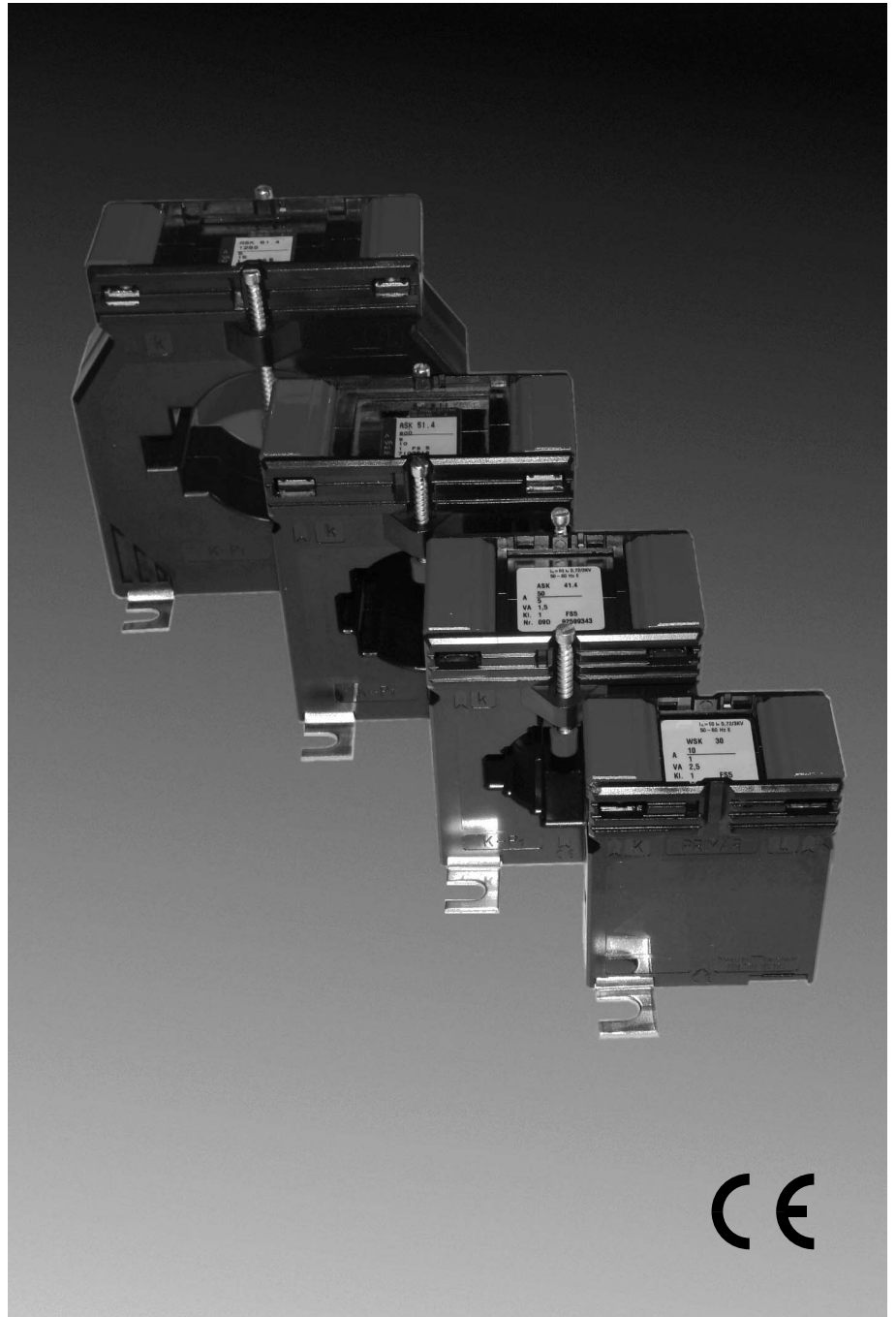


## Current Transformers

**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.

The ASK/WSK C.T.'s comply with the valid rules and standards.

## 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
<b>ASK 421.4</b>	40 – 500 A	71 mm	20 mm x 10 mm	20 mm
<b>ASK 31.3</b>	50 – 750 A	61 mm	30 mm x 10 mm 2x 20 mm x 10 mm	26 mm
<b>ASK 41.4</b>	50 – 1000 A	71 mm	40 mm x 10 mm 2x 30 mm x 5 mm	32 mm
<b>ASK 51.4</b>	100 – 1250 A	86 mm	50 mm x 12 mm 2x 40 mm x 10 mm	44 mm
<b>ASK 561.4</b>	200 – 1250 A	86 mm	40 mm x 30 mm 60 mm x 10 mm 2x 50 mm x 10 mm	44 mm
<b>ASK 81.4</b>	400 – 2000 A	120 mm	80 mm x 10 mm 60 mm x 30 mm 2x 60 mm x 10 mm	55 mm
<b>ASK 101.4</b>	500 – 2000 A	130 mm	100 mm x 10 mm 2x 80 mm x 10 mm	70 mm
<b>ASK 123.3</b>	750 – 3000 A	172 mm	123 mm x 30 mm 3x 100 mm x 10 mm	100 mm
<b>ASK 127.6</b>	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
<b>WSK 30</b>	1 – 20 A	61 mm	M5
<b>WSK 40</b>	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 ▶

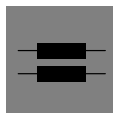
frequency range 50 ... 60 Hz ▶

## 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 (depends on type)

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<sub>N</sub>  
 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 <sub>N</sub>	0.2 I <sub>N</sub>	0.05 I <sub>N</sub>	1.0 I <sub>N</sub>	0.2 I <sub>N</sub>	0.05 I <sub>N</sub>
accuracy class	1.2 I <sub>N</sub>			1.2 I <sub>N</sub>		
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 EN 61869-1 Instrument transformers – Part 1: General requirements  
 DIN EN 61869-2 Instrument transformers – Part 2: Additional requirements for current transformers

### 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<sup>2</sup>/<sub>3</sub> 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

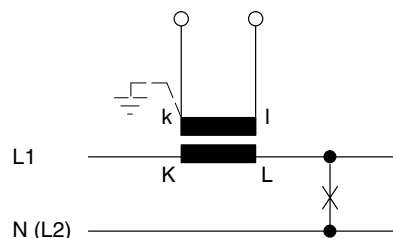
Nickel-plated solid copper busbars (E - CU hard - drawn, drawn according to DIN 46433) in dimensions from 20 mm x 10 mm to 120 mm x 70 mm on request

#### 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

<b>Type</b> <b>ASK</b>	window type C.T's up to 6000 A
<b>Dimensions</b>	busbar cross-sections
<b>421.4</b>	20 mm x 10 mm
<b>31.3</b>	30 mm x 10 mm      2x 20 mm x 10 mm
<b>41.4</b>	40 mm x 10 mm      2x 30 mm x 5 mm
<b>51.4</b>	50 mm x 12 mm      2x 40 mm x 10 mm
<b>561.4</b>	60 mm x 10 mm      2x 50 mm x 10 mm
<b>81.4</b>	40 mm x 30 mm 80 mm x 10 mm      2x 60 mm x 10 mm 60 mm x 30 mm
<b>101.4</b>	100 mm x 10 mm      2x 80 mm x 10 mm
<b>123.3</b>	123 mm x 30 mm      3x 100 mm x 10 mm
<b>127.6</b>	120 mm x 70 mm
<b>Type</b> <b>WSK 30</b> <b>WSK 40</b>	wound primary C.T's up to 20 A wound primary C.T's up to 30 A
<b>rated primary current</b>	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 ***)
<b>rated secondary current</b>	1 A 5 A *)
<b>output</b>	1; 1.25; 1.5; 2.5; 3.75; 5; 7.5; 10; 15; 30 or 45 VA
<b>accuracy</b>	class 0.5 class 1 *)
<b>frequency</b>	50 Hz *) 16 <sup>2</sup> / <sub>3</sub> Hz ***) 400 Hz ***)
<b>mounting</b>	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
<b>performance</b>	standard performance *) limited use in the tropics ***) cast-resin insulation ***)
<b>special C.T's</b>	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 11/14 –

## Weigel Meßgeräte GmbH

Postfach 720 154 • 90241 Nürnberg • Phone: 0911/42347-0  
Erlenstraße 14 • 90441 Nürnberg • Fax: 0911/42347-39  
Sales: Phone: 0911/42347-94  
Internet: <http://www.weigel-messgeraete.de>  
e-mail: [vertrieb@weigel-messgeraete.de](mailto:vertrieb@weigel-messgeraete.de)

