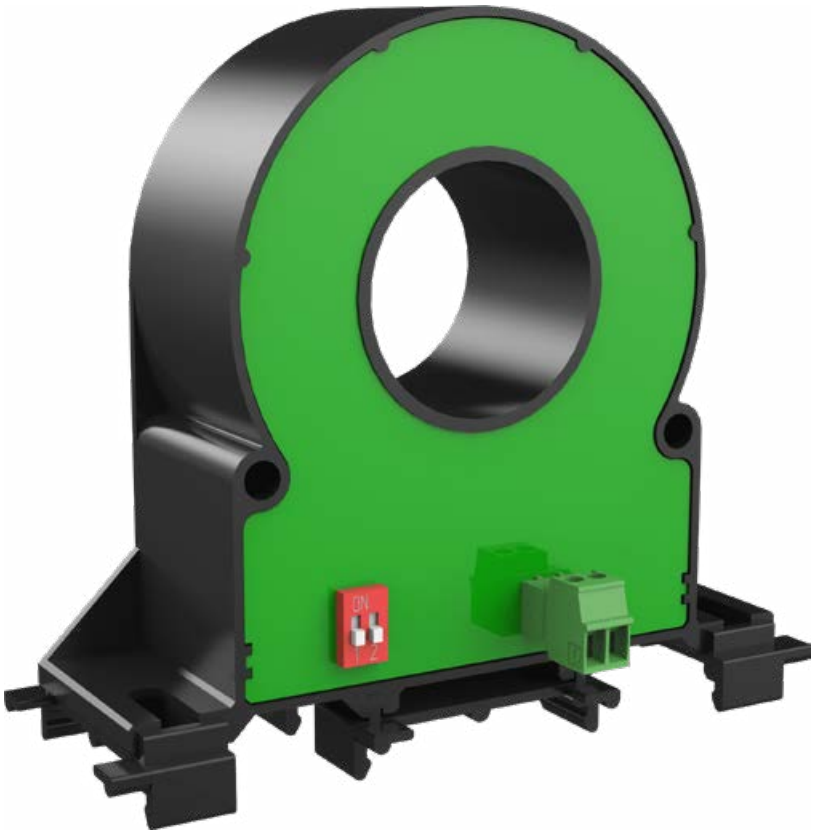
QI-400-DC-I



Visit the QI-400-DC-I page
for news, updates and downloads

CONTENTS

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.

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

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.

Installation and commissioning must be carried out by qualified personnel only.

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.

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

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.

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.

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

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

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

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 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.

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.

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.

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:

www.qeed.it

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

technical@qeed.it

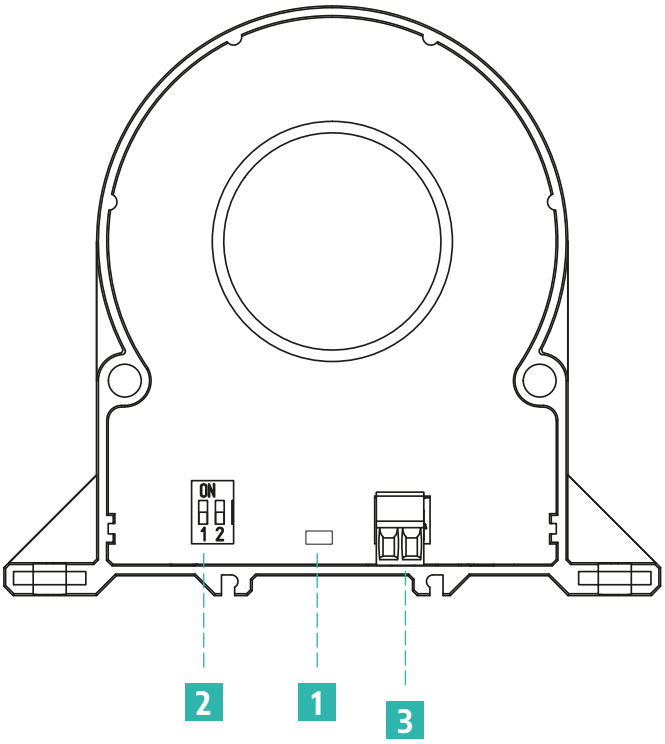
Disposal of waste electrical and electronic equipment (applicable in the European Union and other countries with separate collection). The symbol on the product or its packaging indicates that the product should not be treated as household waste. Instead, it will be handed over to an authorised collection 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.

PRODUCT OVERVIEW

The QI-400-DC is a DC converter that is galvanically isolated from the measurement circuit. It is similar in function and appearance to a standard active current transformer, but is capable of measuring the DC 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.



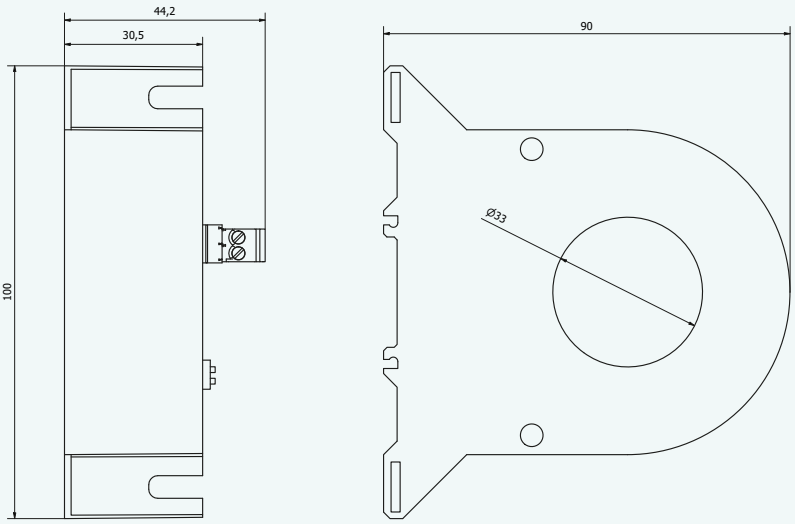
1 Status LED
2 DIP switch
3 4...20mA terminal

TECHNICAL SPECIFICATIONS

Electrical characteristics

Power supply	Passive current loop, 11÷30V$_{DC}$ with reverse polarity and overtemperature protection
Current consumption	3,5 mA max
Measurable AC/DC current range	0÷400 A DC
4...20mA analogue output range (values that can be set via DIP-switch)	400 A$_{DC}$, 200 A$_{DC}$
Measurement type	DC
Accuracy class @25°C, 50Hz, PF = 1	<0,5% F.S.
Resolution	12 bits
Measurement Hysteresis	0,2% F.S.
Response delay	1000 ms on analogue output
Isolation	3kV on bare cable
Overload	500A continuous, 2kA impulsive
Output	4÷20 mA

General data

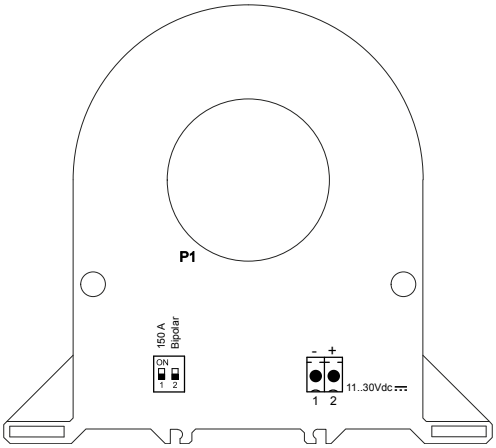
Working temperature	-15÷60° C
Storage temperature	-40÷85° C
Relative humidity	10÷90% not condensing
Elevation	Up to 2000m a.s.l.
Temperature coefficient	< 200ppm/°C
Protection degree	IP20
Measurements	44x100x90 mm 
Weight	370 g
Terminal cable cross-section	0.05÷1.5 mm² (30÷14 AWG)
Approvals and certifications	EN55022:2010-12EN55024:2010-11 CE UKCA
Installation	Inside electrical panels and mounted on a DIN rail with attachment clips provided

Order codes

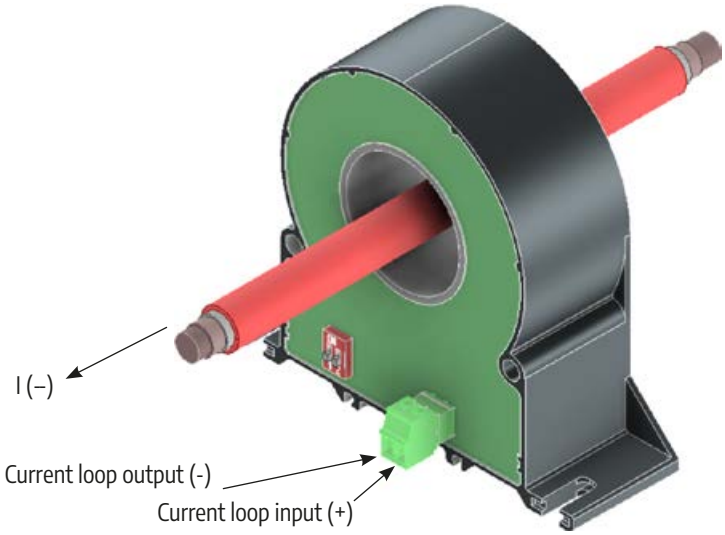
Product:	QI-400-DC-I
Product without logo	QI-400-DC-I-T-NL
Attachment clips	900000012

CONNECTION AND INSTALLATION

The instrument is designed to be installed inside electrical panels and mounted in four different ways (DIN rail or panel mounting, vertical or horizontal).
All connection terminals are shown on the pad print on the product and correspond to the figure below:



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.
The incoming direction of the current is represented by the nomenclature P1 and, where present, by the arrow pad-printed on the product.

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 DIP-SWITCH settings, it is possible to vary the measuring range of the QI-400-DC-I to allow for greater accuracy.

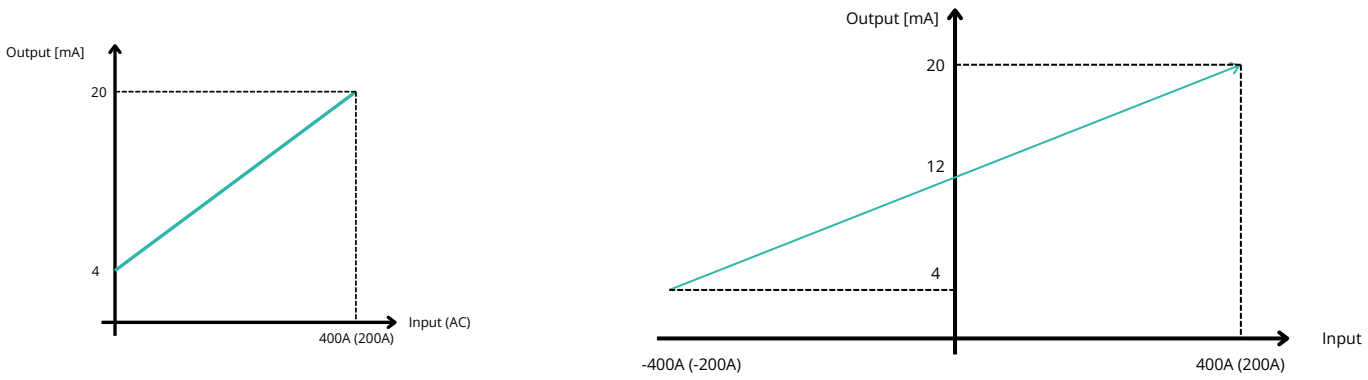


Figure 1: Measurement range

MEASUREMENT CONFIGURATION

By means of DIP switches 1 and 2, a different measuring range and type can be set:

Description	DIP 1	DIP 2*
400A DC	0	
200A DC	1	
TRMS		0
DC		1

* if DIP2 = 0 absolute value of measurement

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

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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.