



**Documentation**

**SCTxxxx**

**Current transformers (CT) for energy measurement**

**Version: 1.1**  
**Date: 2020-04-16**

**BECKHOFF**



# Table of contents

<b>1 Foreword</b> .....	<b>5</b>
1.1 Notes on the documentation.....	5
1.2 Safety instructions .....	6
1.3 Documentation issue status .....	8
<b>2 Product overview</b> .....	<b>9</b>
2.1 Introduction.....	9
2.2 Product categories – SCTxxx current transformer.....	10
2.3 Notes on class accuracy SCT transformers .....	17
<b>3 Technical data, functional description, installation</b> .....	<b>18</b>
3.1 SCT0xxx.....	18
3.1.1 Technical data .....	18
3.1.2 Functional description.....	20
3.1.3 Installation.....	21
3.2 SCT1xxx .....	24
3.2.1 Technical data .....	24
3.2.2 Functional description.....	26
3.2.3 Installation.....	27
3.3 SCT2xxx.....	29
3.3.1 Technical data .....	29
3.3.2 Functional description.....	34
3.3.3 Installation.....	35
3.4 SCT3xxx .....	40
3.4.1 Technical data .....	40
3.4.2 Functional description.....	45
3.4.3 Installation.....	47
3.5 SCT6xxx.....	52
3.5.1 Technical data .....	52
3.5.2 Functional description.....	57
3.5.3 Installation.....	59
3.5.4 Maintenance and inspection .....	62
3.5.5 Troubleshooting .....	63
3.6 SCT7xxx.....	64
3.6.1 Technical data .....	64
3.6.2 Functional description.....	69
3.6.3 Installation.....	70
3.6.4 Maintenance and inspection .....	73
3.6.5 Troubleshooting .....	74
<b>4 Application example</b> .....	<b>75</b>
4.1 Power measurement at a machine .....	75
<b>5 Appendix</b> .....	<b>77</b>
5.1 UL notes .....	77
5.2 Support and Service .....	78



# 1 Foreword

## 1.1 Notes on the documentation

### Copyright

© Beckhoff Automation GmbH & Co. KG, Germany.

The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization are prohibited.

Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.

### Disclaimer

The documentation has been prepared with care. The products described are, however, constantly under development.

We reserve the right to revise and change the documentation at any time and without prior announcement.

No claims for the modification of products that have already been supplied may be made on the basis of the data, diagrams and descriptions in this documentation.



EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

### Trademarks

Beckhoff®, TwinCAT®, EtherCAT®, EtherCAT G®, EtherCAT G10®, EtherCAT P®, Safety over EtherCAT®, TwinSAFE®, XFC®, XTS® and XPlanar® are registered trademarks of and licensed by Beckhoff Automation GmbH. Other designations used in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owners.

### Patent Pending

The EtherCAT Technology is covered, including but not limited to the following patent applications and patents: EP1590927, EP1789857, EP1456722, EP2137893, DE102015105702 with corresponding applications or registrations in various other countries.

### Intended audience

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with the applicable national standards.

It is essential that the documentation and the following notes and explanations are followed when installing and commissioning these components.

It is the duty of the technical personnel to use the documentation published at the respective time of each installation and commissioning.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

## 1.2 Safety instructions

### Description of instructions

In this documentation the following instructions are used.  
These instructions must be read carefully and followed without fail!

#### DANGER

##### **Serious risk of injury!**

Failure to follow this safety instruction directly endangers the life and health of persons.

#### WARNING

##### **Risk of injury!**

Failure to follow this safety instruction endangers the life and health of persons.

#### CAUTION

##### **Personal injuries!**

Failure to follow this safety instruction can lead to injuries to persons.

#### NOTE

##### **Damage to environment/equipment or data loss**

Failure to follow this instruction can lead to environmental damage, equipment damage or data loss.



#### **Tip or pointer**

This symbol indicates information that contributes to better understanding.

### Exclusion of liability

All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co. KG.

### Personnel qualification

This description is only intended for trained specialists in control, automation and drive engineering who are familiar with the applicable national standards.

### Intended use

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired

### Safety regulations

Please note the following safety instructions and explanations!  
Product-specific safety instructions can be found on following pages or in the areas mounting, wiring, commissioning etc.

### Current transformer safety instructions

The following points must be noted:

- The applicable laws, standards and regulations.
- The state of the art at the time of installation.
- The technical rules.

- The operating instructions.
- The fact that operating instructions can only list general regulations and that these regulations must be followed.
- Check the device carefully for transport damage prior to commissioning. The device must not be put into operation if it is mechanically damaged.
- The devices described are intended for installation by qualified electricians and may only be installed in electrical plant rooms or in closed housings. Any other use or the disregard of these application notes will result in the loss of the warranty/guarantee.
- The devices may only be installed in dry indoor rooms.
- Do not mount on highly flammable materials.
- Operation with a higher current than the rated current specified on the name plate can lead to overheating of the current transformer and thus to burns.

## 1.3 Documentation issue status

Version	Comment
1.1	- Update chapter "Notes on class accuracy SCT transformers" - Update structure
1.0	- 1 <sup>st</sup> public issue - Addenda & corrections
0.1 – 0.4	- Provisional documentations for SCTxxxx



## 2 Product overview

### 2.1 Introduction

#### SCTxxxx | Current transformers (CT) for energy measurement



Fig. 1: SCT current transformers

With its SCT current transformers, Beckhoff makes it possible to implement reliable power sensor technology in the field, which is directly integrated into the PC-based control system. Users can select from two device concepts, each with various designs and performance categories that are highly scalable and therefore suitable for any application. The SCT portfolio is extremely broad-based, ranging from low-cost 3-phase CT sets for building technology to standard industrial transformers for machines through to solutions for inspection and test stands with extra-high accuracy requirements.

The choice of the suitable product category [[▶\\_10](#)] depends on the type of use. While ring-type CTs are predestined for cost-effective and accurate data acquisition in new installations, split-core CTs provide the ideal solution for retrofit solutions due to their easy installation.

## 2.2 Product categories – SCTxxxx current transformer

### Breakdown of the type designation of the SCT current transformer

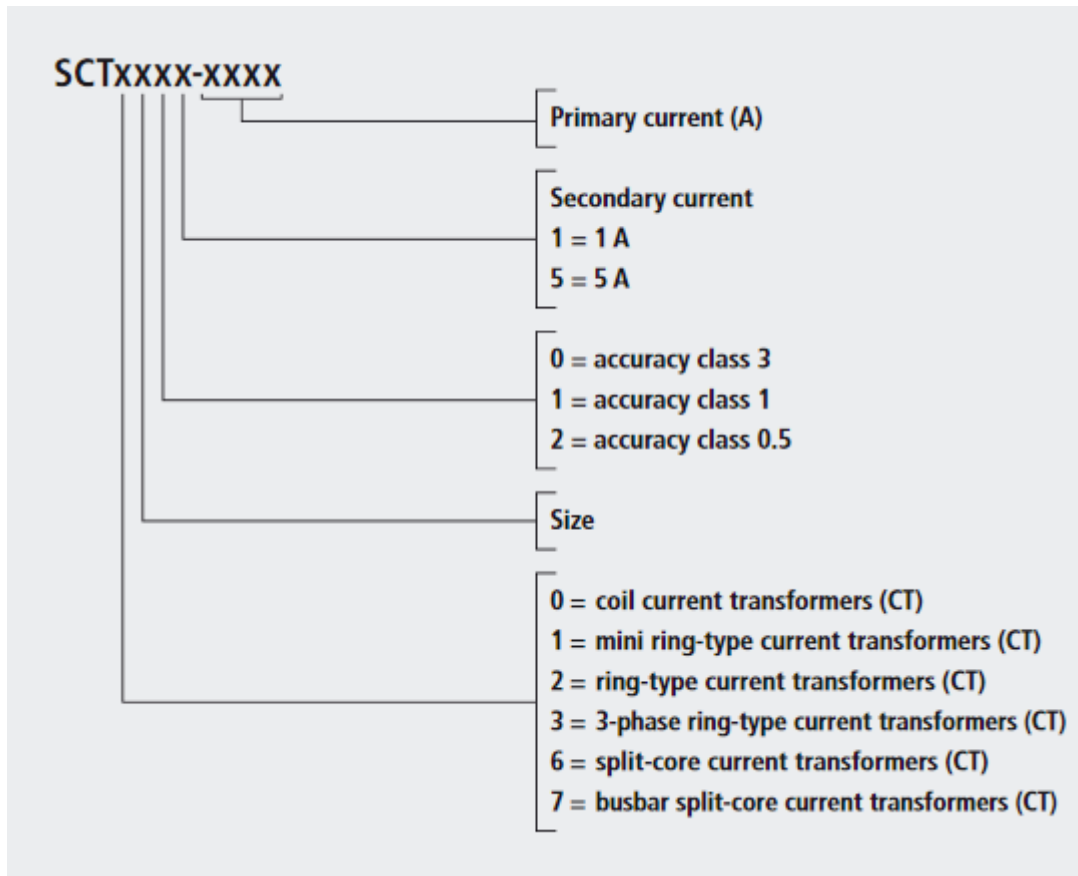


Fig. 2: Designation key of the SCT current transformers

### Coil current transformers



Fig. 3: SCT0xxx

In order to guarantee the power transmission, current transformers need a correspondingly large measuring core volume with decreasing primary rated currents. The dimensions of standard current transformers would quickly hit their limits on the basis of this physical principle. The SCT0xxx coil current transformers with electrical isolation are specially designed for these low primary rated currents and are used in corresponding applications.

Coil current transformers	
<a href="#">SCT0111</a> [ <a href="#">▶ 18</a> ]	Accuracy class 1, primary current 1...30 A, secondary current 1 A
<a href="#">SCT0121</a> [ <a href="#">▶ 18</a> ]	Accuracy class 0.5, primary current 1...30 A, secondary current 1 A

**Mini ring-type current transformer**



Fig. 4: SCT1xxx

The SCT1111 mini ring-type current transformer can be positioned on a DIN rail by means of snap-on fastening and is thus suitable for measurements in very tight installation spaces, e.g. directly in the sub-distribution unit. Two current transformers are attached to the DIN rail, while the third current transformer is plugged into the fastened current transformers.

The connection is realized via removable picoMAX® connectors, which enables pre-wiring.

Mini ring-type current transformer	
<a href="#">SCT1111</a> [ <a href="#">▶ 24</a> ]	Accuracy class 1, primary current 32...64 A, secondary current 1 A, max. diameter round conductor 7.6 mm (size 1)

**Ring-type current transformer**

Fig. 5: SCT2xxx

The SCT2xxx series offers a large selection of ring-type current transformers for primary currents from 60 to 2500 A in six sizes and two accuracy classes. The innovative screwless connection technology for rigid and flexible conductors saves time – ferrules can be dispensed with here.

Ring-type current transformer	
<a href="#">SCT2111</a> [▶ <a href="#">29</a> ]	Accuracy class 1, primary current 60...500 A, secondary current 1 A, max. diameter round conductor 25.7 mm (size 1)
<a href="#">SCT2121</a> [▶ <a href="#">29</a> ]	Accuracy class 0.5, primary current 125...600 A, secondary current 1 A, max. diameter round conductor 25.7 mm (size 1)
<a href="#">SCT2211</a> [▶ <a href="#">30</a> ]	Accuracy class 1, primary current 600/750 A, secondary current 1 A, max. diameter round conductor 31.8 mm (size 2)
<a href="#">SCT2221</a> [▶ <a href="#">30</a> ]	Accuracy class 0.5, primary current 600/750 A, secondary current 1 A, max. diameter round conductor 31.8 mm (size 2)
<a href="#">SCT2311</a> [▶ <a href="#">31</a> ]	Accuracy class 1, primary current 800/1000 A, secondary current 1 A, max. diameter round conductor 43.7 mm (size 3)
<a href="#">SCT2321</a> [▶ <a href="#">31</a> ]	Accuracy class 0.5, primary current 800/1000 A, secondary current 1 A, max. diameter round conductor 43.7 mm (size 3)
<a href="#">SCT2411</a> [▶ <a href="#">31</a> ]	Accuracy class 1, primary current 1250/1500 A, secondary current 1 A, max. diameter round conductor 43.7 mm (size 4)
<a href="#">SCT2421</a> [▶ <a href="#">32</a> ]	Accuracy class 0.5, primary current 1250/1500 A, secondary current 1 A, max. diameter round conductor 43.7 mm (size 4)
<a href="#">SCT2515</a> [▶ <a href="#">32</a> ]	Accuracy class 1, primary current 2000 A, secondary current 5 A, max. diameter round conductor 54.7 mm (size 5)
<a href="#">SCT2525</a> [▶ <a href="#">32</a> ]	Accuracy class 0.5, primary current 2000 A, secondary current 5 A, max. diameter round conductor 54.7 mm (size 5)
<a href="#">SCT2615</a> [▶ <a href="#">33</a> ]	Accuracy class 1, primary current 2500 A, secondary current 5 A, max. diameter round conductor 70 mm (size 6)
<a href="#">SCT2625</a> [▶ <a href="#">33</a> ]	Accuracy class 0.5, primary current 2500 A, secondary current 5 A, max. diameter round conductor 70 mm (size 6)

### 3-phase ring-type current transformers



Fig. 6: SCT3xxx

The compact SCT3xxx 3-phase ring-type current transformers for direct mounting under commonly used power switches measure primary currents from 3 x 50 to 3 x 600 A, with secondary currents of 1 or 5 A. The whole of the SCT3xxx series is available in accuracy class 1 and is supplemented by the SCT3121-0125 and SCT3121-0150 current transformers in accuracy class 0.5.

3-phase ring-type current transformers	
<a href="#">SCT3111</a> [ <a href="#">▶ 40</a> ]	Accuracy class 1, primary current 3 x 50...3 x 150 A, secondary current 1 A, max. diameter round conductor 13.5 mm (size 1)
<a href="#">SCT3121</a> [ <a href="#">▶ 40</a> ]	Accuracy class 0.5, primary current 3 x 125 / 3 x 150 A, secondary current 1 A, max. diameter round conductor 13.5 mm (size 1)
<a href="#">SCT3215</a> [ <a href="#">▶ 41</a> ]	Accuracy class 1, primary current 3 x 100...3 x 250 A, secondary current 5 A, max. diameter round conductor 18 mm (size 2)
<a href="#">SCT3315</a> [ <a href="#">▶ 44</a> ]	Accuracy class 1, primary current 3 x 250...3 x 600 A, secondary current 5 A, max. diameter round conductor 22 mm (size 3)

**Split-core current transformers**



Fig. 7: SCT6xxx

The separable measuring system of the SCT6xxx split-core current transformers enables flexible retrofitting without disconnecting the primary conductor. Due to the minimal installation effort, they are suitable for use in places that are difficult to access or where space is limited. Four sizes are available. Accuracy class 3 is suitable for primary currents from 60 to 150 A, accuracy class 1 for 200 to 1000 A.

Split-core current transformers	
<a href="#">SCT6101</a> [ <a href="#">▶ 52</a> ]	Accuracy class 3, primary current 60...150 A, secondary current 1 A, max. diameter round conductor 18.5 mm (size 1)
<a href="#">SCT6311</a> [ <a href="#">▶ 53</a> ]	Accuracy class 1, primary current 200/250 A, secondary current 1 A, max. diameter round conductor 18.5 mm (size 3)
<a href="#">SCT6321</a> [ <a href="#">▶ 53</a> ]	Accuracy class 0.5, primary current 200/250 A, secondary current 1 A, max. diameter round conductor 18.5 mm (size 3)
<a href="#">SCT6411</a> [ <a href="#">▶ 54</a> ]	Accuracy class 1, primary current 300...500 A, secondary current 1 A, max. diameter round conductor 27.9 mm (size 4)
<a href="#">SCT6421</a> [ <a href="#">▶ 54</a> ]	Accuracy class 0.5, primary current 400/500 A, secondary current 1 A, max. diameter round conductor 27.9 mm (size 4)
<a href="#">SCT6615</a> [ <a href="#">▶ 55</a> ]	Accuracy class 1, primary current 600/750 A, secondary current 5 A, max. diameter round conductor 42.4 mm (size 6)
<a href="#">SCT6625</a> [ <a href="#">▶ 56</a> ]	Accuracy class 0.5, primary current 600/750 A, secondary current 5 A, max. diameter round conductor 42.4 mm (size 6)
<a href="#">SCT6715</a> [ <a href="#">▶ 56</a> ]	Accuracy class 1, primary current 800/1000 A, secondary current 5 A, max. diameter round conductor 2 x 42.4 mm (size 7)
<a href="#">SCT6725</a> [ <a href="#">▶ 57</a> ]	Accuracy class 0.5, primary current 800/1000 A, secondary current 5 A, max. diameter round conductor 2 x 42.4 mm (size 7)

## Busbar split-core current transformers



Fig. 8: SCT71xx

Like the SCT6xxx series, the SCT7xxx busbar split-core current transformers for primary currents up to 5000 A can be retrofitted to existing systems with no great mounting effort. From 500 A, there is a choice between accuracy class 0.5 and 1 for each primary current. The SCT7105-0100 and SCT7105-200 current transformers support accuracy class 3.

Busbar split-core current transformers	
<a href="#">SCT7105</a> [ <a href="#">▶ 64</a> ]	Accuracy class 3, primary current 100/200 A, secondary current 5 A, max. diameter round conductor 20 mm (size 1)
<a href="#">SCT7115</a> [ <a href="#">▶ 64</a> ]	Accuracy class 1, primary current 200/450 A, secondary current 5 A, max. diameter round conductor 20 mm (size 1)
<a href="#">SCT7125</a> [ <a href="#">▶ 64</a> ]	Accuracy class 0.5, primary current 400 A, secondary current 5 A, max. diameter round conductor 20 mm (size 1)
<a href="#">SCT7215</a> [ <a href="#">▶ 65</a> ]	Accuracy class 1, primary current 500/600 A, secondary current 5 A, max. diameter round conductor 50 mm (size 2)
<a href="#">SCT7225</a> [ <a href="#">▶ 65</a> ]	Accuracy class 0.5, primary current 500/600 A, secondary current 5 A, max. diameter round conductor 50 mm (size 2)
<a href="#">SCT7315</a> [ <a href="#">▶ 65</a> ]	Accuracy class 1, primary current 750...1500 A, secondary current 5 A, max. diameter round conductor 80 mm (size 3)
<a href="#">SCT7325</a> [ <a href="#">▶ 66</a> ]	Accuracy class 0.5, primary current 750...1500 A, secondary current 5 A, max. diameter round conductor 80 mm (size 3)
<a href="#">SCT7415</a> [ <a href="#">▶ 66</a> ]	Accuracy class 1, primary current 1500...5000 A, secondary current 5 A, max. diameter round conductor 80 mm (size 4)
<a href="#">SCT7425</a> [ <a href="#">▶ 67</a> ]	Accuracy class 0.5, primary current 1500...5000 A, secondary current 5 A, max. diameter round conductor 80 mm (size 4)



## 2.3 Notes on class accuracy SCT transformers

Current transformers are divided into classes according to their accuracy. The Beckhoff SCT current transformers are available in the standard accuracy classes 0.5; 1 and 3, depending on the product category. The class designation corresponds to an error curve with regard to current amplitude and angular error. Beckhoff SCT current transformers conform to the IEC 61869 standard.

The accuracy classes of current transformers are related to the rated current. If current transformers are operated with a current that is low in relation to the rated current, the measuring accuracy decreases. The following tables show the fault limit values taking into account the rated current values:

Class accuracy	Current error ( $\pm$ ) in % at % of rated current				
	5 %	20 %	50 %	100 %	120 %
<b>0,5</b>	1,5 %	0,75 %	-	0,5 %	0,5 %
<b>1</b>	3,0 %	1,5 %	-	1,0 %	1,0 %
<b>3</b>	-	-	3 %	-	3 %

Class accuracy	Phase shift/error angle ( $\pm$ ) at % of rated current									
	Angular minutes [ ' ]					Radians [ rad ]				
	5 %	20 %	50 %	100 %	120 %	5 %	20 %	50 %	100 %	120 %
<b>0,5</b>	90'	45'	-	30'	30'	2,7 rad	1,35 rad	-	0,9 rad	0,9 rad
<b>1</b>	180'	90'	-	60'	60'	5,4 rad	2,7 rad	-	1,8 rad	1,8 rad
<b>3</b>	-	-	-	-	-	-	-	-	-	-

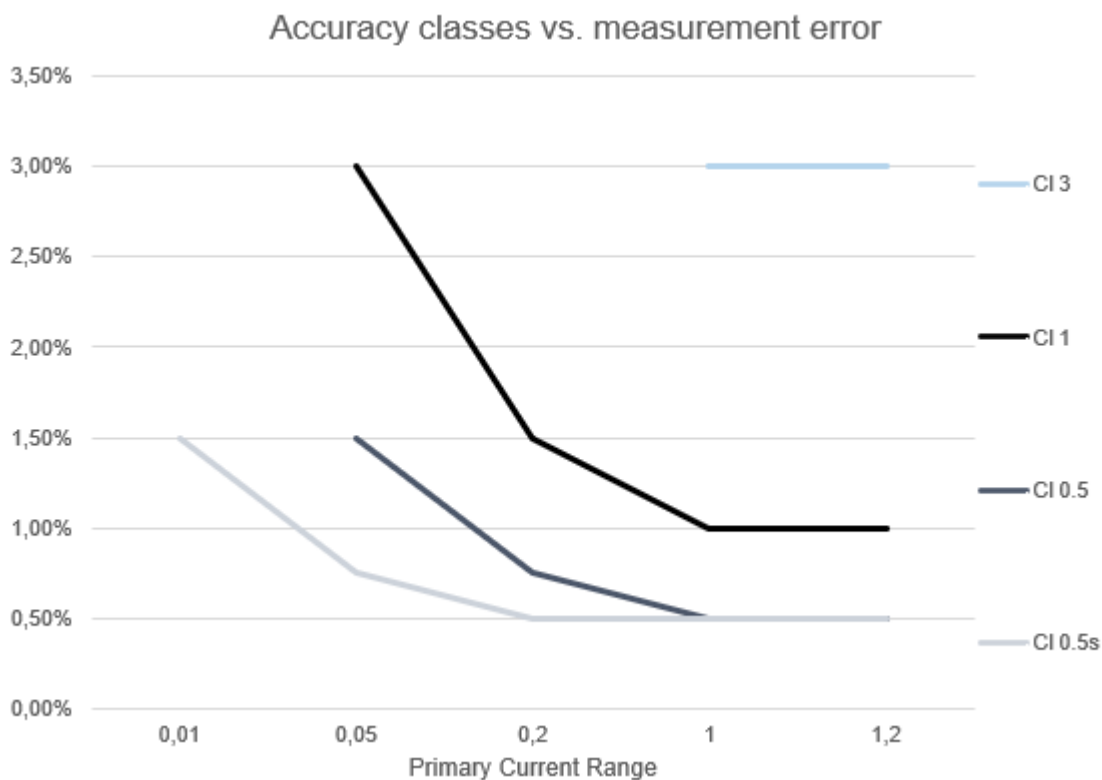


Fig. 9: Characteristic curves accuracy classes/primary current

### 3 Technical data, functional description, installation

#### 3.1 SCT0xxx

##### 3.1.1 Technical data

###### SCT0111 | Coil current transformers for primary currents 1...30 A, accuracy class 1

Technical data	SCT0111
Accuracy class	1
Primary current	1...30 A
Secondary current	1 A
Max. diameter round conductor	primary conductor for connection
Size	1
Dimensions [▶ 20] (W x H x D)	70 mm x 88.5 mm x 45 mm
Approvals/markings	CE

Versions	
SCT0111-0001	current ratio 1/1 A, rated power 2.5 VA
SCT0111-0002	current ratio 2.5/1 A, rated power 2.5 VA
SCT0111-0005	current ratio 5/1 A, rated power 2.5 VA
SCT0111-0010	current ratio 10/1 A, rated power 2.5 VA
SCT0111-0015	current ratio 15/1 A, rated power 2.5 VA
SCT0111-0020	current ratio 20/1 A, rated power 2.5 VA
SCT0111-0025	current ratio 25/1 A, rated power 2.5 VA
SCT0111-0030	current ratio 30/1 A, rated power 2.5 VA

###### SCT0121 | Coil current transformers for primary currents 1...30 A, accuracy class 0.5

Technical data	SCT0121
Accuracy class	0.5
Primary current	1...30 A
Secondary current	1 A
Max. diameter round conductor	primary conductor for connection
Size	1
Dimensions [▶ 20] (W x H x D)	70 mm x 88.5 mm x 45 mm
Approvals/markings	CE

Versions	
SCT0121-0001	current ratio 1/1 A, rated power 2.5 VA
SCT0121-0002	current ratio 2.5/1 A, rated power 2.5 VA
SCT0121-0005	current ratio 5/1 A, rated power 2.5 VA
SCT0121-0010	current ratio 10/1 A, rated power 2.5 VA
SCT0121-0015	current ratio 15/1 A, rated power 2.5 VA
SCT0121-0020	current ratio 20/1 A, rated power 2.5 VA
SCT0121-0025	current ratio 25/1 A, rated power 2.5 VA
SCT0121-0030	current ratio 30/1 A, rated power 2.5 VA

**SCT0xxx dimensions, size 1**

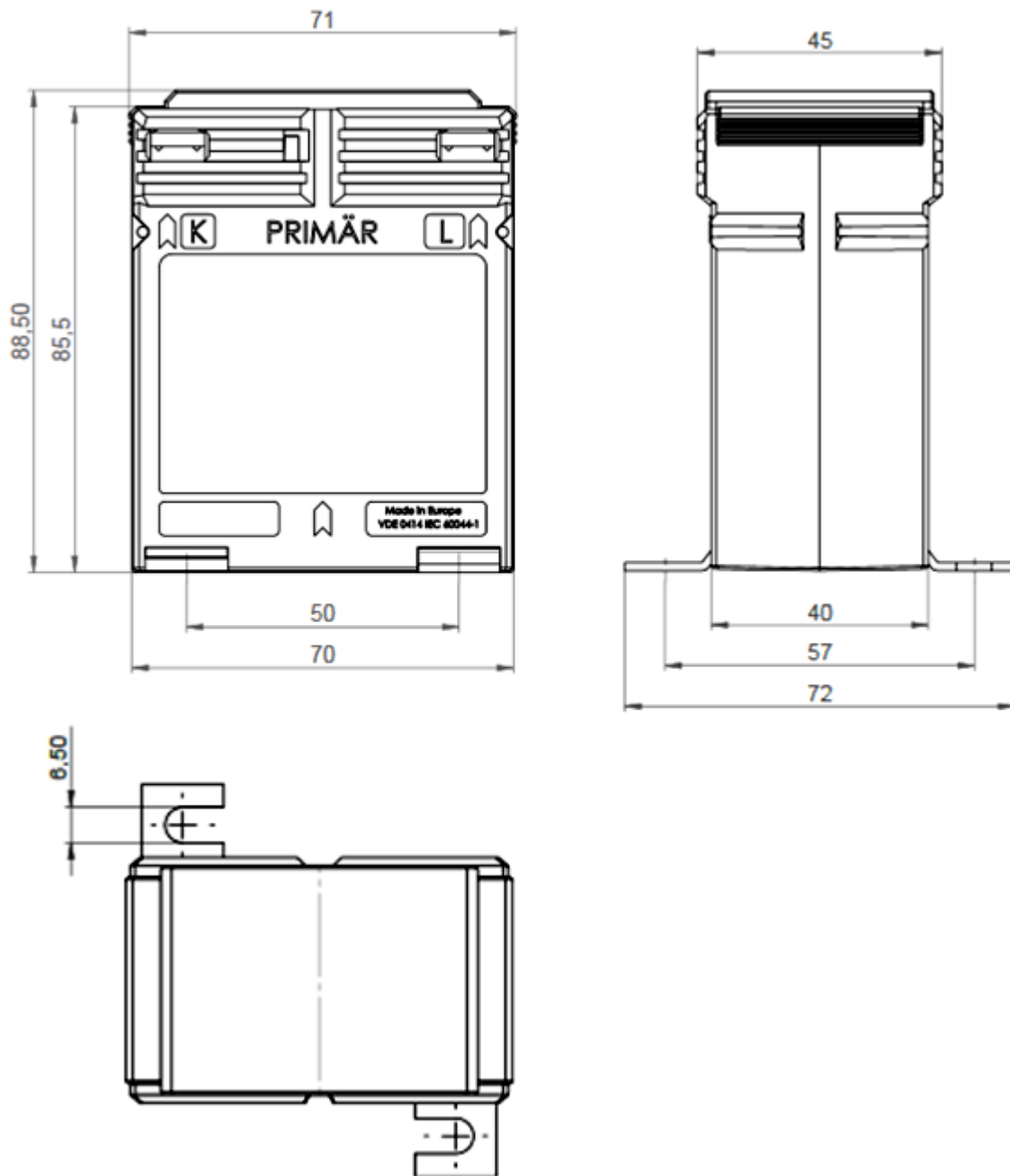


Fig. 10: SCT0xxx dimensions, size 1

**3.1.2 Functional description**

Current transformers from this series are inductive, single-conductor current transformers that operate according to the transformer principle. They serve to adapt the primary measured variable to the input rating of the connected measuring devices.

Due to the measuring principle used, these current transformers are suitable only for use in AC mains systems.

Current transformers from this series are maintenance-free.

### 3.1.3 Installation

**⚠ DANGER**

**Open transformer circuits lead to electric shock and arc flashover!**

Disregarding this will result in death, physical injury or considerable damage to property!

- Never open the secondary circuit of the current transformer under load.
- Short-circuit the secondary current terminals of the current transformer before removing the device.

**⚠ WARNING**

**Hazardous voltage can lead to electric shock and burns!**

- Make sure that the details on the name plate and in the "Technical data" correspond to the operating parameters of the system.
- Switch the system off before commencing with the installation!

**⚠ WARNING**

**Induction of high voltages into the secondary circuit!**

- If the secondary circuit of the current transformer is not under load (open), high voltages are induced on its secondary terminals. The voltage values occurring there represent a danger to persons and the functional safety of the current transformer.
- "Open operation", i.e. operation of the current transformer without secondary wiring, must be avoided at all costs.

- Make sure that the working environment is safe during assembly, maintenance and installation work. Interrupt the power supply of the primary conductor and secure against being switched on again inadvertently.
- To connect the primary conductor, pull the engaged red connection cover plates upwards by the serrated surface. Then feed the primary conductor (primary connection cross-section: max. 4 mm<sup>2</sup> with ferrule, 6 mm<sup>2</sup> solid, max. 8 mm<sup>2</sup> with cable lug) through the connection aperture of the current transformer housing. The connection apertures of the primary conductor are marked with the capital letters "K" and "L".

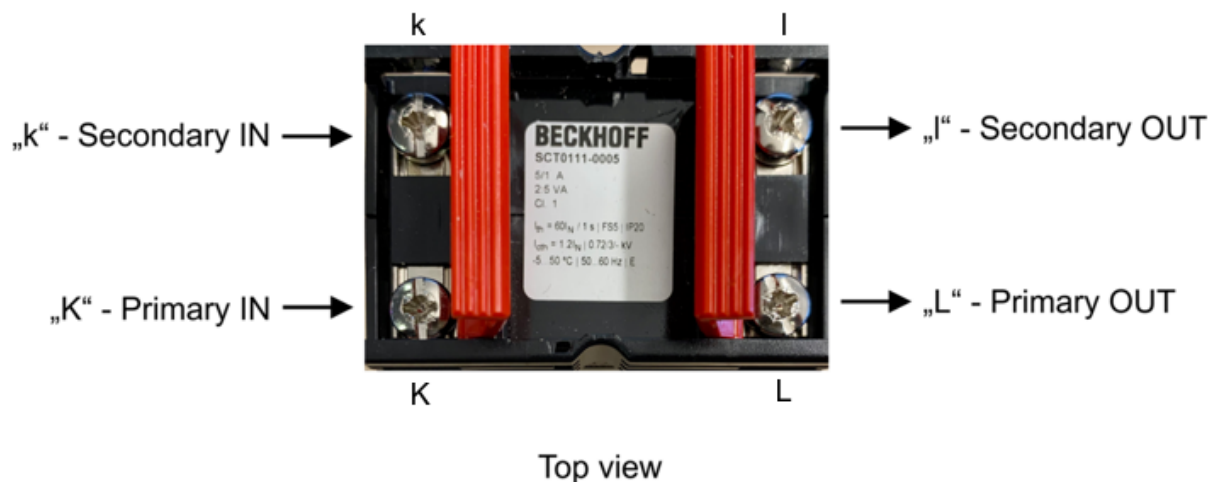


Fig. 11: SCT0xxx connections

- Connect the primary side conductor to the screw terminals "K" (input) and "L" (output) as shown in Fig. *SCT0xxx connections*.
- Now lead the secondary conductor through the connection aperture of the current transformer housing. The connection apertures of the secondary conductor are marked with the small letters "k" and "l".
- The secondary conductor must be connected to the screw terminals "k" (input) and "l" (output).

- After connecting the primary and secondary conductors, engage the red connection cover plates again with an audible “click”.

### Measuring circuit

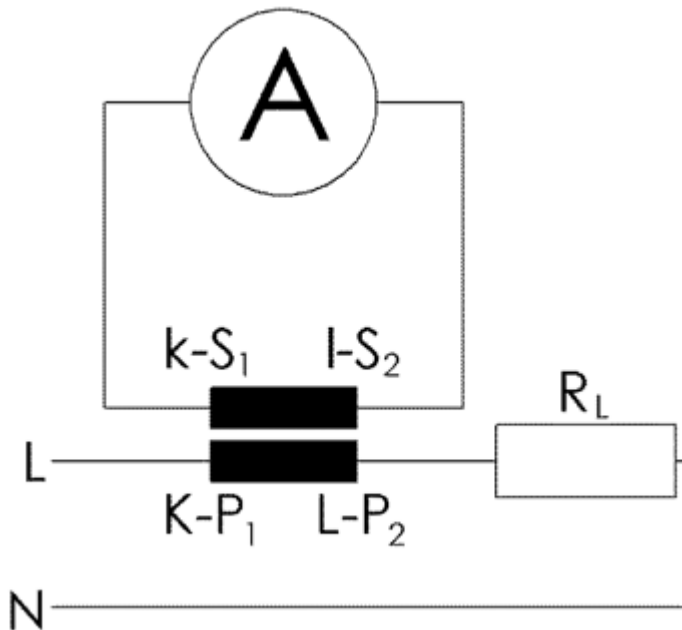


Fig. 12: Measuring circuit - **SCT0xxx/SCT1xxx/SCT2xxx** transformer

### Assembly notes

- Use the fastening plates provided to fasten the device to a mounting plate. These can be fastened to the mounting plate with two screws, max. Ø 5 mm.
- Fastening to a 35 mm DIN rail takes place with the help of the optionally available snap-on mounting [ZB8201-0010](#) [► 22].
- Check whether the current transformer is mounted correctly and the secondary conductors are connected correctly.
- Switch on the power supply to the primary conductor again.
- Optionally, the connections can be secured with the sealing plate [ZB8202-0010](#) [► 22], which is available as an accessory.

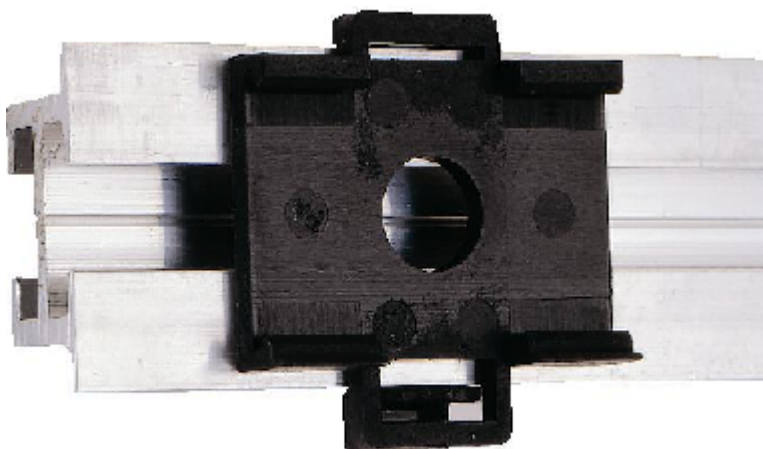


Fig. 13: Snap-on mounting for 35 mm DIN rail, **ZB8201-0010**

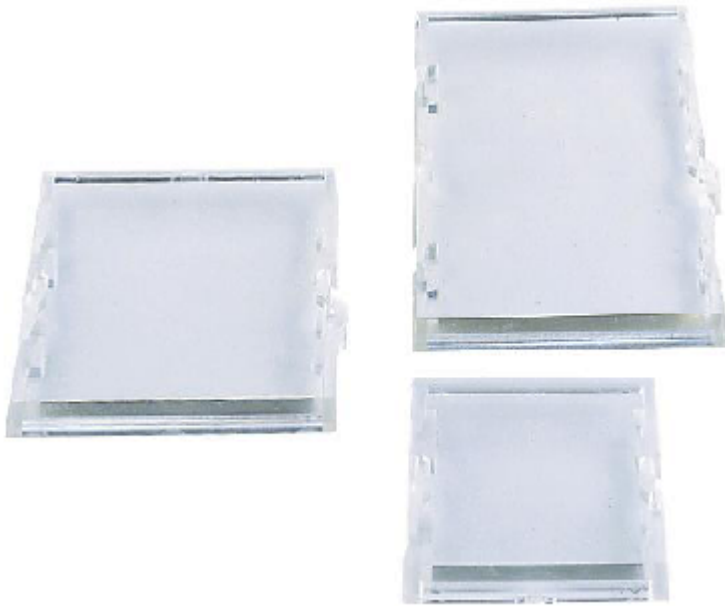


Fig. 14: Sealing plate, **ZB8202-0010**

## 3.2 SCT1xxx

### 3.2.1 Technical data

#### SCT1111 | Mini ring-type current transformer for primary currents 32...64 A, accuracy class 1

Technical data	SCT1111-xxxx
Accuracy class	1
Primary current	32...64 A
Secondary current	1 A
Max. diameter round conductor	7.6 mm
Size	1
Dimensions [▶ 25] (W x H x D)	27.5 mm x 46.5 mm x 19 mm
Approvals/markings	CE

Versions	
SCT1111-0032	current ratio 32/1 A, rated power 0.2 VA
SCT1111-0035	current ratio 35/1 A, rated power 0.2 VA
SCT1111-0040	current ratio 40/1 A, rated power 0.3 VA
SCT1111-0050	current ratio 50/1 A, rated power 0.4 VA
SCT1111-0060	current ratio 60/1 A, rated power 0.4 VA
SCT1111-0064	current ratio 64/1 A, rated power 0.5 VA



SCT1xxx dimensions, size 1

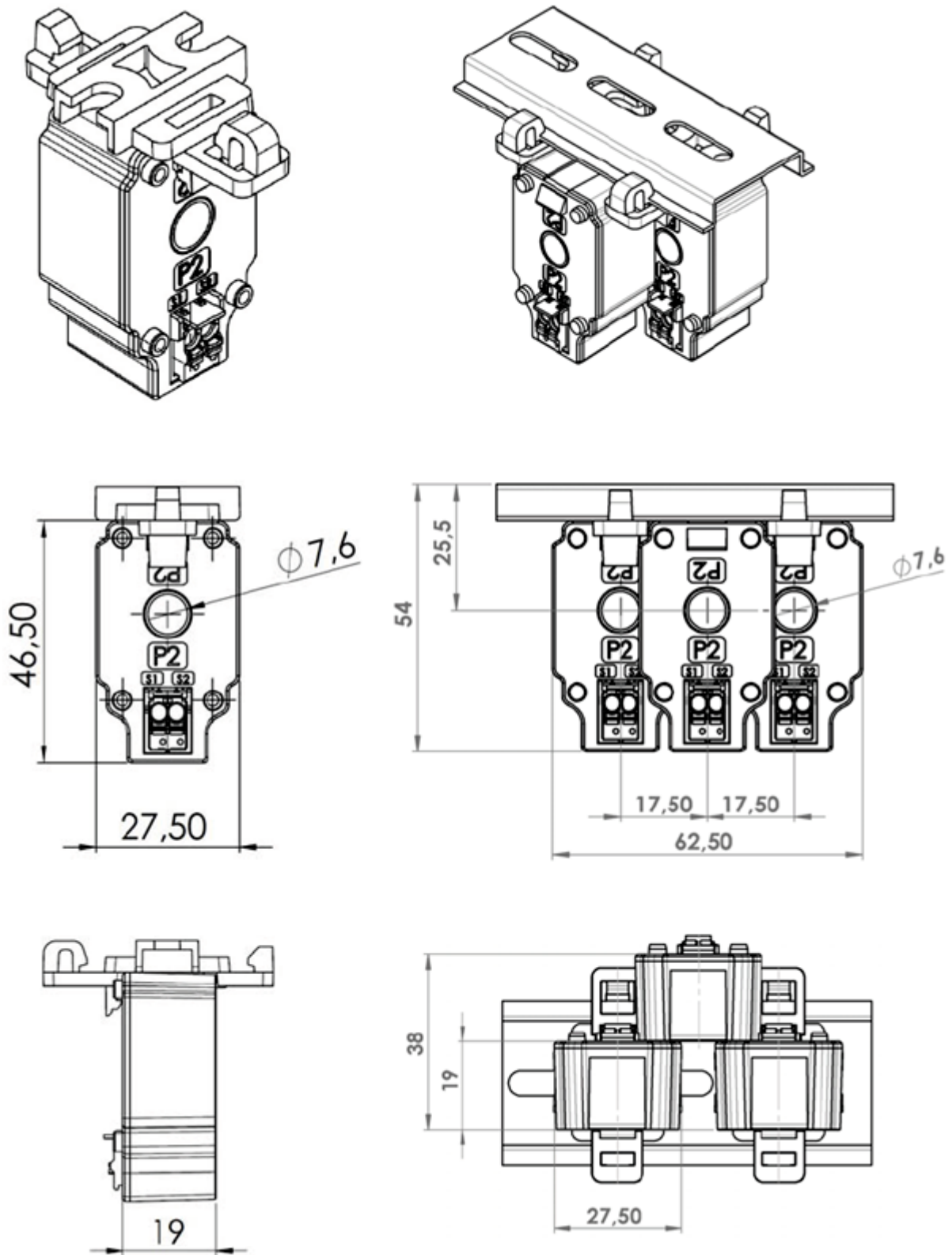


Fig. 15: SCT1xxx dimensions, size 1

### **3.2.2 Functional description**

Current transformers from this series are inductive, single-conductor current transformers that operate according to the transformer principle. They serve to adapt the primary measured variable to the input rating of the connected measuring devices.

Due to the measuring principle used, these current transformers are suitable only for use in AC mains systems.

Current transformers from this series are maintenance-free.

### 3.2.3 Installation

**⚠ DANGER**

**Open transformer circuits lead to electric shock and arc flashover!**

Disregarding this will result in death, physical injury or considerable damage to property!

- Never open the secondary circuit of the current transformer under load.
- Short-circuit the secondary current terminals of the current transformer before removing the device.

**⚠ WARNING**

**Hazardous voltage can lead to electric shock and burns!**

- Make sure that the details on the name plate and in the "Technical data" correspond to the operating parameters of the system.
- Switch the system off before commencing with the installation!

**⚠ WARNING**

**Induction of high voltages into the secondary circuit!**

- If the secondary circuit of the current transformer is not under load (open), high voltages are induced on its secondary terminals. The voltage values occurring there represent a danger to persons and the functional safety of the current transformer.
- "Open operation", i.e. operation of the current transformer without secondary wiring, must be avoided at all costs.

- Interrupt the power supply of the primary conductor and secure against being switched on again inadvertently.
- Install the current transformer on the primary conductor.
- To do this, feed the primary conductor (round conductor) through the window aperture of the current transformer housing. The window aperture is marked with "P1" and "P2".
- Make the secondary connections.
- Observe the markings "S1" and "S2" of the secondary terminals

**Measuring circuit**

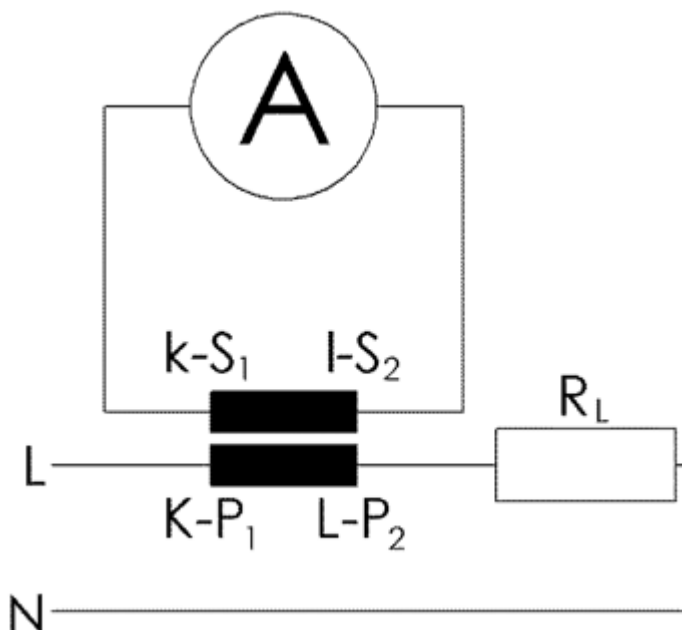


Fig. 16: Measuring circuit - **SCT0xxx/SCT1xxx/SCT2xxx** transformer

**NOTE****Observe the conductor cross-sections and lengths!**

The conductor cross-sections and lengths specified below must be adhered to for trouble-free function!

Conductor cross-section mm <sup>2</sup>	Power loss VA/m
0.5	0.070
0.75	0.047
1.0	0.035
1.5	0.023

**Assembly notes**

- To fasten the device to a mounting plate, use the optionally available snap-on mounting ([ZB8201-0110](#) [[▶ 28](#)]) for DIN rails.
- This can be fastened to the mounting plate with two screws, max. Ø 5 mm.
- Fastening to a 35 mm DIN rail also takes place with the help of the optionally available snap-on mounting [ZB8201-0110](#) [[▶ 28](#)]
- Check whether the current transformer is mounted correctly and the secondary conductors are connected correctly.
- Switch on the power supply to the primary conductor again.

**Accessories**

Fig. 17: Snap-on mounting, **ZB8201-0110**

### 3.3 SCT2xxx

#### 3.3.1 Technical data

##### SCT2111 | Ring-type current transformer for primary currents 60...500 A, accuracy class 1

Technical data	SCT2111-xxxx
Accuracy class	1
Primary current	60...500 A
Secondary current	1 A
Max. diameter round conductor	25.7 mm
Possible bar dimensions	20 x 20 mm, 25 x 12 mm, 30 x 10 mm
Size	1
Dimensions [▶ 34] (W x H x D)	60 mm x 81 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2111-0060	current ratio 60/1 A, rated power 1.25 VA
SCT2111-0075	current ratio 75/1 A, rated power 2.5 VA
SCT2111-0080	current ratio 80/1 A, rated power 2.5 VA
SCT2111-0100	current ratio 100/1 A, rated power 2.5 VA
SCT2111-0125	current ratio 125/1 A, rated power 2.5 VA
SCT2111-0150	current ratio 150/1 A, rated power 5 VA
SCT2111-0200	current ratio 200/1 A, rated power 5 VA
SCT2111-0250	current ratio 250/1 A, rated power 5 VA
SCT2111-0300	current ratio 300/1 A, rated power 10 VA
SCT2111-0400	current Ratio 400/1 A, rated power 10 VA
SCT2111-0500	current ratio 500/1 A, rated power 10 VA

##### SCT2121 | Ring-type current transformer for primary currents 125...600 A, accuracy class 0.5

Technical data	SCT2121-xxxx
Accuracy class	0.5
Primary current	125...600 A
Secondary current	1 A
Max. diameter round conductor	25.7 mm
Possible bar dimensions	20 x 20 mm, 25 x 12 mm, 30 x 10 mm
Size	1
Dimensions [▶ 34] (W x H x D)	60 mm x 81 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2121-0125	current ratio 125/1 A, rated power 1.5 VA
SCT2121-0150	current ratio 150/1 A, rated power 2.5 VA
SCT2121-0200	current ratio 200/1 A, rated power 2.5 VA
SCT2121-0250	current ratio 250/1 A, rated power 5 VA
SCT2121-0300	current ratio 300/1 A, rated power 5 VA
SCT2121-0400	current ratio 400/1 A, rated power 10 VA
SCT2121-0500	current ratio 500/1 A, rated power 10 VA
SCT2121-0600	current ratio 600/1 A, rated power 10 VA

**SCT2211 | Ring-type current transformer for primary currents 600/750 A, accuracy class 1**

Technical data	SCT2211-xxxx
Accuracy class	1
Primary current	600/750 A
Secondary current	1 A
Max. diameter round conductor	31.8 mm
Possible bar dimensions	30 x 15 mm, 40 x 10 mm
Size	2
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	70 mm x 91 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2211-0600	current ratio 600/1 A, rated power 10 VA
SCT2211-0750	current ratio 750/1 A, rated power 10 VA

**SCT2221 | Ring-type current transformer for primary currents 600/750 A, accuracy class 0.5**

Technical data	SCT2221-xxxx
Accuracy class	0.5
Primary current	600/750 A
Secondary current	1 A
Max. diameter round conductor	31.8 mm
Possible bar dimensions	30 x 15 mm, 40 x 10 mm
Size	2
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	70 mm x 91 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2221-0600	current ratio 600/1 A, rated power 10 VA
SCT2221-0750	current ratio 750/1 A, rated power 10 VA

**SCT2311 | Ring-type current transformer for primary currents 800/1000 A, accuracy class 1**

Technical data	SCT2311-xxxx
Accuracy class	1
Primary current	800/1000 A
Secondary current	1 A
Max. diameter round conductor	43.7 mm
Possible bar dimensions	40 x 30 mm, 50 x 12 mm
Size	3
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	85 mm x 105 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2311-0800	current ratio 800/1 A, rated power 10 VA
SCT2311-1000	current ratio 1000/1 A, rated power 10 VA

**SCT2321 | Ring-type current transformer for primary currents 800/1000 A, accuracy class 0.5**

Technical data	SCT2321-xxxx
Accuracy class	0.5
Primary current	800/1000 A
Secondary current	1 A
Max. diameter round conductor	43.7 mm
Possible bar dimensions	40 x 30 mm, 50 x 12 mm
Size	3
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	85 mm x 105 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2321-0800	current ratio 800/1 A, rated power 10 VA
SCT2321-1000	current ratio 1000/1 A, rated power 10 VA

**SCT2411 | Ring-type current transformer for primary currents 1250/1500 A, accuracy class 1**

Technical data	SCT2411-xxxx
Accuracy class	1
Primary current	1250/1500 A
Secondary current	1 A
Max. diameter round conductor	43.7 mm
Possible bar dimensions	50 x 30 mm, 63 x 10 mm
Size	4
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	95 mm x 115 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2411-1250	current ratio 1250/1 A, rated power 10 VA
SCT2411-1500	current ratio 1500/1 A, rated power 10 VA

**SCT2421 | Ring-type current transformer for primary currents 1250/1500 A, accuracy class 0.5**

Technical data	SCT2421-xxxx
Accuracy class	0.5
Primary current	1250/1500 A
Secondary current	1 A
Max. diameter round conductor	43.7 mm
Possible bar dimensions	50 x 30 mm, 63 x 10 mm
Size	4
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	95 mm x 115 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2421-1250	current ratio 1250/1 A, rated power 10 VA
SCT2421-1500	current ratio 1500/1 A, rated power 10 VA

**SCT2515 | Ring-type current transformers for primary current 2000 A, accuracy class 1**

Technical data	SCT2515-xxxx
Accuracy class	1
Primary current	2000 A
Secondary current	5 A
Max. diameter round conductor	54.7 mm
Possible bar dimensions	60 x 30 mm, 80 x 10 mm
Size	5
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	120 mm x 135 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2515-2000	current ratio 2000/5 A, rated power 15 VA

**SCT2525 | Ring-type current transformers for primary current 2000 A, accuracy class 0.5**

Technical data	SCT2525-xxxx
Accuracy class	0.5
Primary current	2000 A
Secondary current	5 A
Max. diameter round conductor	54.7 mm
Possible bar dimensions	60 x 30 mm, 80 x 10 mm
Size	5
Dimensions [ <a href="#">▶ 34</a> ] (W x H x D)	120 mm x 135 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2525-2000	current ratio 2000/5 A, rated power 15 VA



**SCT2615 | Ring-type current transformers for primary current 2500 A, accuracy class 1**

Technical data	SCT2615-xxxx
Accuracy class	1
Primary current	2500 A
Secondary current	5 A
Max. diameter round conductor	70 mm
Possible bar dimensions	80 x 30 mm, 100 x 10 mm
Size	6
Dimensions [▶ 34] (W x H x D)	130 mm x 147 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2615-2500	current ratio 2500/5 A, rated power 15 VA

**SCT2625 | Ring-type current transformers for primary current 2500 A, accuracy class 0.5**

Technical data	SCT2625-xxxx
Accuracy class	0.5
Primary current	2500 A
Secondary current	5 A
Max. diameter round conductor	70 mm
Possible bar dimensions	80 x 30 mm, 100 x 10 mm
Size	6
Dimensions [▶ 34] (W x H x D)	130 mm x 147 mm x 52 mm
Approvals/markings	CE

Versions	
SCT2625-2500	current ratio 2500/5 A, rated power 15 VA

**SCT2xxx dimensions, sizes 1 – 6**

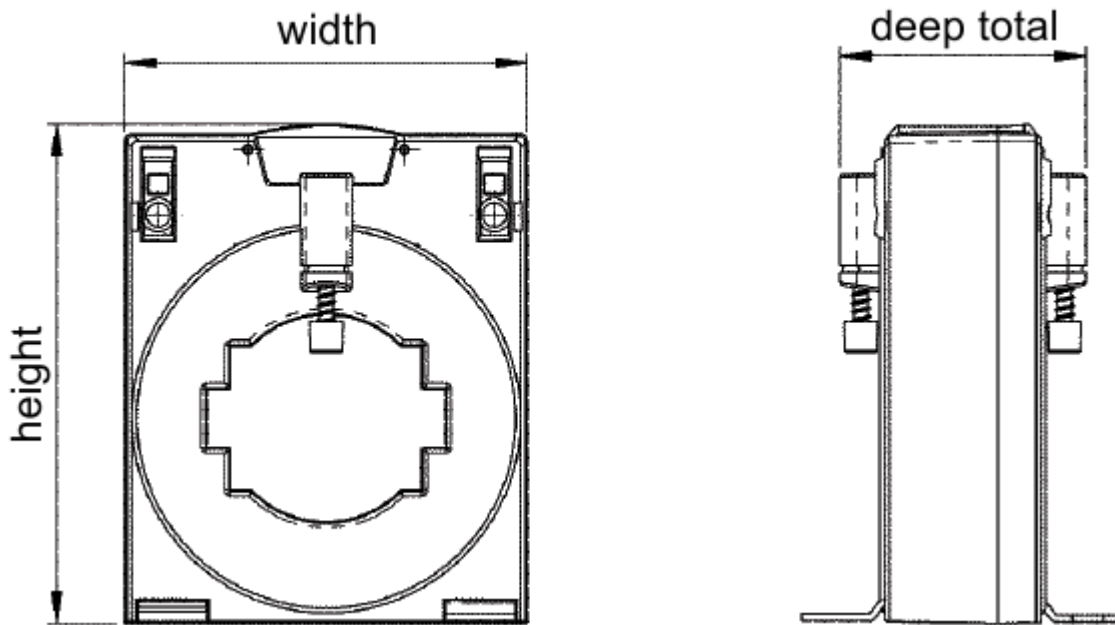


Fig. 18: SCT2xxx dimensions

Dimension	SCT21xx (size 1)	SCT22xx (size 2)	SCT23xx (size 3)	SCT24xx (size 4)	SCT25xx (size 5)	SCT26xx (size 6)
Width in mm	60	70	85	95	120	130
Height in mm	80.5	91.15	105.25	114.86	134.66	147.49
Depth in mm	52	52	52	52	52	52

**3.3.2 Functional description**

Current transformers from this series are inductive, single-conductor current transformers that operate according to the transformer principle. They serve to adapt the primary measured variable to the input rating of the connected measuring devices.

Due to the measuring principle used, these current transformers are suitable only for use in AC mains systems.

Current transformers from this series are maintenance-free.

### 3.3.3 Installation

#### DANGER

##### **Open transformer circuits lead to electric shock and arc flashover!**

Disregarding this will result in death, physical injury or considerable damage to property!

- Never open the secondary circuit of the current transformer under load.
- Short-circuit the secondary current terminals of the current transformer before removing the device.

#### WARNING

##### **Hazardous voltage can lead to electric shock and burns!**

- Make sure that the details on the name plate and in the "Technical data" correspond to the operating parameters of the system.
- Switch the system off before commencing with the installation!

#### WARNING

##### **Induction of high voltages into the secondary circuit!**

- If the secondary circuit of the current transformer is not under load (open), high voltages are induced on its secondary terminals. The voltage values occurring there represent a danger to persons and the functional safety of the current transformer.
  - "Open operation", i.e. operation of the current transformer without secondary wiring, must be avoided at all costs.
- Make sure that the working environment is safe during assembly, maintenance and installation work. Interrupt the power supply of the primary conductor and secure against being switched on again inadvertently.
  - Install the current transformer on the primary conductor.
  - To do this, feed the primary conductor (copper bar or round conductor) through the window aperture of the current transformer housing. The window aperture is marked with "K-P1" or "L-P2" respectively.
  - The device can be fastened directly to the primary conductor or alternatively to a mounting plate. Use the fastening materials included in the scope of delivery for this.
  - Direct fastening to the primary conductor is done by screwing the fastening screws included in the accessories pack into the screw bosses on the transformer housing or with the optionally available quick-fix cable fastening ([ZB8203-0210/ZB8203-0211](#) [[▶ 38](#)]).
  - Mounting on a mounting plate takes place with the base brackets also included in the accessories pack.
  - Current transformers of the types SCT21xx and SCT22xx can also be fastened to 35 mm DIN rails by means of a snap-on mounting ([ZB8201-0210](#) [[▶ 38](#)]), which is available as an accessory.
  - Make the secondary connections. Observe the markings "k-S1" and "l-S2" of the secondary terminals.

**Measuring circuit**

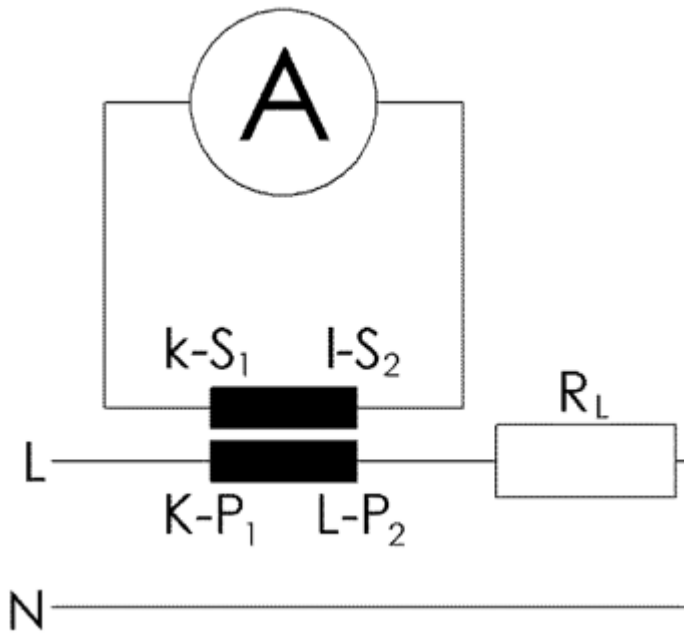


Fig. 19: Measuring circuit - **SCT0xxx/SCT1xxx/SCT2xxx** transformer

**Assembly notes**

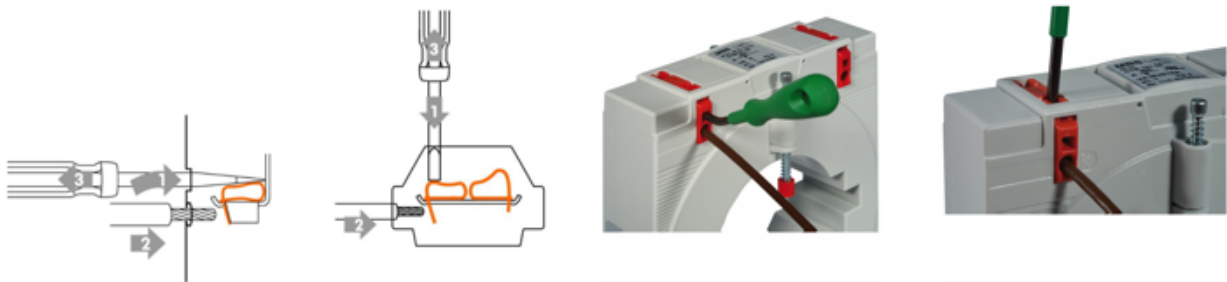


Fig. 20: Actuation of the secondary connecting terminals (CAGE CLAMP®)



Fig. 21: Mounting the fastening screws

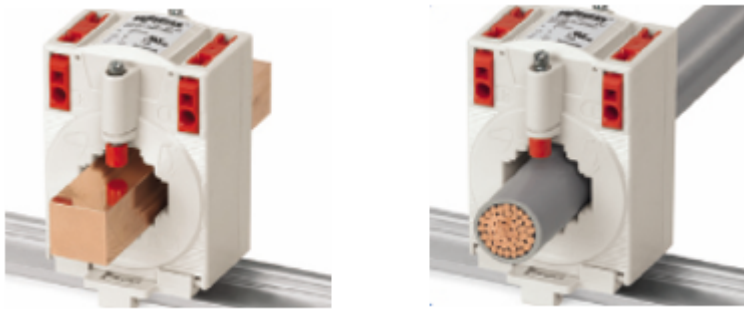


Fig. 22: Mounting on copper bar or round conductor



Fig. 23: Mounting with quick-fix cable fastening (**ZB8203-0210**, **ZB8203-0211**)



Fig. 24: Mounting on 35 mm DIN rail with snap-on mounting (**ZB8201-0210**)

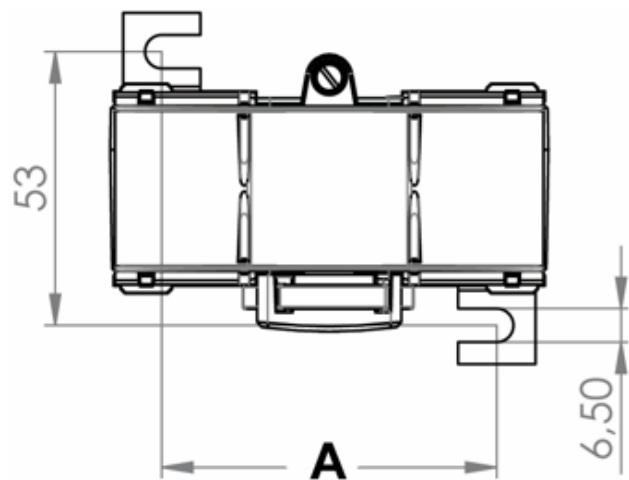


Fig. 25: Mounting on mounting plate

	SCT21xx	SCT22xx	SCT23xx	SCT24xx	SCT25xx	SCT26xx
Dimension "A" [mm]	40	40	65	65	95	95



Fig. 26: Mounted sealing plate

**Accessories**



Fig. 27: Snap-on mounting for 35 mm DIN rail, **ZB8201-0210**

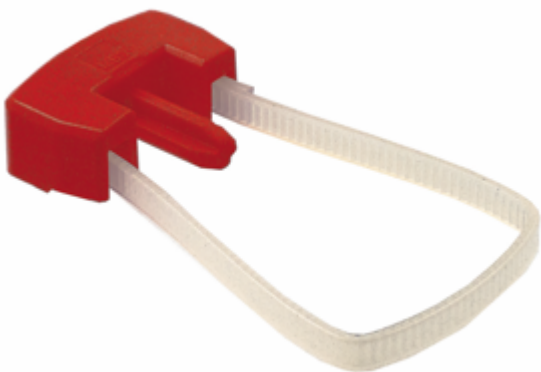


Fig. 28: Quick-fix cable fastening, **ZB8203-0210** or **ZB8203-0211** (extra heat-resistant)



Fig. 29: Sealing plate, **ZB8202-0210**

## 3.4 SCT3xxx

### 3.4.1 Technical data

#### SCT3111 | 3-phase ring-type current transformer for primary currents 50...150 A, accuracy class 1

Technical data	SCT3111-xxxx
Accuracy class	1
Primary current	3 x 50...3 x 150 A
Secondary current	1 A
Max. diameter round conductor	13.5 mm
Size	1
Dimensions [▶ 41] (W x H x D)	105 mm x 90 mm x 54 mm
Approvals/markings	CE

Versions	
SCT3111-0050	current ratio 3 x 50/1 A, rated power 1 VA
SCT3111-0060	current ratio 3 x 60/1 A, rated power 1.25 VA
SCT3111-0075	current ratio 3 x 75 A, rated power 1.5 VA
SCT3111-0080	current ratio 3 x 80/1 A, rated power 1.5 VA
SCT3111-0100	current ratio 3 x 100/1 A, rated power 2.5 VA
SCT3111-0125	current ratio 3 x 125/1 A, rated power 2.5 VA
SCT3111-0150	current ratio 3 x 150/1 A, rated power 3.75 VA

#### SCT3121 | 3-phase ring-type current transformer for primary currents 125/150 A, accuracy class 0.5

Technical data	SCT3121-xxxx
Accuracy class	0.5
Primary current	3 x 125 / 3 x 150 A
Secondary current	1 A
Max. diameter round conductor	13.5 mm
Size	1
Dimensions [▶ 41] (W x H x D)	105 mm x 90 mm x 54 mm
Approvals/markings	CE

Versions	
SCT3121-0125	current ratio 3 x 125/1 A, rated power 2.5 VA
SCT3121-0150	current ratio 3 x 150/1 A, rated power 2.5 VA



**SCT31xx dimensions, size 1**

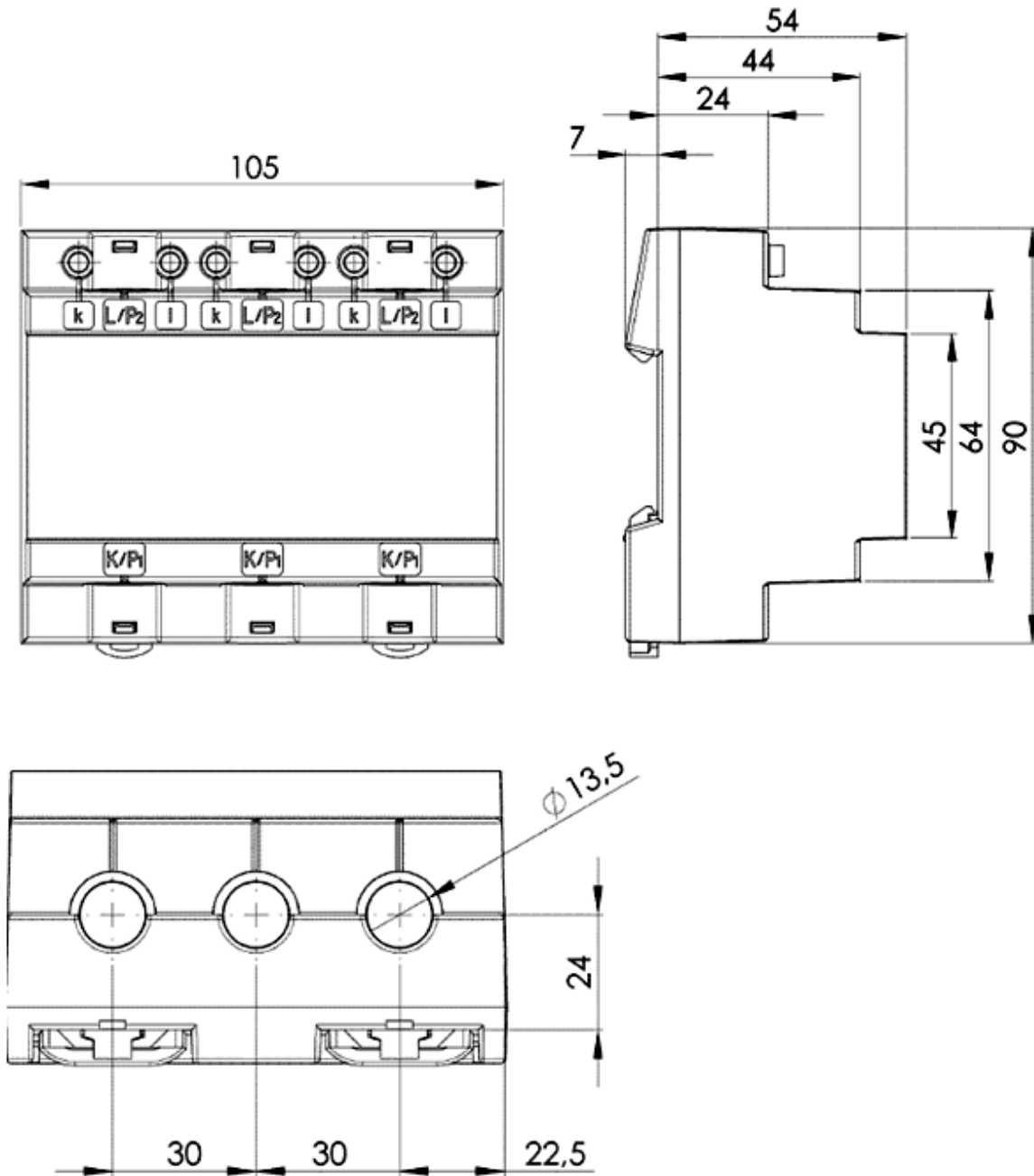


Fig. 30: SCT31xx dimensions, size 1

**SCT3215 | 3-phase ring-type current transformer for primary currents 100...250 A, accuracy class 1**

Technical data	SCT3215-xxxx
Accuracy class	1
Primary current	3 x 100...3 x 250 A
Secondary current	5 A
Max. diameter round conductor	18 mm
Size	2
Dimensions [▶ 43] (W x H x D)	115 mm x 65 mm x 55 mm
Approvals/markings	CE

<b>Versions</b>	
SCT3215-0100	current ratio 3 x 100/5 A, rated power 1.0 VA
SCT3215-0150	current ratio 3 x 150/5 A, rated power 1.25 VA
SCT3215-0160	current ratio 3 x 160/5 A, rated power 1.5 VA
SCT3215-0200	current ratio 3 x 200/5 A, rated power 1.5 VA
SCT3215-0250	current ratio 3 x 250/5 A, rated power 2.5 VA

## SCT32xx dimensions, size 2

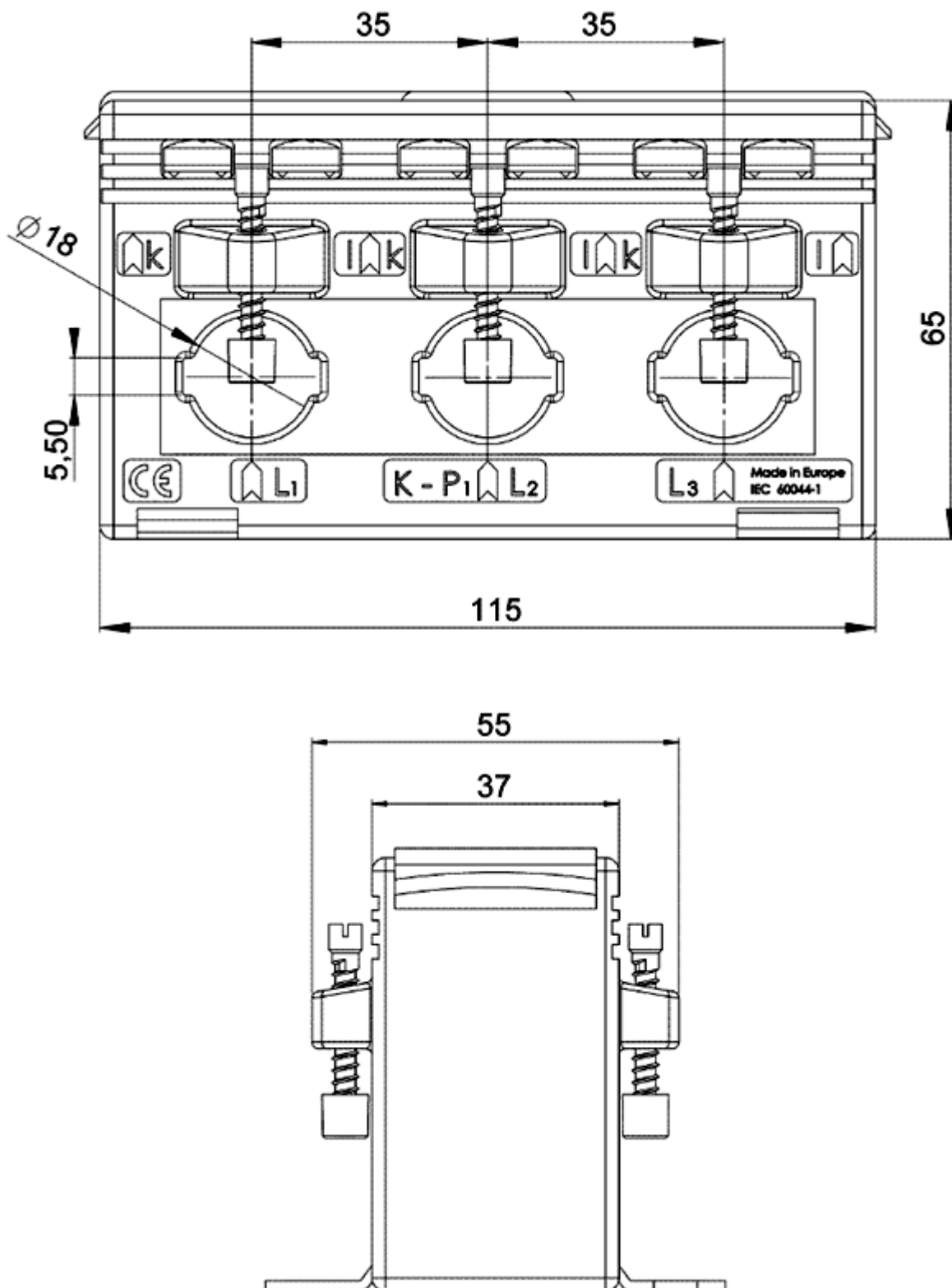


Fig. 31: SCT32xx dimensions, size 2

**SCT3315 | 3-phase ring-type current transformer for primary currents 250...600 A, accuracy class 1**

Technical data	SCT3315-xxxx
Accuracy class	1
Primary current	3 x 250...3 x 600 A
Secondary current	5 A
Max. diameter round conductor	22 mm
Size	3
Dimensions [ <a href="#">▶ 45</a> ] (W x H x D)	150 mm x 75 mm x 55 mm
Approvals/markings	CE

Versions	
SCT3315-0250	current ratio 3 x 250/5 A, rated power 2.5 VA
SCT3315-0300	current ratio 3 x 300/5 A, rated power 3.75 VA
SCT3315-0400	current ratio 3 x 400/5 A, rated power 5 VA
SCT3315-0500	current ratio 3 x 500/5 A, rated power 5 VA
SCT3315-0600	current ratio 3 x 600/5 A, rated power 5 VA

SCT33xx dimensions, size 3

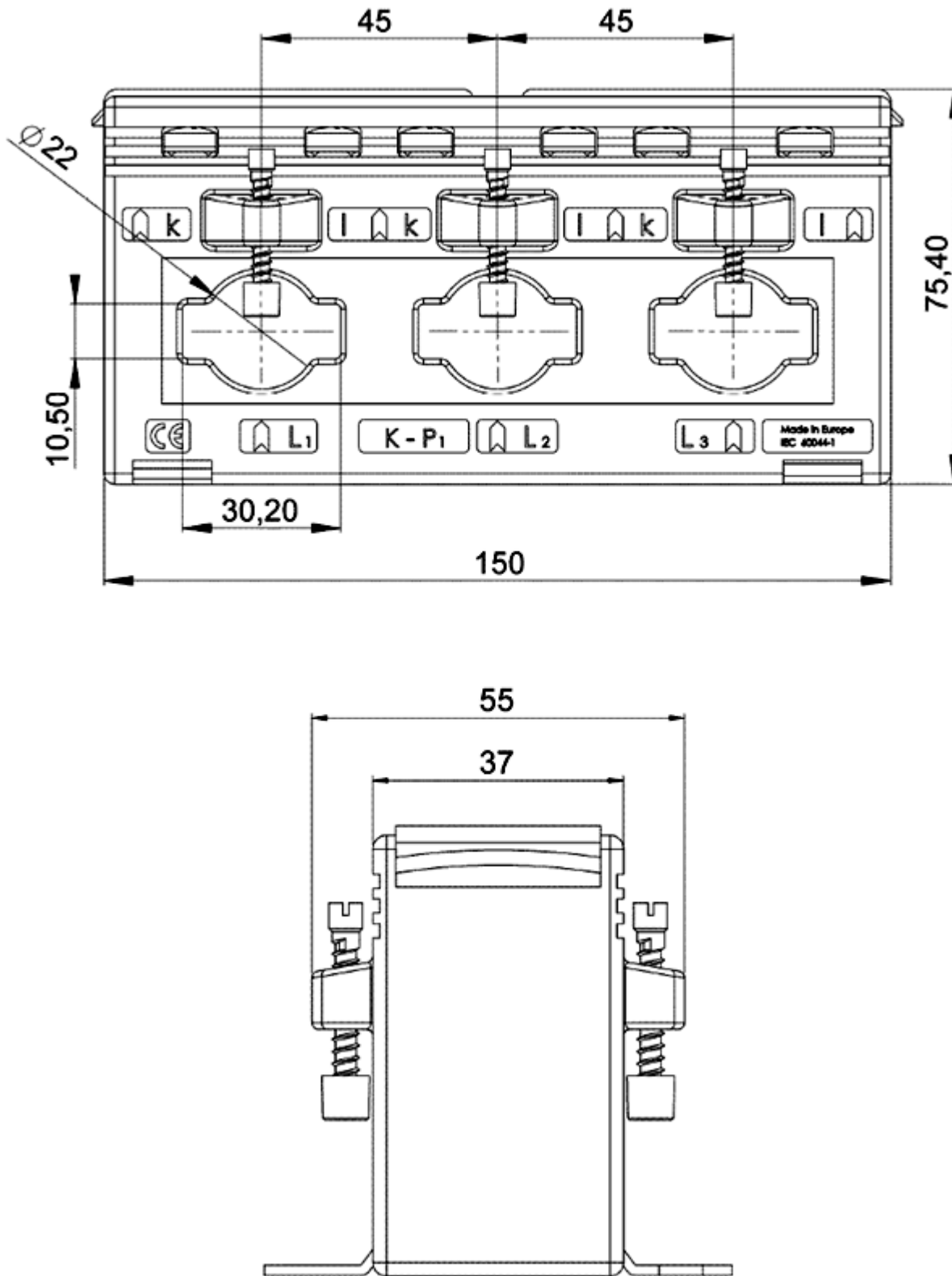


Fig. 32: SCT33xx dimensions, size 3

### 3.4.2 Functional description

Current transformers from the SCT3xxx series are each comprised of 3 inductive, single-conductor current transformers operating according to the transformer principle, which are combined into three-phase conductor sets.

They serve to adapt the primary measured variable to the input rating of the connected measuring devices. Due to the measuring principle used, these current transformers are suitable only for use in AC mains systems.

Current transformers from the SCT3xxx series are maintenance-free.

### 3.4.3 Installation

#### DANGER

##### **Open transformer circuits lead to electric shock and arc flashover!**

Disregarding this will result in death, physical injury or considerable damage to property!

- Never open the secondary circuit of the current transformer under load.
- Short-circuit the secondary current terminals of the current transformer before removing the device.

#### WARNING

##### **Hazardous voltage can lead to electric shock and burns!**

- Make sure that the details on the name plate and in the "Technical data" correspond to the operating parameters of the system.
- Switch the system off before commencing with the installation!

#### WARNING

##### **Induction of high voltages into the secondary circuit!**

- If the secondary circuit of the current transformer is not under load (open), high voltages are induced on its secondary terminals. The voltage values occurring there represent a danger to persons and the functional safety of the current transformer.
  - "Open operation", i.e. operation of the current transformer without secondary wiring, must be avoided at all costs.
- Make sure that the working environment is safe during assembly, maintenance and installation work. Interrupt the power supply of the primary conductors and secure against being switched on again inadvertently.
  - Install the current transformer on the primary conductors.
  - To do this, feed the primary conductors (copper bar or round conductor) through the window apertures of the current transformer housing. The window apertures are marked with "K-P1" and "L-P2" as well as with L1, L2, L3 (for the individual phases).
  - The devices of the types SCT3215 and SCT3315 can be fastened directly to the primary conductors or alternatively to a mounting plate. Use the fastening materials included in the scope of delivery for this.
  - Direct fastening to the primary conductors is done by screwing the fastening screws included in the accessories pack into the screw bosses on the transformer housing.
  - Mounting on a mounting plate takes place with the base fastening brackets also included in the accessories pack.
  - The SCT31xx types are intended for snap-on fastening to 35 mm DIN rails.
  - Make the secondary connections. Observe the markings on the secondary terminals.

**Measuring circuit**

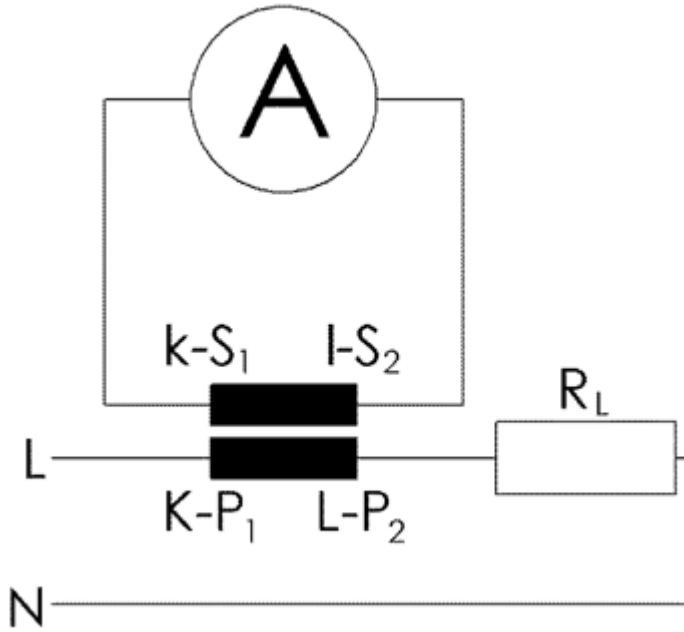


Fig. 33: Measuring circuit - **SCT3xxx** transformer

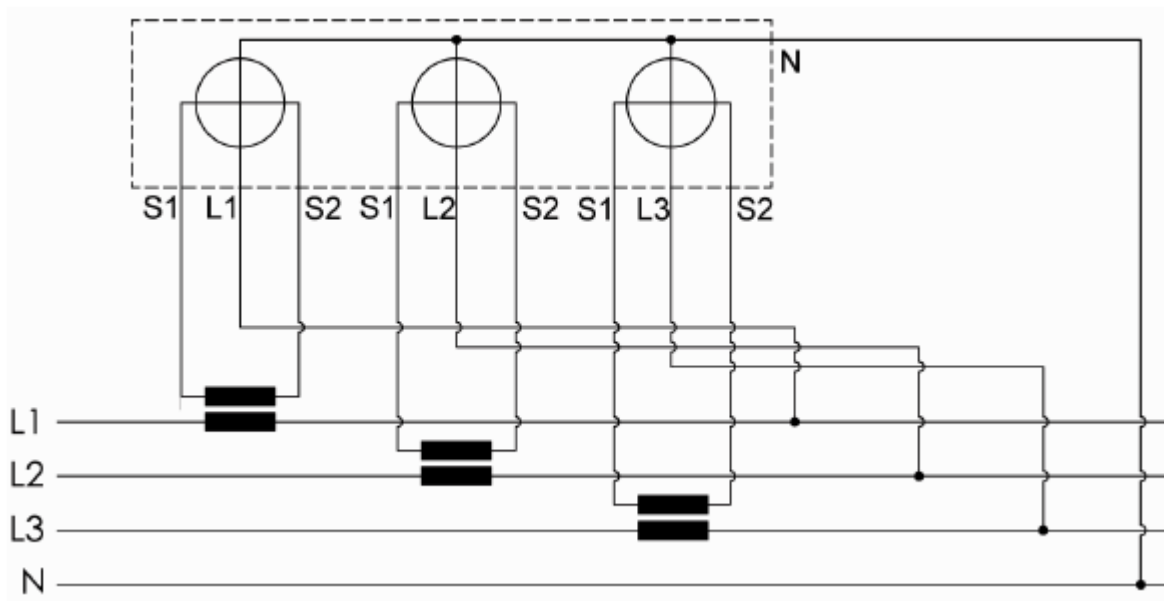


Fig. 34: **SCT3xxx** transformer, meter circuit, multi-phase



**Assembly notes**

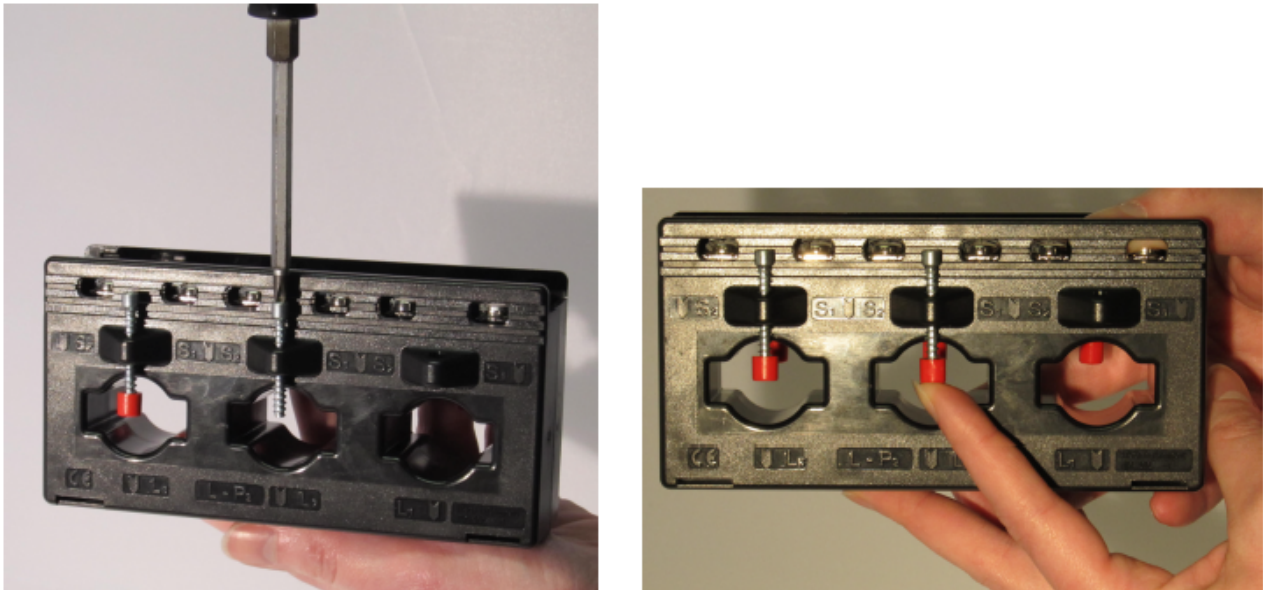


Fig. 35: Mounting the fastening screws **SCT3215**, **SCT3315**

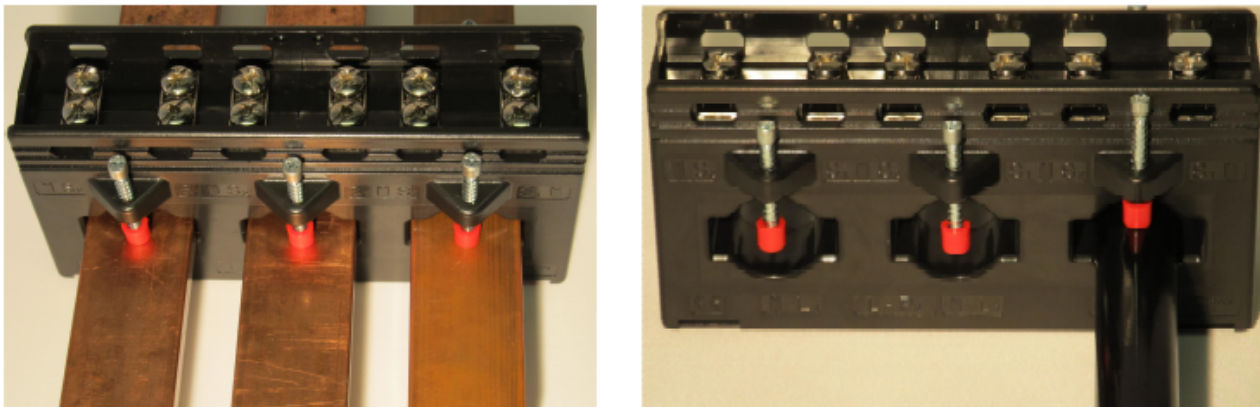


Fig. 36: Mounting on copper bar or round conductor, **SCT3215**, **SCT3315**

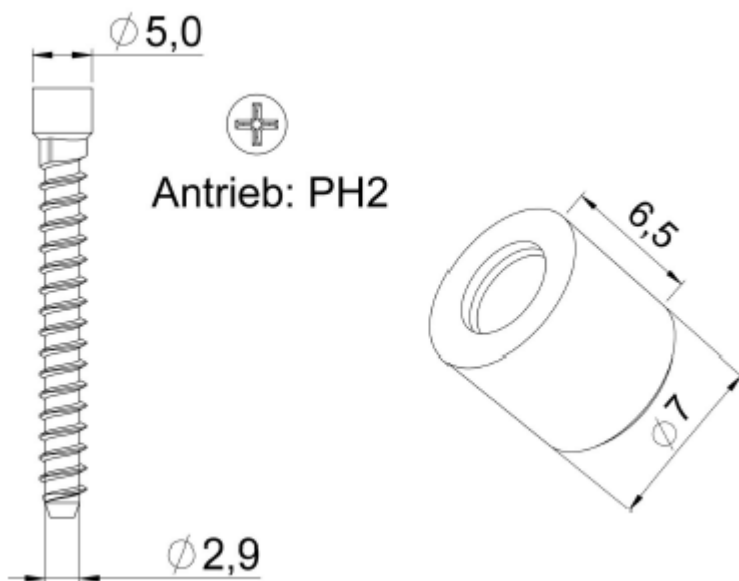


Fig. 37: Tightening torque of fastening screw: 0.5 Nm

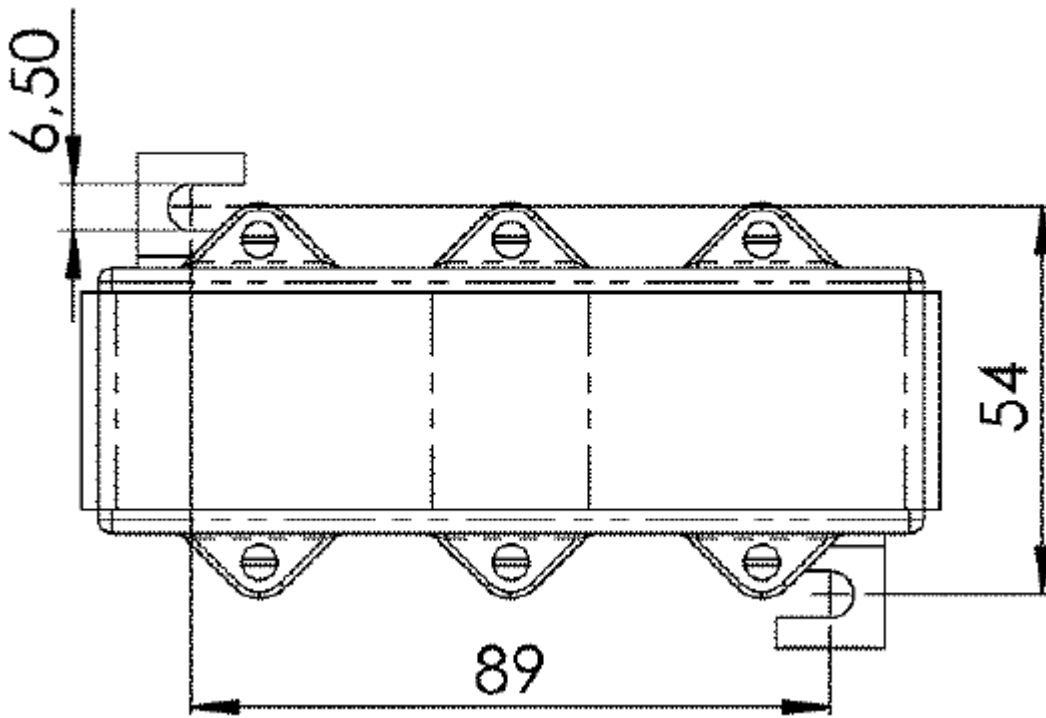


Fig. 38: Mounting on mounting plate **SCT3211**

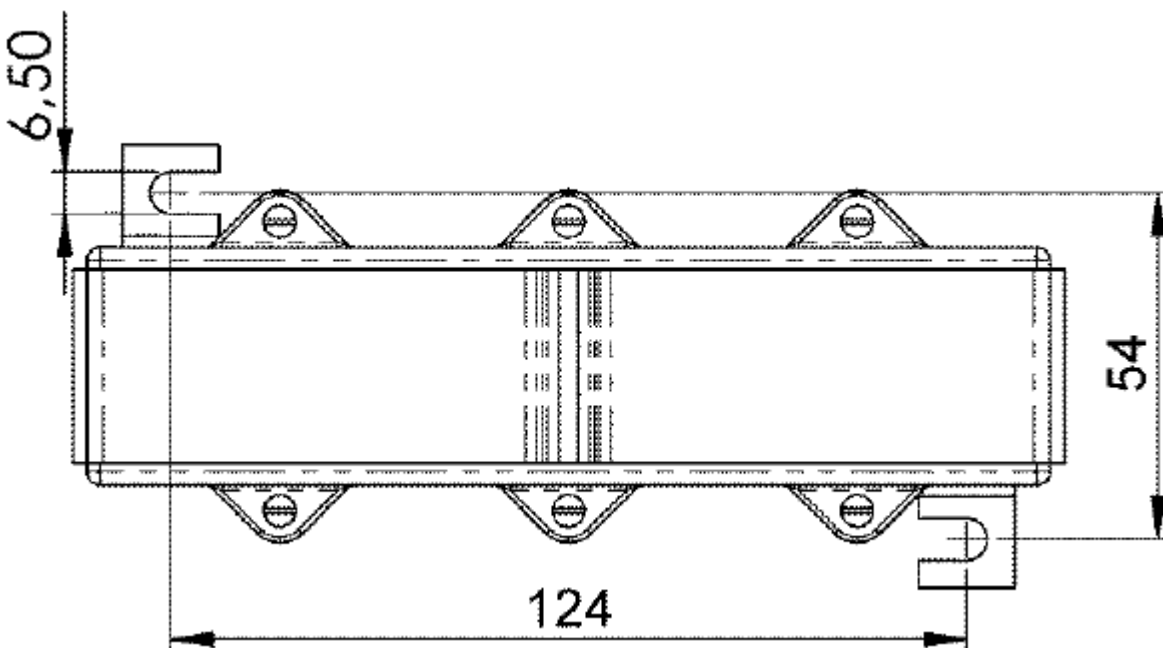


Fig. 39: Mounting on mounting plate **SCT3315**



Fig. 40: Connection example

### 3.5 SCT6xxx

#### 3.5.1 Technical data

##### SCT6101 | Split-core current transformer for primary currents 60...150 A, accuracy class 3

Technical data	SCT6101-xxxx
Accuracy class	3
Primary current	60... 150 A
Secondary current	1 A
Max. diameter round conductor	18.5 mm
Size	1
Dimensions [► 52] (W x H x D)	36 mm x 62 mm x 50 mm
Approvals/markings	CE

Versions	
SCT6101-0060	current ratio 60/1 A, rated power 0.4 VA
SCT6101-0075	current ratio 75/1 A, rated power 0.5 VA
SCT6101-0100	current ratio 100/1 A, rated power 0.75 VA
SCT6101-0150	current ratio 150/1 A, rated power 1 VA

##### SCT61xx dimensions, size 1

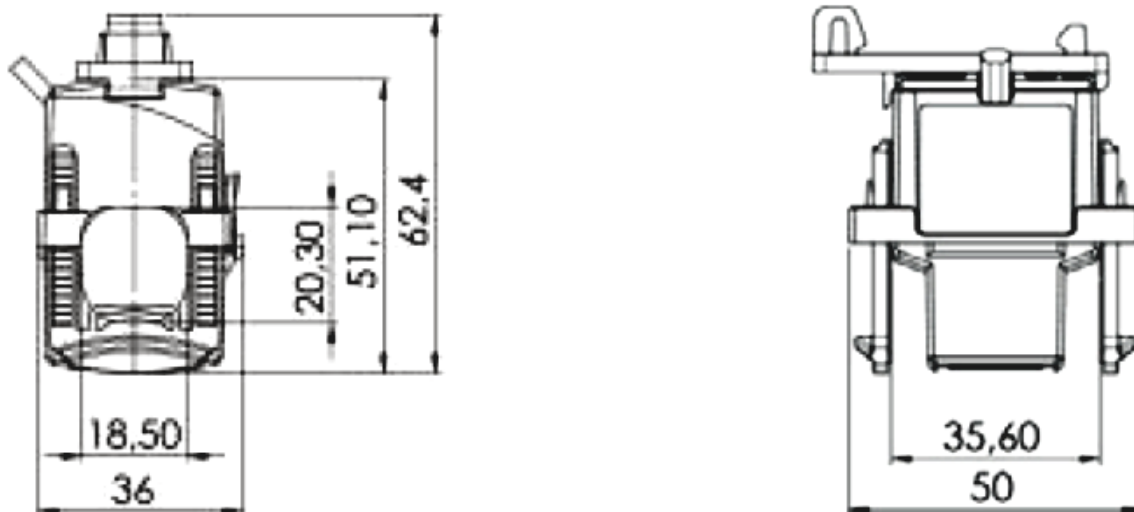


Fig. 41: SCT61xx dimensions, size 1

**SCT6311 | Split-core current transformer for primary currents 200/250 A, accuracy class 1**

Technical data	SCT6311-xxxx
Accuracy class	1
Primary current	200/250 A
Secondary current	1 A
Max. diameter round conductor	18.5 mm
Size	3
Dimensions [ <a href="#">▶ 55</a> ] (W x H x D)	49 mm x 80 mm x 59 mm
Approvals/markings	CE

Versions	
SCT6311-0200	current ratio 200/1 A, rated power 1.5 VA
SCT6311-0250	current ratio 250/1 A, rated power 2.5 VA

**SCT6321 | Split-core current transformer for primary currents 200/250 A, accuracy class 0.5**

Technical data	SCT6321-xxxx
Accuracy class	0.5
Primary current	200/250 A
Secondary current	1 A
Max. diameter round conductor	18.5 mm
Size	3
Dimensions [ <a href="#">▶ 54</a> ] (W x H x D)	49 mm x 80 mm x 59 mm
Approvals/markings	CE

Versions	
SCT6321-0200	current ratio 200/1 A, rated power 0.2 VA
SCT6321-0250	current ratio 250/1 A, rated power 0.5 VA

**SCT63xx dimensions, size 3**

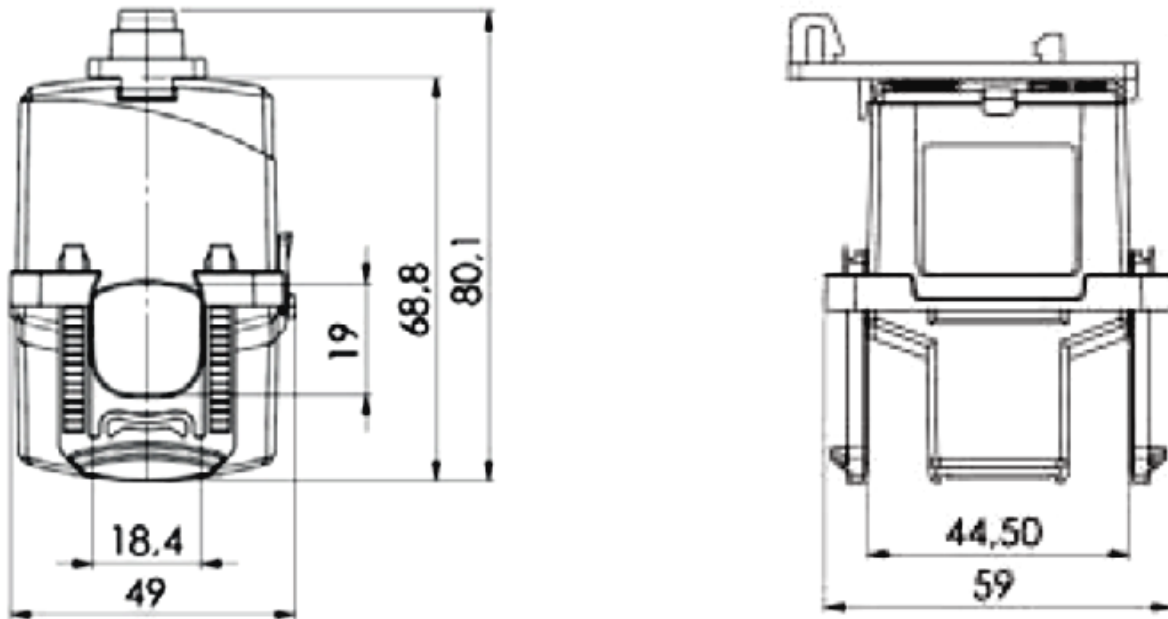


Fig. 42: SCT63xx dimensions, size 3

**SCT6411 | Split-core current transformer for primary currents 300...500 A, accuracy class 1**

Technical data	SCT6411-xxxx
Accuracy class	1
Primary current	300...500 A
Secondary current	1 A
Max. diameter round conductor	27.9 mm
Size	4
Dimensions [ <a href="#">▶ 55</a> ] (W x H x D)	49 mm x 80 mm x 59 mm
Approvals/markings	CE

Versions	
SCT6411-0300	current ratio 300/1 A, rated power 1.5 VA
SCT6411-0400	current ratio 400/1 A, rated power 2.5 VA
SCT6411-0500	current ratio 500/1 A, rated power 3 VA

**SCT6421 | Split-core current transformer for primary currents 400/500 A, accuracy class 0.5**

Technical data	SCT6421-xxxx
Accuracy class	0.5
Primary current	400/500 A
Secondary current	1 A
Max. diameter round conductor	27.9 mm
Size	4
Dimensions [ <a href="#">▶ 55</a> ] (W x H x D)	49 mm x 80 mm x 59 mm
Approvals/markings	CE

Versions	
SCT6421-0400	current ratio 400/1 A, rated power 0.5 VA
SCT6421-0500	current ratio 500/1 A, rated power 1 VA

**SCT64xx dimensions, size 4**

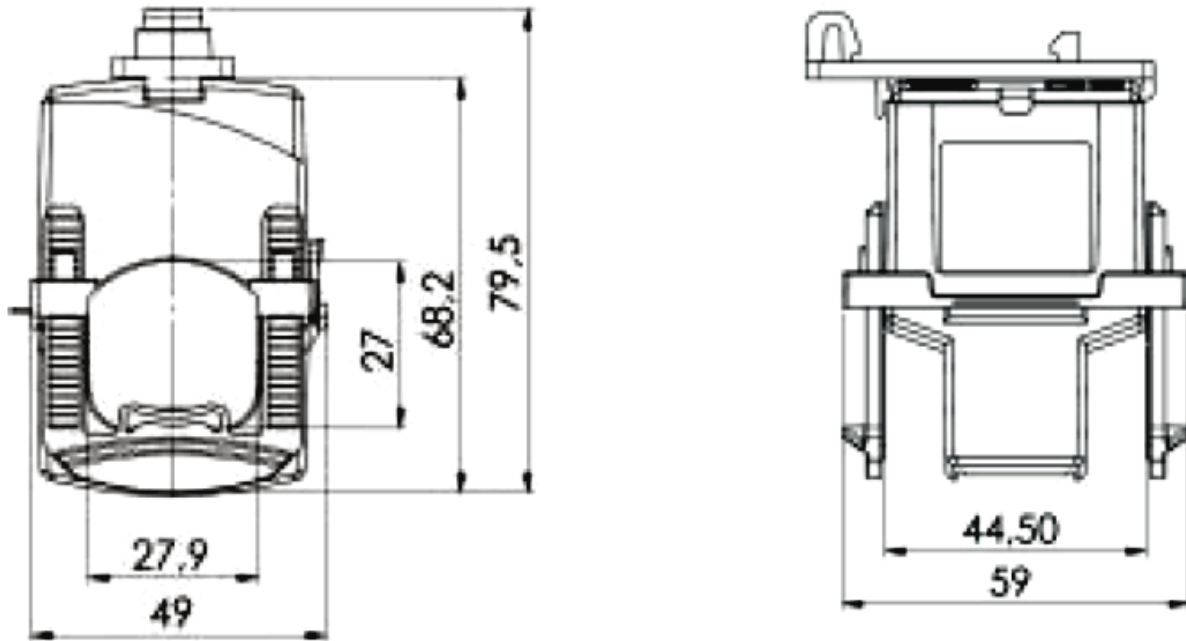


Fig. 43: SCT64xx dimensions, size 4

**SCT6615 | Split-core current transformer for primary currents 600/750 A, accuracy class 1**

Technical data	SCT6615-xxxx
Accuracy class	1
Primary current	600/750 A
Secondary current	5 A
Max. diameter round conductor	42.4 mm
Size	6
Dimensions [► 56] (W x H x D)	72 mm x 120 mm x 98 mm
Approvals/markings	CE

Versions	
SCT6615-0600	current ratio 600/5 A, rated power 5 VA
SCT6615-0750	current ratio 750/5 A, rated power 5 VA

**SCT6625 | Split-core current transformer for primary currents 600/750 A, accuracy class 0.5**

Technical data	SCT6625-xxxx
Accuracy class	0.5
Primary current	600/750 A
Secondary current	5 A
Max. diameter round conductor	42.4 mm
Size	6
Dimensions [ <a href="#">▶ 56</a> ] (W x H x D)	72 mm x 120 mm x 98 mm
Approvals/markings	CE

Versions	
SCT6625-0600	current ratio 600/5 A, rated power 2.5 VA
SCT6625-0750	current ratio 750/5 A, rated power 2.5 VA

**SCT66xx dimensions, size 6**

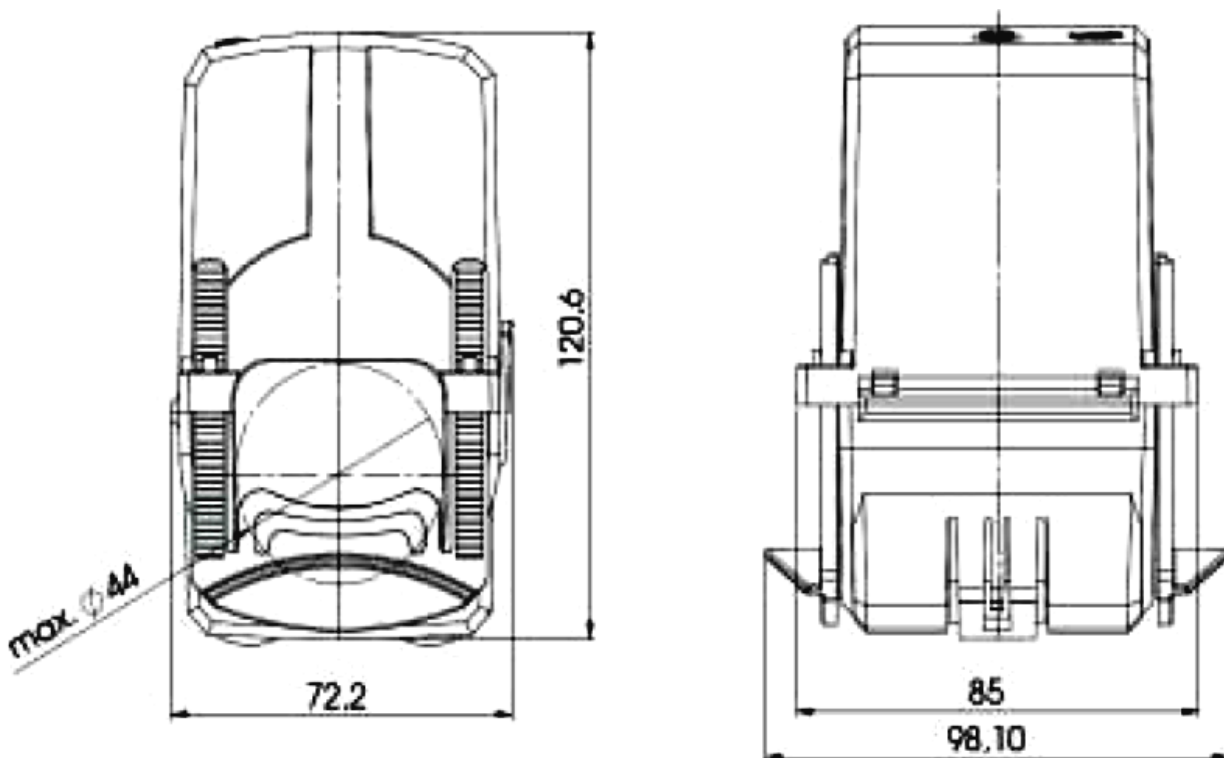


Fig. 44: SCT66xx dimensions, size 6

**SCT6715 | Split-core current transformer for primary currents 800/1000 A, accuracy class 1**

Technical data	SCT6715-xxxx
Accuracy class	1
Primary current	800/1000 A
Secondary current	5 A
Max. diameter round conductor	2 x 42.4 mm
Size	7
Dimensions [ <a href="#">▶ 57</a> ] (W x H x D)	67 mm x 96 mm x 69 mm
Approvals/markings	CE



Versions	
SCT6715-0800	current ratio 800/5 A, rated power 5 VA
SCT6715-1000	current ratio 1000/5 A, rated power 5 VA

**SCT6725 | Split-core current transformer for primary currents 800/1000 A, accuracy class 0.5**

Technical data	SCT6725-xxxx
Accuracy class	0.5
Primary current	800/1000 A
Secondary current	5 A
Max. diameter round conductor	2 x 42.4 mm
Size	7
Dimensions [► 57] (W x H x D)	67 mm x 96 mm x 69 mm
Approvals/markings	CE

Versions	
SCT6725-0800	current ratio 800/5 A, rated power 2.5 VA
SCT6725-1000	current ratio 1000/5 A, rated power 2.5 VA

**SCT67xx dimensions, size 7**

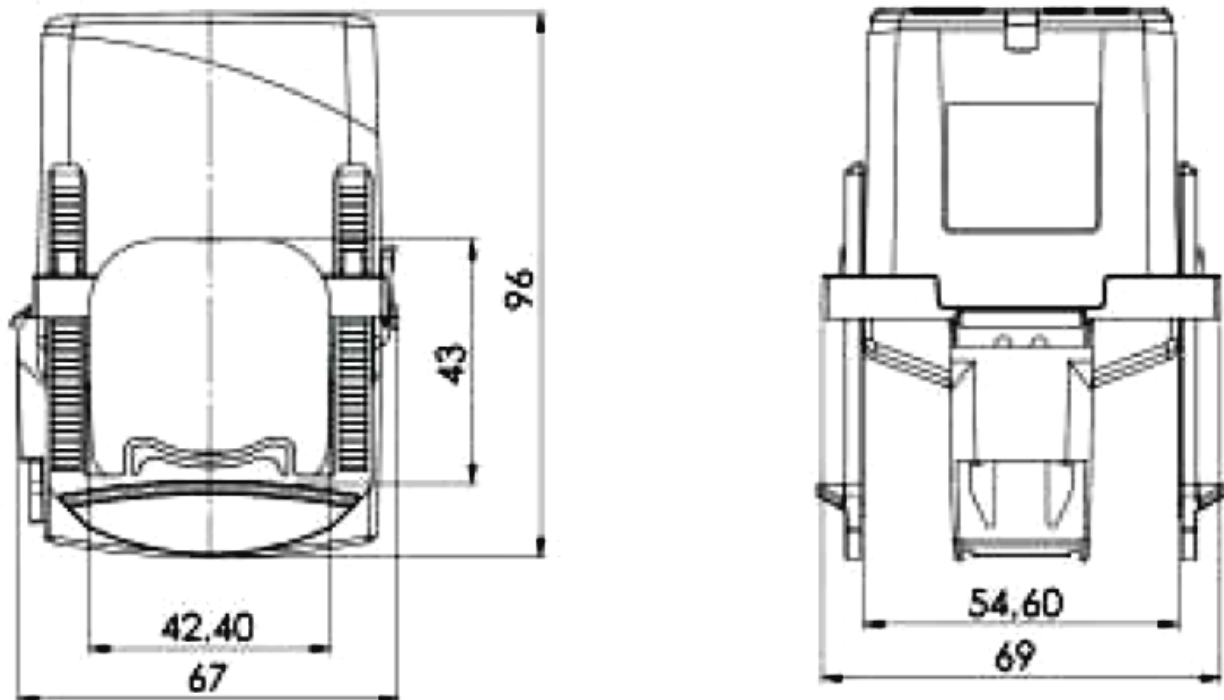


Fig. 45: SCT67xx dimensions, size 7

**3.5.2 Functional description**

Current transformers from the SCT6xxx series are inductive, single-conductor current transformers that operate according to the transformer principle. They serve to adapt the primary measured variable to the input rating of the connected measuring devices.

Due to the measuring principle used, these current transformers are suitable only for use in AC mains systems.



**Mounting information**

The SCT6xxx series is suitable only for mounting on insulated primary conductors!

---

### 3.5.3 Installation

#### DANGER

##### Open transformer circuits lead to electric shock and arc flashover!

Disregarding this will result in death, physical injury or considerable damage to property!

- Never open the secondary circuit of the current transformer under load.
- Short-circuit the secondary current terminals of the current transformer before removing the device.

#### WARNING

##### Hazardous voltage can lead to electric shock and burns!

- Make sure that the details on the name plate and in the "Technical data" correspond to the operating parameters of the system.
- Switch the system off before commencing with the installation!

#### WARNING

##### Induction of high voltages into the secondary circuit!

- If the secondary circuit of the current transformer is not under load (open), high voltages are induced on its secondary terminals. The voltage values occurring there represent a danger to persons and the functional safety of the current transformer.
- "Open operation", i.e. operation of the current transformer without secondary wiring, must be avoided at all costs.

- Make sure that the working environment is safe during assembly, maintenance and installation work. Interrupt the power supply of the primary conductor and secure against being switched on again inadvertently.
- Open the current transformer and fasten it to the primary conductor with the help of the fixing clasps included in the scope of delivery.  
P1 points towards the current source, P2 towards the consumer.  
The arrow on the name plate shows the direction of the energy flow.  
**Caution:** Do not close the current transformer yet – high voltages could occur on the secondary connections!  
**Caution:** Make sure that the cut surfaces of the separated core are clean. Avoid hand contact (sweat)!
- Connect the secondary conductors of the current transformer to the measuring device (ammeter, meter, etc.). Observe the operating instructions for the measuring device when doing this.
- Check whether the current transformer is mounted correctly and the secondary conductors are connected correctly.
- Close the current transformer – press together until the closure engages.
- If necessary, switch on the power supply to the primary conductor again.

**Measuring circuit**

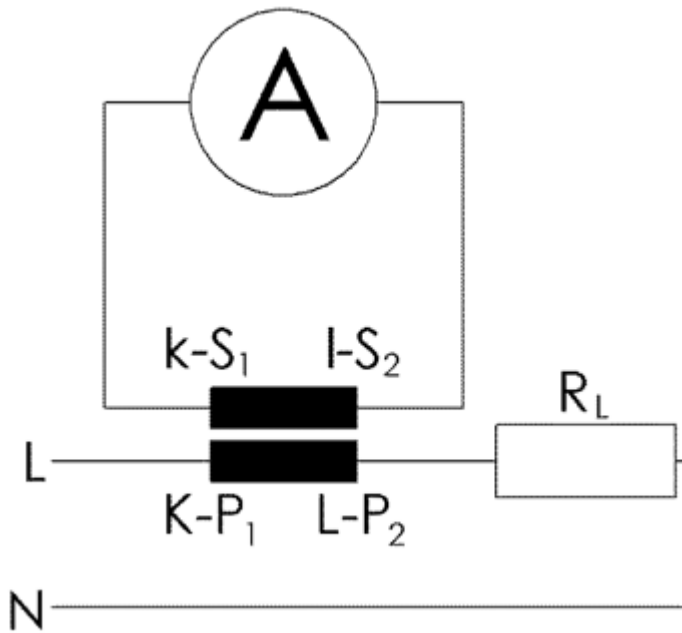


Fig. 46: Measuring circuit - **SCT6xxx** transformer, brown conductor: S1; blue conductor: S2

**Assembly notes**



Fig. 47: Inserting the fixing clasps



Fig. 48: Sealing option with the types **SCT63xx**, **SCT64xx**, **SCT66xx**

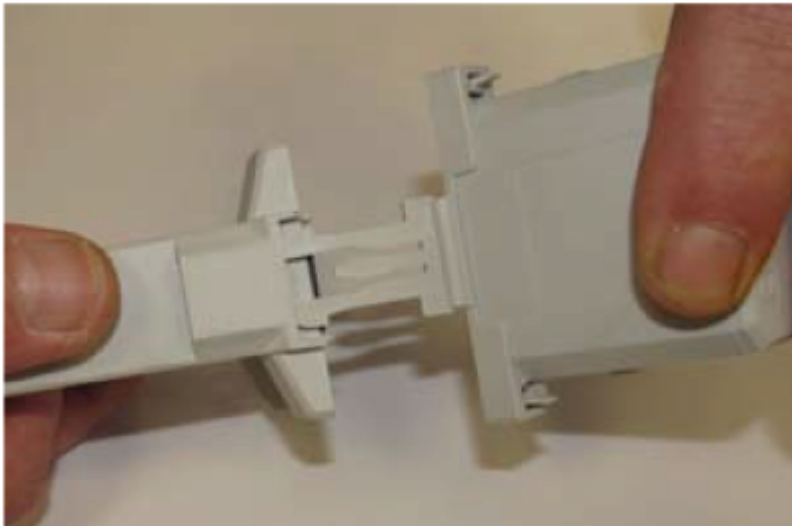


Fig. 49: With the **SCT67xx** types, the lower half of the core can be removed for easier mounting.

### Accessories



Fig. 50: **SCT63xx / SCT64xx**, snap-on mounting for 35 mm DIN rail, **ZB8201-0630**

## 3.5.4 Maintenance and inspection

### Maintenance and inspection

- Check whether the secondary conductors are firmly connected to the measuring device.
- Check whether the current transformer is connected correctly.
- Open circuit: Current transformers must be short-circuited as long as no tapping occurs!  
Note the danger warnings [▶ 59] in the chapter "Installation [▶ 59]!"
- Remove coarse dirt from the current transformer housing.
- Contact with moisture, in particular with the core, must be avoided at all costs.

## 3.5.5 Troubleshooting

### Troubleshooting

In the case of errors, e.g. unexpected or incorrect values, inverse power:

- Check the settings of the measuring device on the basis of its operating instructions.
- Check whether the current transformer is mounted on the intended conductor in the direction of the energy flow.
- Check the connection of the current transformers and the corresponding voltage tap-off if the active and/or reactive power does not correspond to the expected values; if necessary, one phase has been reversed.
- Check whether the current transformer is connected correctly.
- Check the power requirement of the conductors and measuring devices connected to the current transformer. It must not exceed the rated power of the current transformer (see name plate).
- If the above points do not solve the problem:  
Check whether there is dust or other dirt between the two parts of the core. If so, clean the surfaces carefully with a lint-free cloth.
- Avoid hand contact (sweat)!

## 3.6 SCT7xxx

### 3.6.1 Technical data

#### SCT7105 | Busbar split-core current transformer for primary currents 100/200 A, accuracy class 3

Technical data	SCT7105-xxxx
Accuracy class	3
Primary current	100/200 A
Secondary current	5 A
Max. diameter round conductor	20 mm
Possible bar dimensions	20 x 30 mm
Size	1
Dimensions [ <a href="#">▶ 68</a> ] (W x H x D)	93 mm x 106 mm x 58 mm

Versions	
SCT7105-0100	current ratio 100/5 A, rated power 1.25 VA
SCT7105-0200	current ratio 200/5 A, rated power 2.5 VA

#### SCT7115 | Busbar split-core current transformer for primary currents 250/400 A, accuracy class 1

Technical data	SCT7115-xxxx
Accuracy class	1
Primary current	200/400 A
Secondary current	5 A
Max. diameter round conductor	20 mm
Possible bar dimensions	20 x 30 mm
Size	1
Dimensions [ <a href="#">▶ 68</a> ] (W x H x D)	93 mm x 106 mm x 58 mm

Versions	
SCT7115-0250	current ratio 250/5 A, rated power 1.5 VA
SCT7115-0400	current ratio 400/5 A, rated power 5 VA

#### SCT7125 | Busbar split-core current transformer for primary current 400 A, accuracy class 0.5

Technical data	SCT7125-xxxx
Accuracy class	0.5
Primary current	400 A
Secondary current	5 A
Max. diameter round conductor	20 mm
Possible bar dimensions	20 x 30 mm
Size	1
Dimensions [ <a href="#">▶ 68</a> ] (W x H x D)	93 mm x 106 mm x 58 mm

Versions	
SCT7125-0400	current ratio 400/5 A, rated power 1.0 VA



**SCT7215 | Busbar split-core current transformer for primary currents 500/600 A, accuracy class 1**

Technical data	SCT7215-xxxx
Accuracy class	1
Primary current	500/600 A
Secondary current	5 A
Max. diameter round conductor	50 mm
Possible bar dimensions	50 x 80 mm
Size	2
Dimensions [▶ 68] (W x H x D)	125 mm x 158 mm x 58 mm

Versions	
SCT7215-0500	current ratio 500/5 A, rated power 5.0 VA
SCT7215-0600	current ratio 600/5 A, rated power 5.0 VA

**SCT7225 | Busbar split-core current transformer for primary currents 500/600 A, accuracy class 0.5**

Technical data	SCT7225-xxxx
Accuracy class	0.5
Primary current	500/600 A
Secondary current	5 A
Max. diameter round conductor	50 mm
Possible bar dimensions	50 x 80 mm
Size	2
Dimensions [▶ 68] (W x H x D)	125 mm x 158 mm x 58 mm

Versions	
SCT7225-0500	current ratio 500/5 A, rated power 2.5 VA
SCT7225-0600	current ratio 600/5 A, rated power 2.5 VA

**SCT7315 | Busbar split-core current transformer for primary currents 750...1500 A, accuracy class 1**

Technical data	SCT7315-xxxx
Accuracy class	1
Primary current	750...1500 A
Secondary current	5 A
Max. diameter round conductor	80 mm
Possible bar dimensions	80 x 120 mm
Size	3
Dimensions [▶ 68] (W x H x D)	155 mm x 198 mm x 58 mm

Versions	
SCT7315-0750	current ratio 750/5 A, rated power 5 VA
SCT7315-1000	current ratio 1000/5 A, rated power 10 VA
SCT7315-1500	current ratio 1500/5 A, rated power 15 VA

**SCT7325 | Busbar split-core current transformer for primary currents 750...1500 A, accuracy class 0.5**

Technical data	SCT7325-xxxx
Accuracy class	0.5
Primary current	750... 1500 A
Secondary current	5 A
Max. diameter round conductor	80 mm
Possible bar dimensions	80 x 120 mm
Size	3
Dimensions [ <a href="#">▶ 68</a> ] (W x H x D)	155 mm x 198 mm x 58 mm

Versions	
SCT7325-0750	current ratio 750/5 A, rated power 2.5 VA
SCT7325-1000	current ratio 1000/5 A, rated power 5 VA
SCT7325-1500	current ratio 1500/5 A, rated power 7.5 VA

**SCT7415 | Busbar split-core current transformer for primary currents 1500...5000 A, accuracy class 1**

Technical data	SCT7415-xxxx
Accuracy class	1
Primary current	1500...5000 A
Secondary current	5 A
Max. diameter round conductor	80 mm
Possible bar dimensions	80 x 160 mm
Size	4
Dimensions [ <a href="#">▶ 68</a> ] (W x H x D)	195 mm x 243 mm x 79 mm

Versions	
SCT7415-1500	current ratio 1500/5 A, rated power 15 VA
SCT7415-2000	current ratio 2000/5 A, rated power 15 VA
SCT7415-2500	current ratio 2500/5 A, rated power 15 VA
SCT7415-3000	current ratio 3000/5 A, rated power 30 VA
SCT7415-4000	current ratio 4000/5 A, rated power 30 VA
SCT7415-5000	current ratio 5000/5 A, rated power 30 VA

**SCT7425 | Busbar split-core current transformer for primary currents 1500...5000 A, accuracy class 0.5**

Technical data	SCT7425-xxxx
Accuracy class	0.5
Primary current	1500...5000 A
Secondary current	5 A
Max. diameter round conductor	80 mm
Possible bar dimensions	80 x 160 mm
Size	4
Dimensions [ <a href="#">▶ 68</a> ] (W x H x D)	195 mm x 243 mm x 79 mm

Versions	
SCT7425-1500	current ratio 1500/5 A, rated power 15 VA
SCT7425-2000	current ratio 2000/5 A, rated power 15 VA
SCT7425-2500	current ratio 2500/5 A, rated power 15 VA
SCT7425-3000	current ratio 3000/5 A, rated power 15 VA
SCT7425-4000	current ratio 4000/5 A, rated power 30 VA
SCT7425-5000	current ratio 5000/5 A, rated power 30 VA

**SCT7xxx dimensions, sizes 1 - 4**

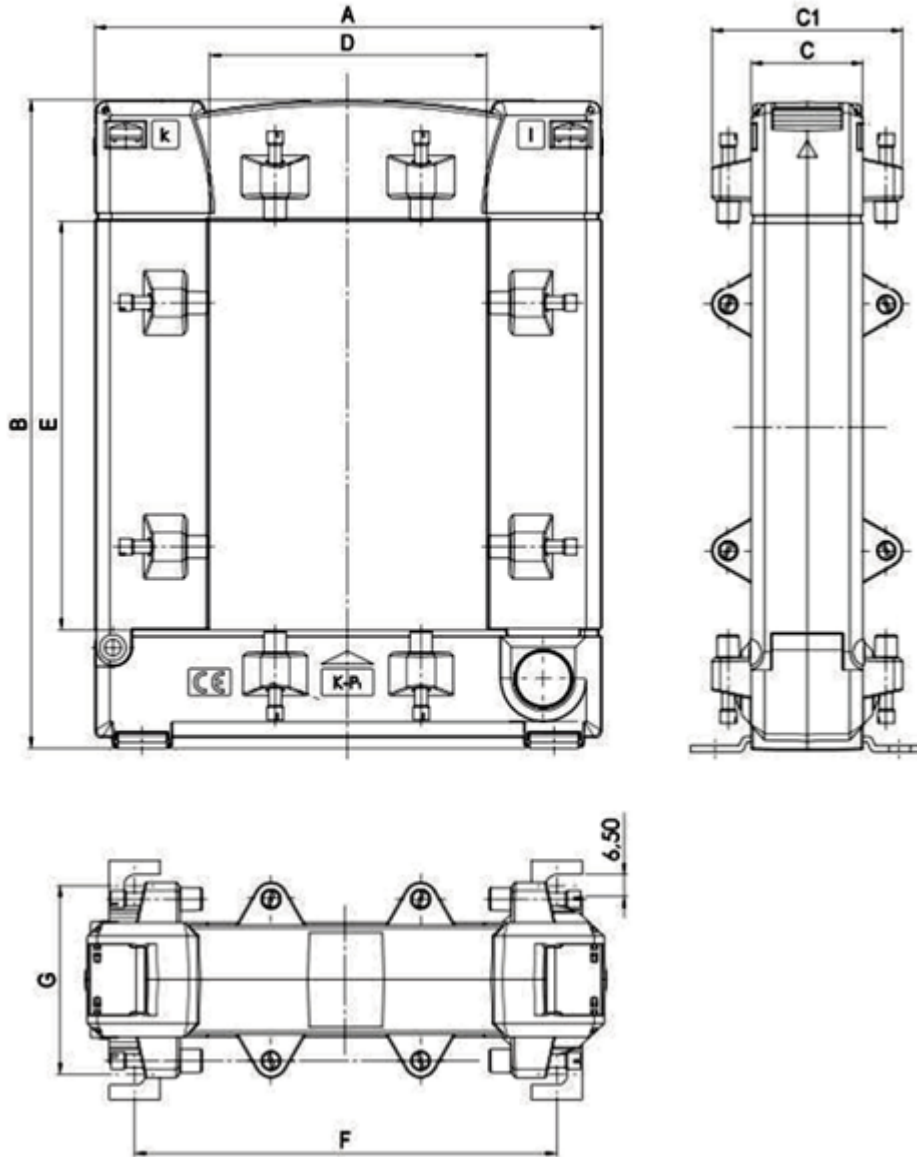


Fig. 51: SCT7xxx dimensions, sizes 1 - 4

Dimension	SCT71xx (size 1)	SCT72xx (size 2)	SCT73xx (size 3)	SCT74xx (size 4)
A (Width in mm)	93	125	155	195
B (Height in mm)	106	158	198	243
C / C1 (Depth in mm)	34 / 58	24 / 58	34 / 58	64 / 79
D (in mm)	23	55	85	85
E (in mm)	33	85	125	165
F (in mm)	64	96	126	156
G (in mm)	56	56	56	62

### **3.6.2 Functional description**

Current transformers from the KBU series are inductive, single-conductor current transformers that operate according to the transformer principle. They serve to adapt the primary measured variable to the input rating of the connected measuring devices.

Due to the measuring principle used, these current transformers are suitable only for use in AC mains systems.

The SCT7xxx series is suitable for mounting on both insulated and uninsulated primary conductors.

### 3.6.3 Installation

#### DANGER

##### Open transformer circuits lead to electric shock and arc flashover!

Disregarding this will result in death, physical injury or considerable damage to property!

- Never open the secondary circuit of the current transformer under load.
- Short-circuit the secondary current terminals of the current transformer before removing the device.

#### WARNING

##### Hazardous voltage can lead to electric shock and burns!

- Make sure that the details on the name plate and in the "Technical data" correspond to the operating parameters of the system.
- Switch the system off before commencing with the installation!

#### WARNING

##### Induction of high voltages into the secondary circuit!

- If the secondary circuit of the current transformer is not under load (open), high voltages are induced on its secondary terminals. The voltage values occurring there represent a danger to persons and the functional safety of the current transformer.
- "Open operation", i.e. operation of the current transformer without secondary wiring, must be avoided at all costs.

- Make sure that the working environment is safe during assembly, maintenance and installation work. Interrupt the power supply of the primary conductor and secure against being switched on again inadvertently.
- Open the current transformer and fasten it to the primary conductor with the help of the fixing clasps included in the scope of delivery.  
P1 points towards the current source, P2 towards the consumer.  
The arrow on the name plate shows the direction of the energy flow.  
**Caution:** Do not close the current transformer yet – high voltages could occur on the secondary connections!  
**Caution:** Make sure that the cut surfaces of the separated core are clean. Avoid hand contact (sweat)!
- Connect the secondary conductors of the current transformer to the measuring device (ammeter, meter, etc.). Observe the operating instructions for the measuring device when doing this.
- Check whether the current transformer is mounted correctly and the secondary conductors are connected correctly.
- Close the current transformer – press together until the closure engages.
- If necessary, switch on the power supply to the primary conductor again.

**Measuring circuit**

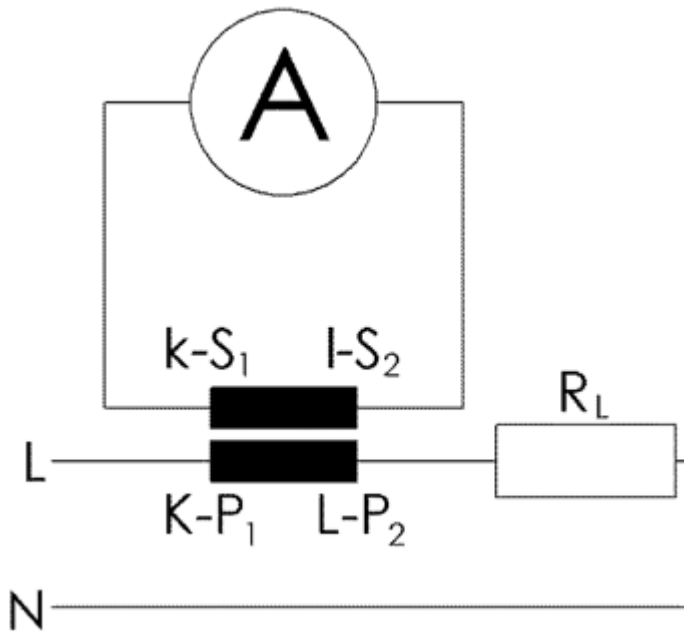


Fig. 52: Measuring circuit - **SCT7xxx** transformer

**Assembly notes**

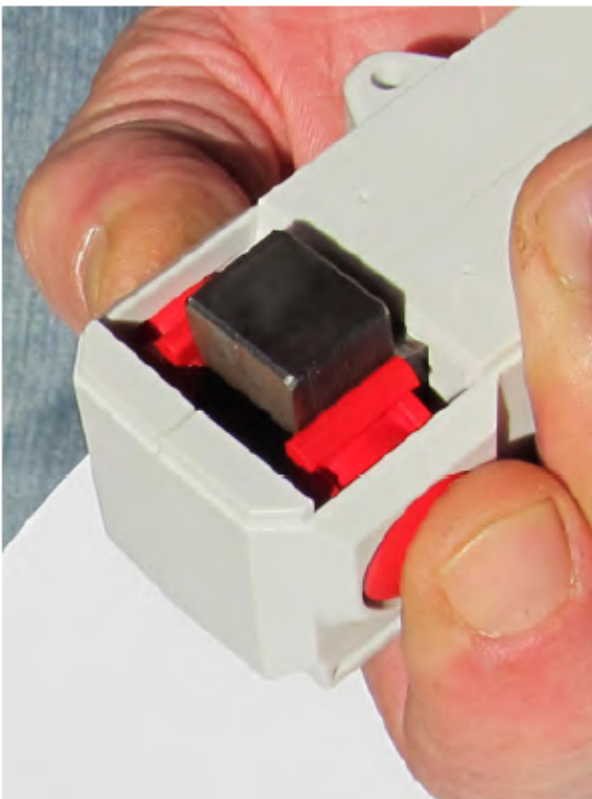


Fig. 53: Buttons to open the **SCT7xxx**



Fig. 54: Knurled screw of the **SCT74xx**



## 3.6.4 Maintenance and inspection

### Maintenance and inspection

- Check whether the secondary conductors are firmly connected to the current transformer and to the measuring device.
- Open circuit: Current transformers must be short-circuited as long as no tapping occurs!  
Note the danger warnings [▶ 70] in the chapter "Installation [▶ 70]!"
- Check whether the current transformer is connected correctly.
- Remove coarse dirt from the current transformer housing.  
Contact with moisture, in particular with the core, must be avoided at all costs.

## 3.6.5 Troubleshooting

### Troubleshooting

In the case of errors, e.g. unexpected or incorrect values, inverse power:

- Check the settings of the measuring device on the basis of its operating instructions.
- Check whether the current transformer is mounted on the intended conductor in the direction of the energy flow.
- Check the connection of the current transformers and the corresponding voltage tap-off if the active and/or reactive power does not correspond to the expected values; if necessary, one phase has been reversed.
- Check whether the current transformer is connected correctly.
- Check the power requirement of the conductors and measuring devices connected to the current transformer. It must not exceed the rated power of the current transformer (see name plate).
- If the above points do not solve the problem:  
Check whether there is dust or other dirt between the two parts of the core. If so, clean the surfaces carefully with a lint-free cloth.
- Avoid hand contact (sweat)!

## 4 Application example

### 4.1 Power measurement at a machine

**⚠ WARNING**

**WARNING: Risk of electric shock!**

Bring the Bus Terminal system into a safe, voltage-free state before starting mounting, disassembly or wiring of the Bus Terminals!

**NOTE**

**Attention! Risk of device damage!**

Avoid confusing the current and voltage circuit during connection, since the direct connection of mains voltage to the terminal points for the current transformers (typical input resistance 100 mΩ) would destroy the power measurement terminal!

**EL3443**

- The voltage is measured via connections L1, L2, L3 and N.
- The current is measured via three current transformers (e.g. from the Beckhoff SCT series) and the connections  $I_{L1}$ ,  $I_{L2}$ ,  $I_{L3}$  and  $I_N$  (star point of the current transformers).

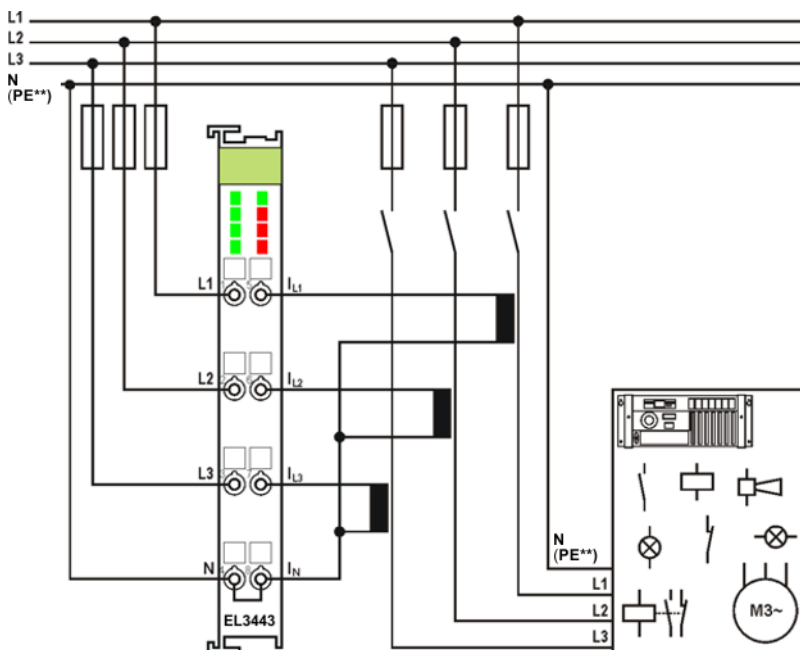


Fig. 55: EL3443, power measurement at a machine

**i \*\*) PE as star point for 3-phase systems without neutral line**

Depending on the current transformers used, PE must be connected as star point in 3-phase systems without neutral line as shown in Fig. "EL3443, power measurement at a machine".

Observe the regulations of the manufacturer of the current transformers!

**i Negative power values**

If negative power values are measured on a circuit, please check whether the associated current transformer circuit is connected correctly.

**EL3453**

- The voltage is measured via connections L1, L2, L3 and N.

- The current is measured via 4 current transformers (e.g. from the Beckhoff SCT series) and the connections  $I_{L1}$ ,  $I_{L2}$ ,  $I_{L3}$  and  $I_N$  (star point of the current transformers).

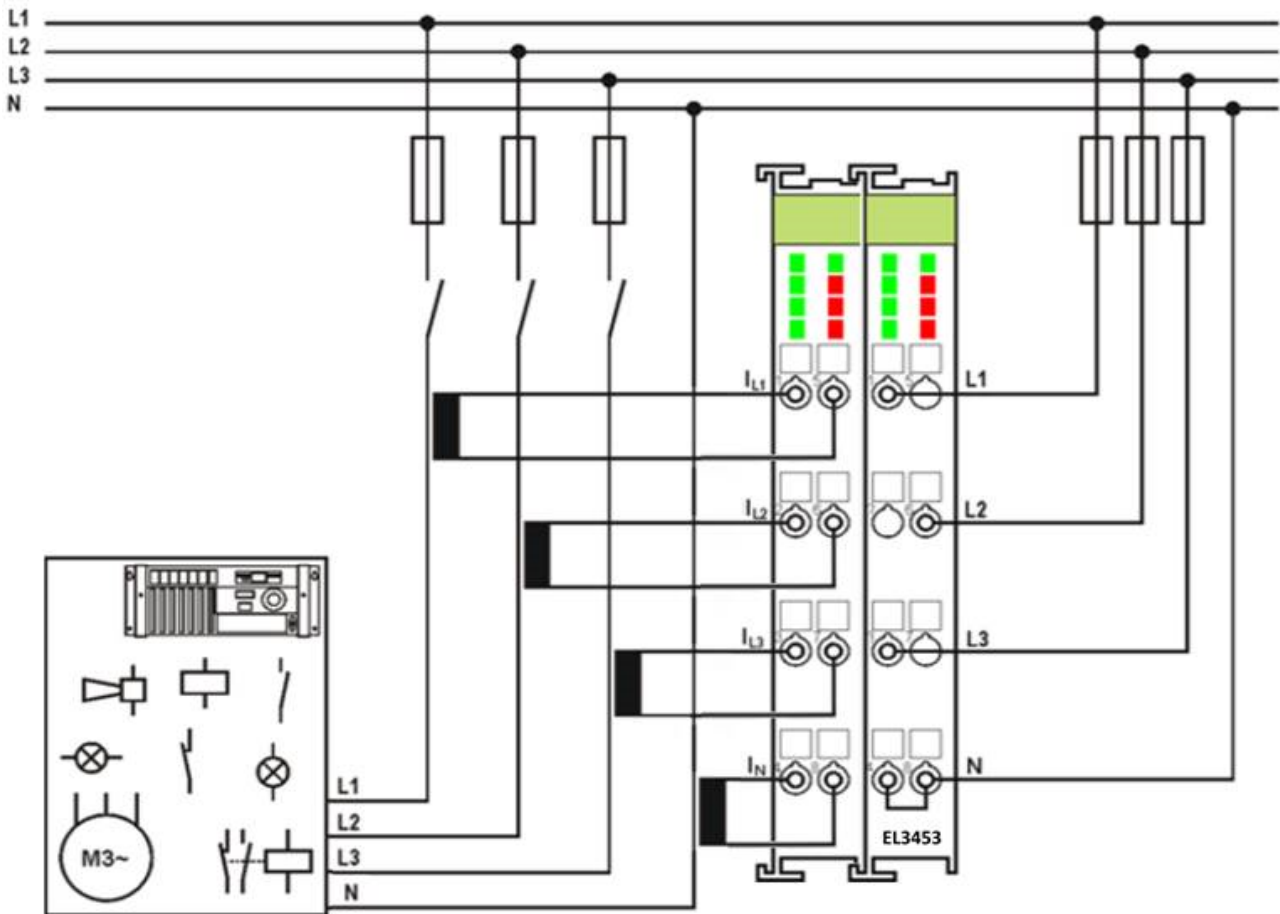


Fig. 56: EL3453, power measurement at a machine


### **i** Negative power values

If negative power values are measured on a circuit, please check whether the associated current transformer circuit is connected correctly.


## 5 Appendix

### 5.1 UL notes


#### "Conditions of Acceptability" for SCT1xxx

	<p><b>Conditions of Acceptability</b></p> <ul style="list-style-type: none"> <li>• These devices shall be installed within equipment that will provide an acceptable enclosure.</li> <li>• The acceptability of the mounting means for these transformers shall be determined in the end-use application.</li> <li>• These devices have not been tested for radio influence voltage (RIV), Accuracy and Mechanical Tests; Only Temperature tests at 60 Hz and Dielectric Voltage-Withstand tests have been conducted.</li> <li>• These devices employ Class 105 (A) Insulation Systems.</li> <li>• The suitability of the terminal blocks shall be considered in the end product.</li> <li>• Based on the temperature test results, the transformers may be classified as 55°C rise type at 55°C ambient</li> </ul>
---	---

#### "Conditions of Acceptability" for SCT2xxx

	<p><b>Conditions of Acceptability</b></p> <ul style="list-style-type: none"> <li>• These devices shall be used within the Recognized ratings as indicated.</li> <li>• Each transformer shall be mounted within equipment that will provide a metal or non-combustible material enclosure for the transformer.</li> <li>• The acceptability of the secondary terminals shall be determined in the final application.</li> <li>• This transformer has not been tested for accuracy, impulse and mechanical tests per ANSI C57.13 or CSA CAN3-13-M83. Only temperature and voltage withstand tests at 60 Hz were performed.</li> <li>• These transformers are designated as '55 deg rise transformers', for use in an ambient shown in the rating table.</li> </ul>
--	--

#### "Conditions of Acceptability" for SCT3xxx

	<p><b>Conditions of Acceptability</b></p> <ul style="list-style-type: none"> <li>• These devices shall be installed within equipment that will provide an acceptable enclosure.</li> <li>• The acceptability of the mounting means for these transformers shall be determined in the end-use application.</li> <li>• These devices have not been tested for radio influence voltage (RIV), Accuracy and Mechanical Tests; Only Temperature tests at 60 Hz and Dielectric Voltage-Withstand tests have been conducted.</li> <li>• These devices employ Class 105 (A) Insulation Systems.</li> <li>• The suitability of the terminal blocks shall be considered in the end product</li> <li>• Based on the temperature test results, the transformers may be classified as 65°C rise type at 30°C ambient</li> </ul>
---	--

## 5.2 Support and Service

Beckhoff and their partners around the world offer comprehensive support and service, making available fast and competent assistance with all questions related to Beckhoff products and system solutions.

### Beckhoff's branch offices and representatives

Please contact your Beckhoff branch office or representative for local support and service on Beckhoff products!

The addresses of Beckhoff's branch offices and representatives round the world can be found on her internet pages: <https://www.beckhoff.com/english/beckhoff/world.htm>

You will also find further documentation for Beckhoff components there.

### Beckhoff Support

Support offers you comprehensive technical assistance, helping you not only with the application of individual Beckhoff products, but also with other, wide-ranging services:

- support
- design, programming and commissioning of complex automation systems
- and extensive training program for Beckhoff system components

Hotline: +49 5246 963 157  
Fax: +49 5246 963 9157  
e-mail: [support@beckhoff.com](mailto:support@beckhoff.com)

### Beckhoff Service

The Beckhoff Service Center supports you in all matters of after-sales service:

- on-site service
- repair service
- spare parts service
- hotline service

Hotline: +49 5246 963 460  
Fax: +49 5246 963 479  
e-mail: [service@beckhoff.com](mailto:service@beckhoff.com)

### Beckhoff Headquarters

Beckhoff Automation GmbH & Co. KG

Huelshorstweg 20  
33415 Verl  
Germany

Phone: +49 5246 963 0  
Fax: +49 5246 963 198  
e-mail: [info@beckhoff.com](mailto:info@beckhoff.com)  
web: <https://www.beckhoff.com>

# List of figures

Fig. 1	SCT current transformers .....	9
Fig. 2	Designation key of the SCT current transformers.....	10
Fig. 3	SCT0xxx .....	10
Fig. 4	SCT1xxx .....	11
Fig. 5	SCT2xxx .....	12
Fig. 6	SCT3xxx .....	14
Fig. 7	SCT6xxx .....	15
Fig. 8	SCT71xx .....	16
Fig. 9	Characteristic curves accuracy classes/primary current.....	17
Fig. 10	SCT0xxx dimensions, size 1 .....	20
Fig. 11	SCT0xxx connections .....	21
Fig. 12	Measuring circuit - SCT0xxx/SCT1xxx/SCT2xxx transformer .....	22
Fig. 13	Snap-on mounting for 35 mm DIN rail, ZB8201-0010 .....	22
Fig. 14	Sealing plate, ZB8202-0010 .....	23
Fig. 15	SCT1xxx dimensions, size 1 .....	25
Fig. 16	Measuring circuit - SCT0xxx/SCT1xxx/SCT2xxx transformer .....	27
Fig. 17	Snap-on mounting, ZB8201-0110.....	28
Fig. 18	SCT2xxx dimensions .....	34
Fig. 19	Measuring circuit - SCT0xxx/SCT1xxx/SCT2xxx transformer .....	36
Fig. 20	Actuation of the secondary connecting terminals (CAGE CLAMP®).....	36
Fig. 21	Mounting the fastening screws .....	36
Fig. 22	Mounting on copper bar or round conductor.....	37
Fig. 23	Mounting with quick-fix cable fastening (ZB8203-0210, ZB8203-0211) .....	37
Fig. 24	Mounting on 35 mm DIN rail with snap-on mounting (ZB8201-0210).....	37
Fig. 25	Mounting on mounting plate .....	37
Fig. 26	Mounted sealing plate.....	38
Fig. 27	Snap-on mounting for 35 mm DIN rail, ZB8201-0210 .....	38
Fig. 28	Quick-fix cable fastening, ZB8203-0210 or ZB8203-0211 (extra heat-resistant).....	38
Fig. 29	Sealing plate, ZB8202-0210 .....	39
Fig. 30	SCT31xx dimensions, size 1 .....	41
Fig. 31	SCT32xx dimensions, size 2 .....	43
Fig. 32	SCT33xx dimensions, size 3 .....	45
Fig. 33	Measuring circuit - SCT3xxx transformer .....	48
Fig. 34	SCT3xxx transformer, meter circuit, multi-phase.....	48
Fig. 35	Mounting the fastening screws SCT3215, SCT3315.....	49
Fig. 36	Mounting on copper bar or round conductor, SCT3215, SCT3315 .....	49
Fig. 37	Tightening torque of fastening screw: 0.5 Nm .....	49
Fig. 38	Mounting on mounting plate SCT3211 .....	50
Fig. 39	Mounting on mounting plate SCT3315 .....	50
Fig. 40	Connection example .....	51
Fig. 41	SCT61xx dimensions, size 1 .....	52
Fig. 42	SCT63xx dimensions, size 3 .....	54
Fig. 43	SCT64xx dimensions, size 4 .....	55
Fig. 44	SCT66xx dimensions, size 6 .....	56

Fig. 45	SCT67xx dimensions, size 7 .....	57
Fig. 46	Measuring circuit - SCT6xxx transformer, brown conductor: S1; blue conductor: S2 .....	60
Fig. 47	Inserting the fixing clasps .....	60
Fig. 48	Sealing option with the types SCT63xx, SCT64xx, SCT66xx.....	61
Fig. 49	With the SCT67xx types, the lower half of the core can be removed for easier mounting. ....	61
Fig. 50	SCT63xx / SCT64xx, snap-on mounting for 35 mm DIN rail, ZB8201-0630 .....	61
Fig. 51	SCT7xxx dimensions, sizes 1 - 4.....	68
Fig. 52	Measuring circuit - SCT7xxx transformer .....	71
Fig. 53	Buttons to open the SCT7xxx.....	71
Fig. 54	Knurled screw of the SCT74xx .....	72
Fig. 55	EL3443, power measurement at a machine .....	75
Fig. 56	EL3453, power measurement at a machine .....	76