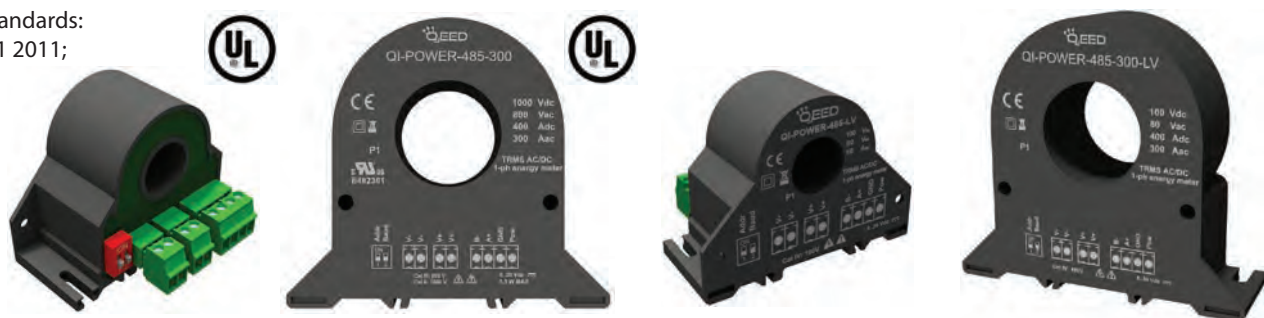


AC/DC Single Phase POWER METER

QI-POWER-485

Compliant to the CE standards:
 EN61000-6-4/2006+ A1 2011;
 EN61000-6-2/2005
 EN61010-1/2010



	QI-POWER-485	QI-POWER-485-300	QI-POWER-485-LV	QI-POWER-485-300-LV
Current Measurement	50 A AC/DC	300 A AC 400 A DC	50 A AC/DC	300 A AC 400 A DC
Voltage Measurement	800 V AC 1000 V DC		80 V AC 100 V DC	
Power Supply	9...30 V DC Protection against polarity reversal and overtemperature			
Accuracy	@ 25°C up to 400Hz Voltage, Current, Active Power: < 0,5% f.s. Frequency: +/- 0,1 Hz on the reading Energy: +/- 1% on the reading Vpk, Ipk: +/- 5% f.s.			
Type of measure	RMS (monopolar) o DC			
Output	RS485 MODBUS RTU			

AVAILABLE MEASUREMENT via RS485	I rms, V rms
	I pk, V pk
	P: Active Power (W)
	Q: Reactive Power (VAR)
	S: Apparent Power (VA)
	Frequency
	Cosφ
	THD
	Energy (kWh)
	Bidirectional Energy Totalizer (kWh), positive and negative min and MAX of all rms value
WORKING FREQUENCY	DC or 1...400 Hz
SAMPLING RATE	12 kHz @ 50Hz
CREST FACTOR	QI-POWER-485/ -LV : 1,8 QI-POWER-485-300/ -LV : 1,4
INPUT IMPEDENCE	1 Mohm +/- 1%
OVERVOLTAGE PROTECTION	Category III up to 600V, category II up to 1000V Low Voltage version -LV : Category IV up to 100 V
ABSORPTION	< 1,3 W
BAUDRATE	da 1200...115200 Baud (standard 9600)

Other features :

Resolution	12 bit
Working Temperature	-15°C...+65°C
Storage Temperature	-40°C...+85°C
Temperature Coefficient	< 200 ppm/°C
Humidity	10...90 % not condensing
Isolation	3 kV on bare wire for Current measurement 4 kV on Voltage input (reinforced isolation between Power supply and RS485)
Altitude	Up to 2000 m s.l.
Dimensions	46,1 x 63 x 26,4 mm (terminal excluded)
Terminals	Removable step 3,5mm (n°1 of 4 poles, n°2 of 2 poles)
Weight	80 gr. / 370 gr.
Filling	Epoxy resin
Protection Index	IP20
Enclosure Material	Nylon vitrified V0
LED	n°1 Yellow (fixed = Power on, blinking= in communication)
Dip-switch	n°2 (for address and baudrate for configuration software FACILE connection)

Configurable parameters:

	QI-POWER-485 QI-POWER-485-LV	QI-POWER-485-300 QI-POWER-485-300-LV
via Dip-Switch	Modbus Address: 0 or 1 (Address 1 for communication with configuration software)	
	Baudrate: 9600 or 38400	
via Software	Energy measurement saved on Flash memory	
	Frequency measurement on Current channell	
	Modbus Address	
	Baudrate: 2400...115200	
	CT and VT ratio setting	
	Cut off on Current measurement (default 250mA)	Cut off on the current meurement (default 1,5A)
	Cut off on Power measurement (default 0 W)	
	Measurement Filter (Fast...Accurate)	
	Modbus Delay answer setting	



QE-BOX

The QE-BOX is a **VOLTAGE DIVIDER** able to reduce the Voltage input up to +/- 2000 V DC to 1000 V DC. To use with the QI-POWER-485 and QI-POWER-485-300 only to measure the STRING VOLTAGE for the new 1500 V DC inverters.

In order to have the right Voltage measurement you have to set the VT ratio of the QI-POWER by using the FACILE software or the Modbus Register.

Applications:

PV PLANTS :

Strings Current and Voltage measurement.

The QI-POWER-485 can measure both the DC side and the AC side (inverter control efficiency). Together with the QI-50-V-485 is possible to measure the current on each strings. The bigger QI-POWER-485-300 is used to measure the complete box (combiner) thanks to the 400A DC and 1000 V DC range . By the RS485 you can transmit all the information directly to the Logger/PLC without any other hardware .

VARIABLE FREQUENCY MEASUREMENT (Inverters) :

The QI-POWER-485 is suitable to measure with variable frequency from DC up to 400 Hz. This features allow it to be used under Inverter because can guarantee you its accuracy also during the frequency modulations.

AC/DC MOTORS MEASUREMENT:

The QI-POWER-485 is able to work in AC or DC, so the device is suitable to measure on brushless motors or AC motors the Absorption of Power (Active, Reactive, Apparent), the Power Factor, the THD, the peak of Voltage and Current, etc.

TELECOM SHELTERS - RADIO BASE STATIONS :

The Low Voltage version of the device is suitable to measure both DC current and DC voltage at 24/48 V DC for batteries chargers monitorings for DATA CENTERS, Telecom SHELTERS and UPS. The QI-POWER-485 can be also used for AC measurement (e.g. Power supply at 24 V AC) together with a DC measurement (50 A DC of batteries).

ARON CONNECTION:

for the three-phase applications without neutral, balanced or unbalanced, using only two QI-POWER-485 you can estimate the total power. To do this you need to have a master Modbus device that are able to make the formula below.



Three phase ARON connection formula:

$$Q = \sqrt{3}(W_a - W_b)$$

