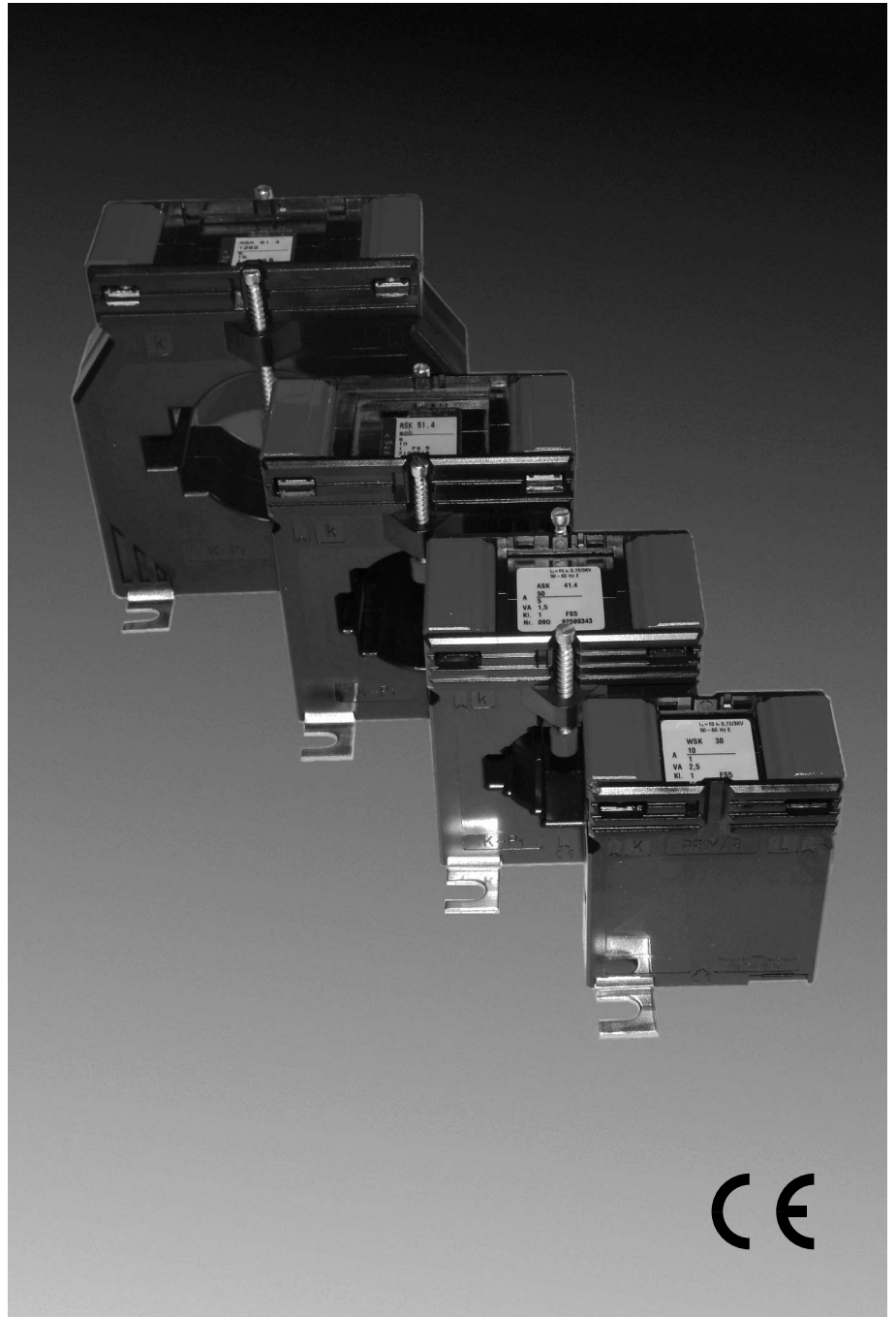


Data Sheet

500.D.001.10

Current Transformers

ASK 421.4
ASK 31.3
ASK 41.4
ASK 51.4
ASK 561.4
ASK 81.4
ASK 101.4
ASK 123.3
ASK 127.6
WSK 30
WSK 40



Application

Current transformers convert higher AC currents to standardized secondary currents of 1 A or 5 A at definite accuracy classes making them accessible for measuring duties.

They shall protect the meters and connected equipment from inadmissible high voltages. In addition they entirely isolate the measuring circuits from the system protecting the meters from overcurrent and destruction.

Current transformers are available as window types or wound primary types for cable or busbar primaries: ♦

- Window type C.T's (**ASK**) are mounted on busbars and are suitable for primary currents from 40 A to 6000 A.
- Wound primary C.T's (**WSK**) have a primary winding for lower primary currents from 1 A to 30 A.

Window type C.T's can be used as an inexpensive option where lower currents are involved. The primary conductor will then be passed through the current transformer several times; the primary current being measured will be reduced accordingly.

All C.T's comply with VDE 0414 - 44 - 1, DIN 42600 - 2 and DIN EN 60715 as well as VBG 4.

Functional Principle

C.T's are transformers of lower output. A current-carrying conductor induces a current in the C.T's secondary winding. This current can be measured by a meter connected in parallel.

The C.T's ratio is chosen that way to make a secondary current of 1 A or 5 A flow from a defined rated primary current.

General Technical Data

case details	high impact moulded case, ultrasonically welded
material of case	polycarbonate, flame retardant, self-extinguishing
terminals	secondary terminals nickel-plated, with plus/minus combination screws M5x10, nickel-plated, integrated cover
mounting	push-in fixing feet, ♦ busbar clamps on window type C.T's
insulation material class	E
operating voltage	≤ 0.72 kV
dielectric test	3 kV

♦ also refer to "Options"

Window Type Current Transformers

Model	Primary Current Ratings	Width of C.T.	Busbar Cross - Sections	Aperture Ø
ASK 421.4	40 – 500 A	71 mm	20 mm x 10 mm	20 mm
ASK 31.3	50 – 750 A	61 mm	30 mm x 10 mm 2x 20 mm x 10 mm	26 mm
ASK 41.4	50 – 1000 A	71 mm	40 mm x 10 mm 2x 30 mm x 5 mm	32 mm
ASK 51.4	100 – 1250 A	86 mm	50 mm x 12 mm 2x 40 mm x 10 mm	44 mm
ASK 561.4	200 – 1250 A	86 mm	40 mm x 30 mm 60 mm x 10 mm 2x 50 mm x 10 mm	44 mm
ASK 81.4	400 – 2000 A	120 mm	80 mm x 10 mm 60 mm x 30 mm 2x 60 mm x 10 mm	55 mm
ASK 101.4	500 – 2500 A	130 mm	100 mm x 10 mm 2x 80 mm x 10 mm	70 mm
ASK 123.3	750 – 3000 A	172 mm	123 mm x 30 mm 3x 100 mm x 10 mm	100 mm
ASK 127.6	1000 – 6000 A	205 mm	120 mm x 70 mm	70 mm

Standard types are available in accuracy classes 0.5 and 1.

Wound Primary Current Transformers

Model	Primary Current Ratings	Width of C.T.	Terminals
WSK 30	1 – 20 A	61 mm	M5
WSK 40	1 – 30 A	71 mm	M5

Primary Ratings

Rated Primary Current I_N

1; 2.5; 5; 10; 15; 20; 25; 30; 40; 50; 60; 75; 80; 100 A and any decimal multiple of these values as well as the intermediate values 1200; 1250; 1600 and 1800 A up to 6000 A ♦

continuous thermal current

$$I_D = 1.0 \cdot I_N$$

thermal short time current (1 s max.)

$$I_{th} = 60 \cdot I_N$$

overcurrent limiting factor
FS 5 up to 1500 A rated primary current
FS 10 ≥ 1600 A rated primary current

rated frequency 50 Hz ♦

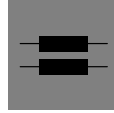
frequency range 50 ... 60 Hz ♦

Secondary Ratings

Rated Secondary Current 1 A or 5 A

Rated output 1; 1.25; 1.5; 2.5; 3.75; 5; 7.5; 10; 15; 30 or 45 VA

To keep the limits of accuracy class, the rated output VA shall be chosen not substantially higher than the actual power demand of the equipment being connected including the leads.



Current Transformers

Accuracy at Reference Conditions

accuracy	classes 0.5 or 1 ▶					
reference conditions						
ambient temperature	23 °C ± 1K					
primary current	1.0 ... 1.2 I _N					
frequency	50 Hz					
wave form	sinusoidal, distortion factor < 5%					
Limits of error						
	current (ratio) error in % at			phase displacement in min at		
	1.0 I _N	0.2 I _N	0.05 I _N	1.0 I _N	0.2 I _N	0.05 I _N
accuracy class	1.2 I _N			1.2 I _N		
0.5	0.50	0.75	1.50	30	45	90
1	1.00	1.50	3.00	60	90	180
3	3.00			120		

Environmental

climatic suitability ▶	acc. to VDE 0414 - 44 - 1
ambient temperature range	-5 ... +40 °C for indoor use
in 24-hour average	≤ 35 °C
relative humidity	≤ 70% for indoor use

Rules and Standards

DIN 42 600-2	Metering transformers for use on 50 Hz
DIN EN 60 715	Dimensions of low voltage switching devices: standardized DIN rails for mechanical fixation of electrical devices in switchgears
DIN EN 60044-1	Metering transformers –
VDE 0414-44-1	Part 1: Current Transformers
VBG 4	Electrical installations and working stock

Options

C.T. type	summation, saturation, protective C.T's, tube type C.T's, special C.T's suitable for H.R.C. fuse carriers, or secondary switchable C.T's
accuracy	calibratable or calibrated C.T's, with accuracy classes 0.2; 0.5 and 0.5s on request
mounting	mounting adaptor suitable for 35 mm rail for ASK 31.3, ASK 41.4, WSK 30, WSK 40
rated primary current	deviating from standard ratings on request
rated frequency	16 ² / ₃ Hz up to 400 Hz on request
performance	limited use in the tropics or tropical proof cast-resin insulation resp. extreme mechanical load (vibration resistance) on request

Accessory

Primary Busbars

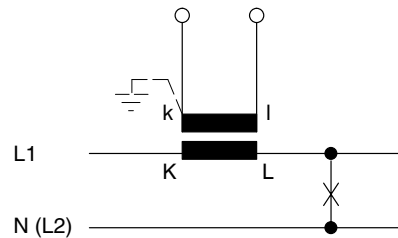
Nickel-plated solid copper busbars (E-CU hard-drawn, drawn according to DIN 46433) in dimensions from 20 mm x 10 mm to 120 mm x 70 mm on request

Note

The aperture of window type C.T's are not binding for dimensioning the omnibusbar in the switchgear.

The cross-section of the omnibusbar may be smaller over short distances in case a sufficient heat dissipation is reliably provided.

Connections



Dimensions

on request

Ordering Information

Type ASK	window type C.T's up to 6000 A
Dimensions 421.4 31.3 41.4 51.4 561.4 81.4 101.4 123.3 127.6	busbar cross-sections 20 mm x 10 mm 30 mm x 10 mm 2x 20 mm x 10 mm 40 mm x 10 mm 2x 30 mm x 5 mm 50 mm x 12 mm 2x 40 mm x 10 mm 60 mm x 10 mm 2x 50 mm x 10 mm 40 mm x 30 mm 80 mm x 10 mm 2x 60 mm x 10 mm 60 mm x 30 mm 100 mm x 10 mm 2x 80 mm x 10 mm 123 mm x 30 mm 3x 100 mm x 10 mm 120 mm x 70 mm
Type WSK 30 WSK 40	wound primary C.T's up to 20 A wound primary C.T's up to 30 A
rated primary current	1; 2.5; 5; 10; 15; 20; 25; 30; 40; 50; 60; 75; 80; 100 A and any decimal multiple of these values as well as the intermediate values 1200; 1250; 1600 and 1800 A up to 6000 A (deviating from standard ratings ***)
rated secondary current	1 A 5 A *)
output	1; 1.25; 1.5; 2.5; 3.75; 5; 7.5; 10; 15; 30 or 45 VA
accuracy	class 0.5 class 1 *)
frequency	50 Hz *) 16 ² / ₃ Hz ***) 400 Hz ***)
mounting	push-in fixing feet or busbar clamps *) mounting adaptor for DIN rail (35 mm) on ASK 31.3, ASK 41.4, WSK 30, WSK 40
performance	standard performance *) limited use in the tropics ***) cast-resin insulation ***)
special C.T's	summation-, saturation-, protective C.T's or tube type C.T's, special types for H.R.C. fuse carriers, secondary switchable C.T's, calibratable or calibrated C.T's ***)

*) standard

**) Please clearly add the desired specifications.

***) on request

Ordering Example

window type current transformer ASK 41.4
rated ratio 500/5 A,
(rated primary current 500 A, rated secondary current 5 A,)
output 10 VA, accuracy class 0.5, frequency 50 Hz

– specifications subject to change without notice; date of issue 11/12 –

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