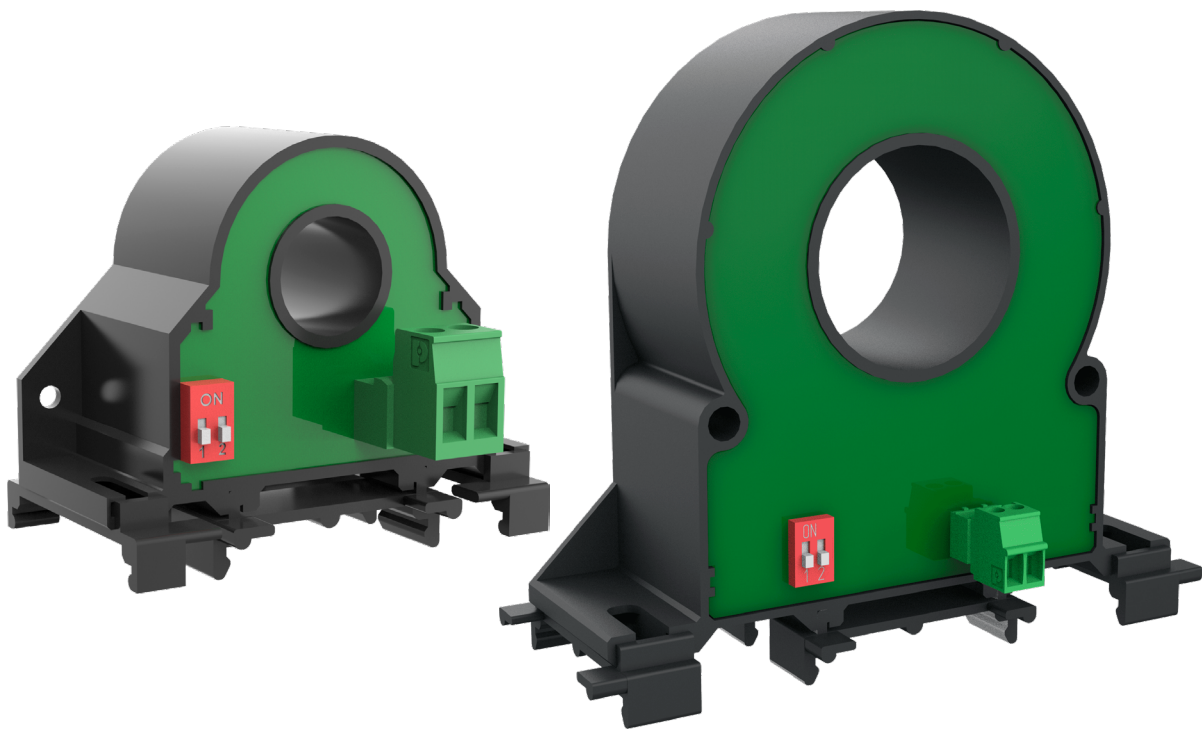




QI-50-I | QI-300-I



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Visit the product page  
for news, updates and downloads



QI-50-I



QI-300-I

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## SAFETY WARNINGS AND CAUTIONS

The following warnings and cautions must be observed to ensure personal safety and prevent damage.



**Death or serious injury** may result from failure to heed this warning.



It is necessary to comply with national regulations when installing and picking materials for power lines.



**Material damage or serious personal injury** may result from failure to heed this warning.



Repairs and modifications must be carried out only by the manufacturer. It is forbidden to open the case and make any changes to the device. Tampering with the device will invalidate the warranty.



The manufacturer **declines all responsibility** for electrical safety in the event of improper use of the equipment.



It is essential to read the entire contents of this manual before carrying out any work.



The product described in this document may only be used for the specified application. The maximum performance data and environmental conditions specified in the product data sheet must be observed. Proper transport and storage, as well as professional assembly, installation, handling and maintenance are required for the correct and safe operation of the device.



Before commissioning, make sure that:

- the maximum values for all connections are not exceeded; refer to the product data sheet;
- the connection cables are not damaged or live during wiring;
- the direction of current flow and phase rotation are correct.

Use under ambient conditions other than those specified, application of signals or voltages other than those specified, may cause significant deviations from the specified measurement tolerances, which may be irreversible.

During installation, ensure that a switch or circuit-breaker is near the product and easily accessible.



Although the contents of this document have been checked for accuracy, it may contain errors or inconsistencies and we cannot guarantee its completeness or accuracy.

The unit must be uninstalled if safe operation can no longer be guaranteed (e.g. visible damage). Disconnect all connections in this case. The unit should be returned to the manufacturer or to an authorised service centre for repair.



This document is subject to periodic revision and updating. QEED reserves the right to make changes to the product and/or its technical documentation at any time in the interests of continuous quality improvement. Always consult the latest version of the documentation available on the website:



**WARNING:** High-intensity magnetic fields may alter the values measured by the transformer. Avoid installation near: permanent magnets, electromagnets, or iron masses. If irregularities are detected, reposition or move the unit to a more suitable location.

[www.qeed.it](http://www.qeed.it)

If you find any errors or missing information in this document, please notify us by e-mail to:

[technical@qeed.it](mailto:technical@qeed.it)



Failure to observe the warnings may result in damage to the equipment or failure to operate as intended.



Disposal of waste electrical and electronic equipment (applicable in the European Union and other countries with separate collection). The symbol on the product or its packaging indicates that the product should not be treated as household waste. Instead, it will be handed over to an authorised collection point for the recycling of electrical and electronic waste. Ensuring that the product is disposed of properly will prevent potential negative effects on the environment and human health, which could otherwise be caused by inappropriate waste management of the product. Recycling materials helps to conserve natural resources. For further information, please contact your local authority, waste disposal service or the retailer from whom you purchased the product.



Please note that the information on the nameplate must be observed.



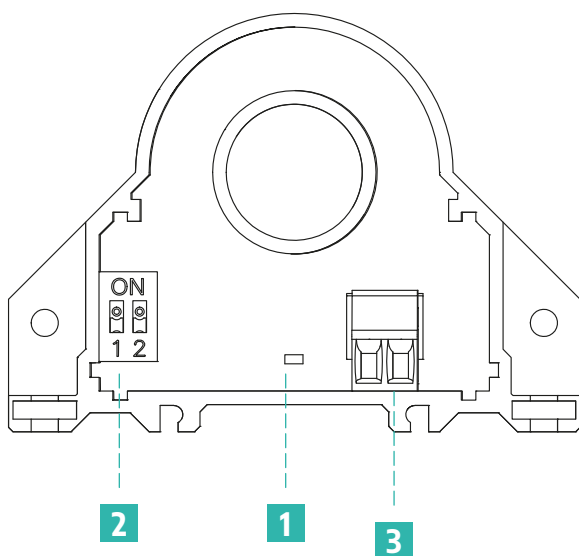


## PRODUCT OVERVIEW

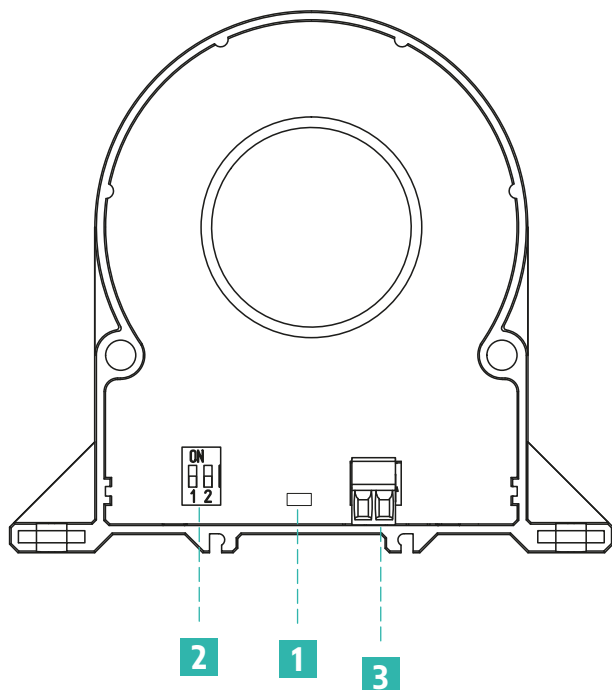
The QI-50-I and QI-300-I are DC and AC transformers in sizes 50A and 300A, galvanically isolated from the measurement circuit. They are similar in function and appearance to a standard active CT, but are capable of measuring both the DC component and the TRMS AC component.

They are powered by a 4-20mA current loop and therefore do not require a direct power supply.

Mounting accessories supplied as standard for DIN rail mounting.



- 1** Status LED  
OFF: product not powered  
STEADY YELLOW: product powered
- 2** DIP switch for  
Measurement range  
Input measurement type (RMS/DC)
- 3** 4...20mA Terminal





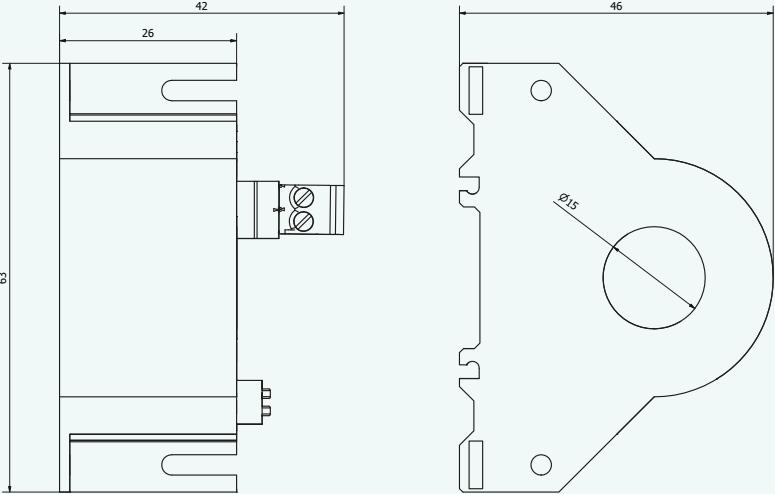
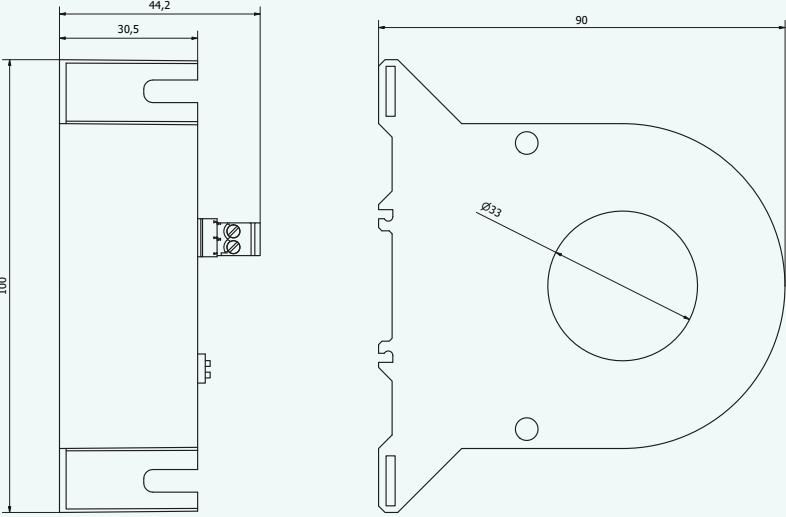


## TECHNICAL SPECIFICATIONS

## Electrical characteristics

|   | QI-50-I   | QI-300-I  |
|---|---|---|
| Power supply  | Passive current loop, $11 \div 30V_{DC}$ with reverse polarity and overtemperature protection |   |
| Current consumption   | 3,5mA max   |   |
| Measurable AC/DC current range  | 5-50A   | 30-300A   |
| 4...20mA analogue output range<br>(values that can be set via DIP-switch) | 50A RMS, $\pm 50A$ DC,<br>25A RMS, $\pm 25A$ DC   | 300A RMS, $\pm 300A$ DC,<br>150A RMS, $\pm 150A$ DC |
| Measurement type  | TRMS(AC)/DC   |   |
| Accuracy class<br>@25°C, 50Hz, PF = 1                                     | <0,5% F.S.  |   |
| Measurement Hysteresis  | 0,15% F.S.  | 0,2% F.S.   |
| Crest factor  | 2   | 1,4   |
| Response delay  | 1000 ms on analogue output  |   |
| Passband (-3dB)   | DC or $20 \div 2000Hz$  |   |
| Isolation   | 3kV on bare cable   |   |
| Overload  | 300A continuous, 2kA impulsive  |   |
| Output  | $4 \div 20$ mA  |   |

## General data

|                         |                               |
|-------------------------|-------------------------------|
| Working temperature     | $-15 \div 60^{\circ}C$        |
| Storage temperature     | $-40 \div 85^{\circ}C$        |
| Relative humidity       | $10 \div 90\%$ not condensing |
| Elevation               | Up to 2000m a.s.l.            |
| Temperature coefficient | < 200ppm/°C                   |
| Protection degree       | IP20                          |

|                              |   |
|------------------------------|---|
| Measurements                 | <div> <div> <b>QI-50-I 42x63x46 mm</b>  </div> <div> <b>QI-300-I 44x100x90 mm</b>  </div> </div> |
| Weight                       | QI-50-I 72 g<br>QI-300-I 370 g  |
| Terminal cable cross-section | 0.05÷1.5 mm² (30÷14 AWG)  |
| Approvals and certifications | EN61010-1/2001;<br>EN55022:2010-12;<br>EN55024:2010-11<br><div>   </div>                        |
| Installation                 | DIN rail-ready with attachment clips provided   |

Order codes

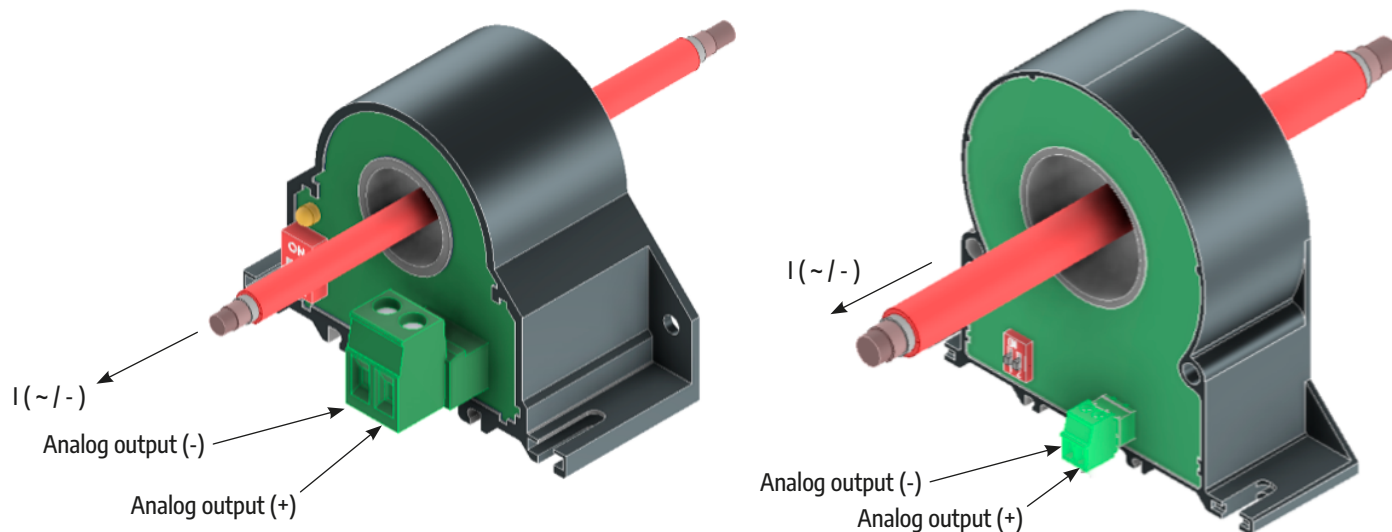
|                                 |           |
|---------------------------------|-----------|
| 50A version                     | QI-50-I   |
| 300A version                    | QI-300-I  |
| Attachment clips (50A Version)  | 90000009  |
| Attachment clips (300A Version) | 900000012 |



## CONNECTION AND INSTALLATION

To meet different installation requirements, the unit can be mounted in four different ways (DIN rail or panel mounting, vertical or horizontal).

The system installation is as in the following image:



The conductor must be positioned as close to the product centre as possible to ensure correct current measurement.

**WARNING:** strong magnetic fields can alter the values measured by the instrument. Avoid installation near permanent magnets, electromagnets or ferrous masses that can significantly alter the magnetic field. In the event of anomalies, we recommend reorienting the instrument or moving it to a more suitable location.



## AVAILABLE MEASUREMENTS

Depending on the product setting, both QI-50-I and QI-300-I can be used for both AC and DC, with the ability to vary the measurement range for greater accuracy.

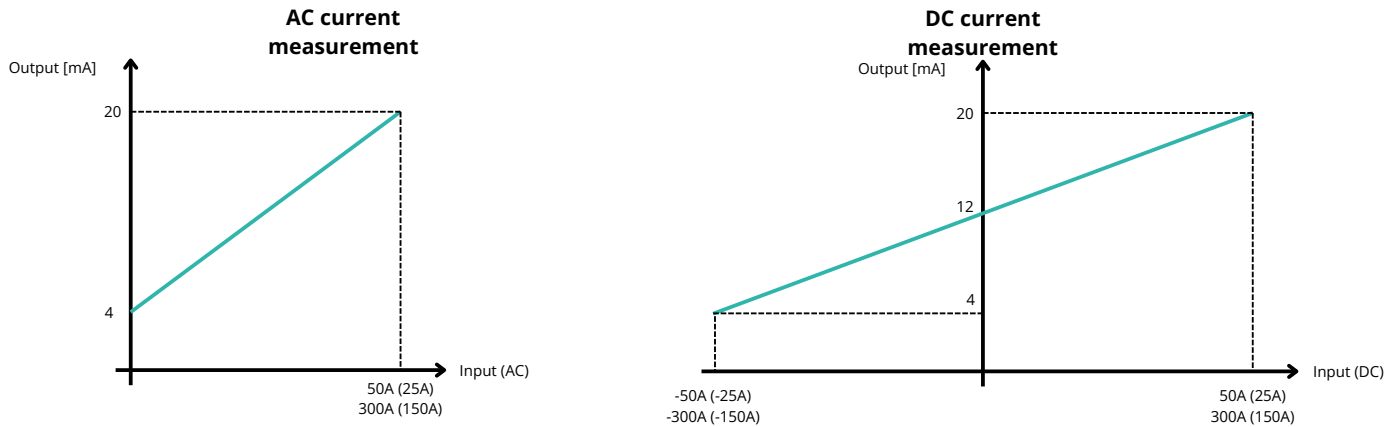


Figure 1: AC or DC measurement

## MEASUREMENT CONFIGURATION

By means of DIP switches 1 and 2, a different measuring range and type can be set according to the table below:

| Product  | Description | DIP 1 | DIP 2 |
|----------|-------------|-------|-------|
| QI-50-I  | 50A AC/DC   | 0     |       |
|          | 25A AC/DC   | 1     |       |
| QI-300-I | 300A AC/DC  | 0     |       |
|          | 150A AC/DC  | 1     |       |
| QI-50-I  | TRMS        |       | 0     |
| QI-300-I | DC*         |       | 1     |

\* AC measurement would give an average value equal to 0A therefore the analogue output would be fixed to 12mA.

**PLEASE NOTE:** to make active all changes via DIP-switch, it is necessary to remove and restore power to the device.

Sold in the USA by Datexel LLC