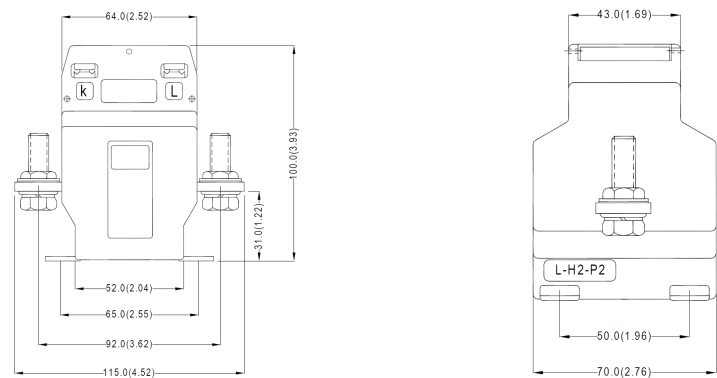
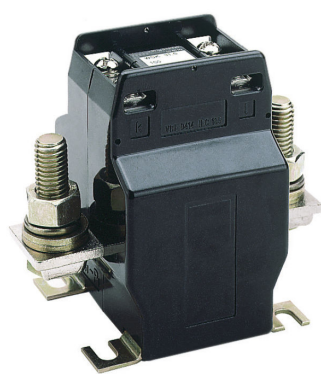


Specifications	
Weight	0.400 - 0.800 kg (0.88 - 1.76 lbs)
DIN rail mounting	Not available
Sealed shutter	Type: 59041

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
25	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●
	15	●		●	
30	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●
	15	●		●	
40	2.5	●	●	●	●
	5	●	●	●	●
	10	●	●	●	●
	15	●		●	

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
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	●		●	

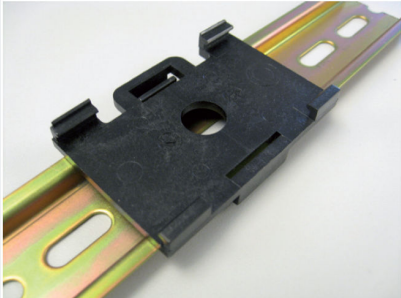
2.6 WSK 31.5



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

Secondary current →		5A		1A	
Primary current A ↓	Burden VA ↓	Accuracy class		Accuracy class	
		1	0.5	1	0.5
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	●	●	●	●

3. Accessories and options

Accessory	Description
Mounting	A foot angle for screw or busbar mounting is supplied with the ASR, ASK, and SASK, including screws with isolating protection caps. A DIN-rail mounting accessory is available only for the CT types where stated. A snap-on mounting bracket for the WSK can be ordered separately. 
Sealed shutter	A transparent sealed shutter is available for some CT types. It protects the transformer while keeping the type label visible. Availability and part numbers are listed under each CT model. 
Test certificate	A test certificate can be ordered for a specific transformer. Select this option when placing the order.
Excitation curve	An excitation curve can be ordered for individual CT types. Select this option when placing the order.
Optional frequency	Standard frequency range is 50–60 Hz. Contact DEIF for special versions with other frequency ranges.
Cast resin	Cast resin is standard for CTs with nominal current > 4000 A. For CTs < 4000 A, cast resin is available on request. Weight values differ from the standard minimum and maximum specifications when cast resin is selected.