

Technical Specifications

Safety and environmental conditions

CE marking	LV directive 2014/35/EU RoHS directive (EU) 2015/863 EN 61010-2-032:2012
Standard	WEEE directive 2012/19/EU

This product is designed to be safe under the following conditions:

Location	Indoor use
Altitude	Up to 2000m
Ambient temperature	-10 °C .. +55 °C
Storage temperature	-20 °C .. +70 °C
Relative humidity	5% .. 85%, non condensing
Pollution degree	2
Degree of protection	IP20

The TQ is only suitable for insulated primary conductors.

Specifications

Standard	IEC 61869-2:2012
Rated short-time thermal current (I _{th})	60 x I _{pr} / 1 s
Rated dynamic current (I _{dyn})	2.5 x I _{th}
Rated continuous thermal current (I _{cth})	100%
Rated insulation level	0.72/3/- kV
Rated frequency	50/60 Hz
Class of insulation	A (105 °C) or E (120 °C)
Material (housing)	UL94: V2

Specifications per type

	TQ30	TQ40-B	TQ40-C	TQ50-E	TQ50-L
Suitable for cable	ø 18 mm	ø 18 mm	ø 28 mm	ø 42 mm	2x ø 42 mm
.. / 1A					
Secondary leads length for 0,5mm ²	3 m	3 m	3 m	5 m	5 m
Approximate weight	200 g	360 g	310 g	525 g	725 g
.. / 5A					
Secondary leads format	/	0,5 meter ø1,5 mm ²	0,5 meter ø1,5 mm ²	3 meter ø1,5 mm ²	3 meter ø1,5 mm ²
Approximate weight	/	300 g	250 g	650 g	850 g
Overvoltage category	CAT IV 300 V	CAT IV 600 V	CAT IV 600 V	CAT IV 600 V	CAT IV 600 V

Please be aware, product liability, fulfilment to requirements and warranty are all expired when modifications on the product are made. Printing and typographical reserved.

ELEQ reserves the right to carry out modifications on its products, in order to improve them, without prior notice.

Safety instruction

All activities for installation, commissioning and maintenance of this current transformer must be performed by qualified personnel that have the knowledge of applicable safety precautions. This guide assumes that the reader of this document has sufficient electro-technical knowledge to understand the content of this document.

General

The TQ split-core is a current transformer (CT) and can only be used measuring electrical alternating currents. The TQ is suitable only for mounting on insulated primary conductors in a weather protected and dry location.

Explanation of symbols



This product is designed according to the EN 61010-2-032:2012 standards and therefore this product meets the requirements of the Low Voltage Directive 2014/35/EU.



Do not apply around or remove from UNINSULATED HAZARDOUS LIVE conductors, which may render electric shock, electric burn, or arc flash.



Read the installation guide before mounting the product. Unprofessional work activities on electrical installations may result in a threat of danger to the life and health of human beings and livestock!



Under no circumstances the secondary circuit of the CT may be opened when the CT is closed and current is flowing in the primary circuit. High voltages may appear on the secondary leads when this circuit is left open.



RoHS Directive (EU) 2015/863

ELEQ states that they only uses qualified components in their products from manufacturers, whose specifications meet or exceed the requirements of the European Directive for the Restriction of use of certain Hazardous Substances.



WEEE Directive 2012/19/EU

The 'crossed out wheeled bin' symbol indicates that the equipment should not be disposed as unsorted municipal waste. Contact a qualified recycler for disposal.

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mastering electricity
worldwide

TQ Split-Core Current Transformer Installation Guide



TQ30 (4Q3Bxx)
TQ40-B (4Q4Bxx)
TQ40-C (4Q4Cxx)
TQ50-E (4Q5Rxx, 4Q5Exx, 4Q5Sxx)
TQ50-L (4Q5Mxx, 4Q5Lxx, 4Q5Nxx)

Read this installation guide before installing the product

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Always avoid working on live parts of an installation.

Mounting instruction

No special tools are required to install a current transformer (CT) of the TQ series. To connect the CT to the meter correctly, please consult the installation guide of the meter.



Assembly

Under no circumstances the secondary circuit of the CT may be opened when the CT is closed and the current is flowing in the primary circuit. High voltages may appear on the secondary leads when this circuit is left open.

1. Ensure a safe working area during assembly, maintenance and inspection of the CT. If necessary, disconnect the power of the primary circuit and make sure it cannot be enabled unintentionally.
2. Find the power direction of the cable you want to measure. It is recommended to mount the P1 side to power source and the P2 side to power consumer. If the CT is installed like this, the arrow on the CT will indicate the direction of the power flow.
3. Open the CT and mount it on the cable by using cable ties. **Danger:** Do not close the CT. Otherwise high voltages may appear on the open secondary leads!

Attention

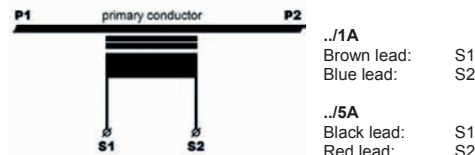
Do not touch the core surfaces by hand: skin acid may damage the core. Avoid dust on the core surfaces.

For mounting the TQ50

For the TQ50-E and the TQ50-L the top-part of the transformer can be removed entirely, which makes it more easier to install the transformer. **Attention:** After separating the two halves of the transformer, it is crucial to realign and securely reattach the two halves of the transformers. Mixing the two halves of the transformer will result in improper functioning and compromised measurements.

4. Connect the secondary leads (S1, S2) to the low impedance current input of the measurement instrument (e.g., an ammeter or current input a kWh-meter).
5. Close the CT only when you are sure that the secondary leads are connected to the current input of the measurement instrument. The CT is properly closed when you hear a 'click'.
6. Check whether the CT is mounted and closed properly. Check whether the secondary leads are properly and firmly connected.
7. Enable the primary circuit if necessary.

Wiring Diagram



Maintenance and inspection

- Check whether the secondary leads are connected firmly.
- Check whether the CT is closed properly.
- Check whether the CT is mounted firmly.
- Remove severe pollution on the casing. Contact with moisture, especially with the core, must be avoided.

Attention

Do not touch the core surfaces by hand: skin acid may damage the core.

Temporarily disconnecting the CT

The secondary leads of the CT always have to be connected to a low impedance burden such as an ammeter. When during maintenance, no burden is available to connect to, the secondary leads of the CT (the two secondary terminals) must be short-circuited. Before changing the secondary circuit the CT core shall be opened.

Problem solving

e.g. unexpected values, incorrect values or reversed power.

- Check the settings of the meter by using the installation guide of the meter.

- Check whether the CT is mounted on the intended cable in the right direction.
- Check whether the CT is closed properly.
- Check the value of the secondary burden (secondary leads length/diameter and meter impedance). See product/data sheet for the maximum burden value.
- If previous points did not solve the problem: Check carefully whether there is dust or other pollution present between the two parts of the core. In case there is pollution, the core surfaces can be cleaned with a lint free cloth and then protected with an extremely thin layer of acid free petroleum jelly (Vaseline).

Attention

Always follow the disassembling instructions when reversing the CT.



Disassembly instruction

Tools are only required for removing the cable ties of the CT.

1. Ensure a safe working area during disassembling the CT. If necessary, disconnect the power of the primary circuit and make sure it cannot be enabled unintentionally.
2. Open the CT.
3. Disconnect the secondary leads from the measurement instrument.
4. Remove the cable ties. Pay attention not to damage the insulation of the primary conductor when removing the cable ties. Remove the CT.
5. Enable the primary circuit if necessary.

Recycling

When the product has reached 'end of life', it must be recycled. Do not dispose this product as unsorted municipal waste. Contact a qualified recycler for disposal.