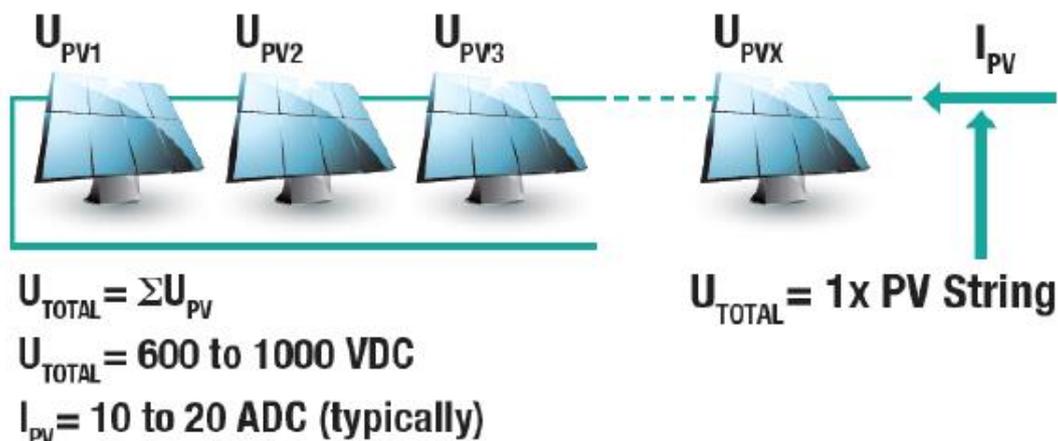


APPLICATIONS DATA SHEET

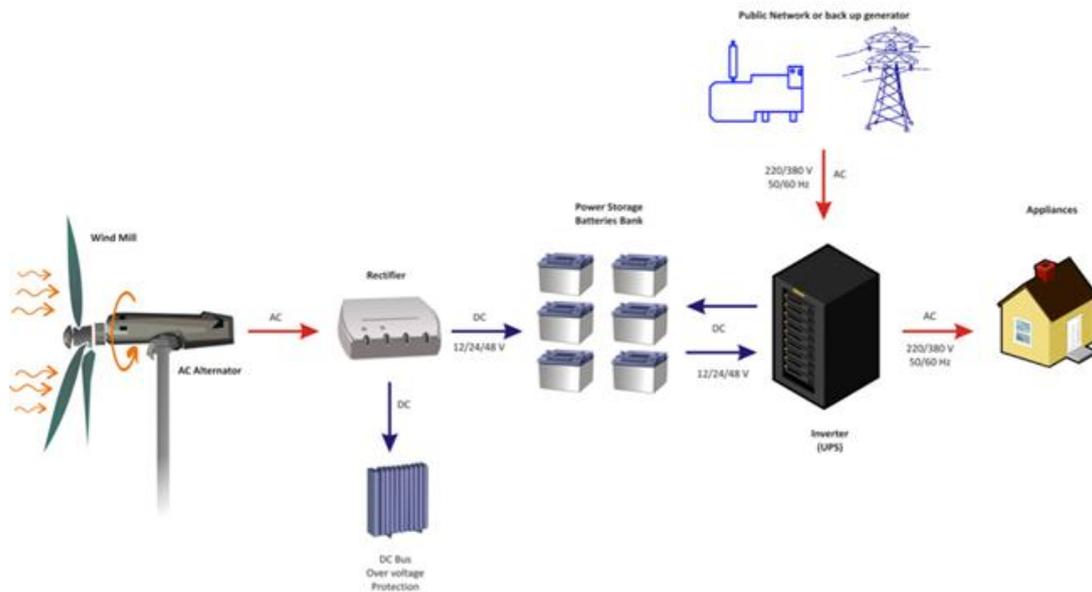
Product: Single Phase AC/DC Power Meter **QI-POWER-485**

Renewable energy:

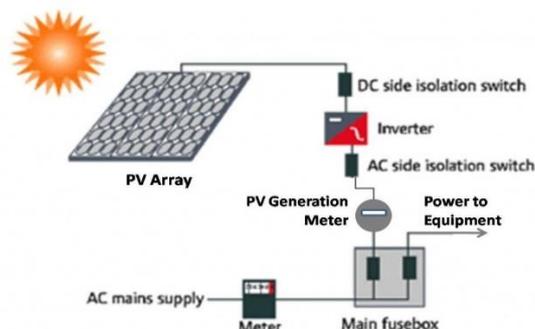
1. **PV String Monitoring:** the **QI-POWER-485** measures DC current up to 50 A and DC voltage up to 1000 V, with the same device you can measure both Current and Voltage from a Photovoltaic String Box. With RS485 Modbus RTU communication built-in, the data is sent directly to the datalogger without any other hardware or software. **Example:** 8 strings to monitor, **7x QI-50-V-485** (Current Transformers with RS485) and **1x QI-POWER-485** (Single phase Energy/Power meter) that simultaneously measures the Voltage in parallel to the string.



2. **Eolic power Generators & Hydro power Generators:** the **QI-POWER-485** (Single phase Energy/Power meter) is ideal to be used for measurement with variable frequency from DC to 400 Hz. Eolic and Hydro Power Generators required a Power Meter with this features.



3. **Monitoring of Inverter efficiency:** when a **QI-POWER-485** is connected to the AC side of an inverter, and by using the THD parameter (Total Harmonics Distortion) it will give you feedback on the inverter performance (failure of diodes). The **QI-POWER-485** also controls the Supply to the inverter in order to monitor if it work or not. When monitoring the DC current only, it's not possible to realize that.



Home & Building Automations

1. **Energy measurement:** the **QI-POWER-485** simultaneously measures all the most important parameters of a single phase network in Domestic application. Such as Hotel automation, Offices, Banks, and any/all other Building Automation. Using the **QI-POWER-485** combined with a GPRS/GSM Modem , with an Wi fi Access point, or with a datalogger with RS485 Modbus RTU, you can monitor all the information by web based application or remote control.

The RS485 communication port allows you to control the **QI-POWER-485** with any type of Master Modbus device like PC, PLC, HMI, Modem, Wi fi Access Point.

The **QI-POWER-485** is the smallest single-phase Power meter on the market right now, and for this reason you can integrate it in any existing DB board.

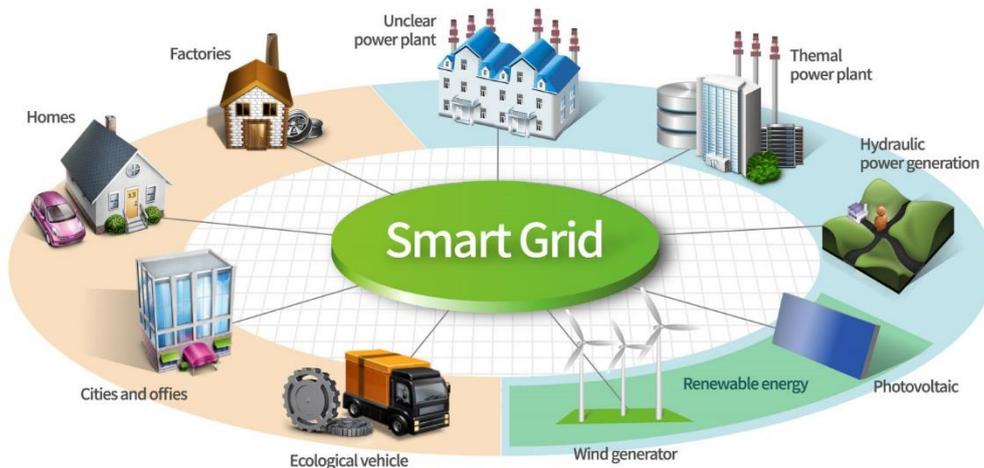


- Measures : **Irms, Vrms, Watt, Var, Va, Vpk, Ipk, Frequency, Cos ϕ , Energy , THD, MAX and min value of each of them.**

Input - AC/DC Current up to **300 A AC / 400 A DC**
 - Voltage **800Vac or 1000Vdc**

OUTPUT- RS485 Modbus RTU

2. **Control of distributed load – Smart Grid:** you can use the **QI-POWER-485** for detailed measurement of the consumption of the individual users within the same network. The information, suitably operated by a controller, may be used to handle the loads in an optimal way.

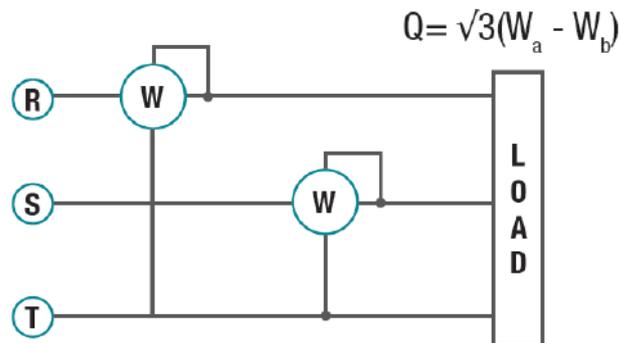


3. **LED Power Supply – Lighting:** the **QI-POWER-485** is used to monitor the LED power consumed for public LED lighting systems. The **QI-POWER-485** measures simultaneously the THD (Total Harmonics Distortion) that monitors the Led Power Supply to determine whether it works properly or not.



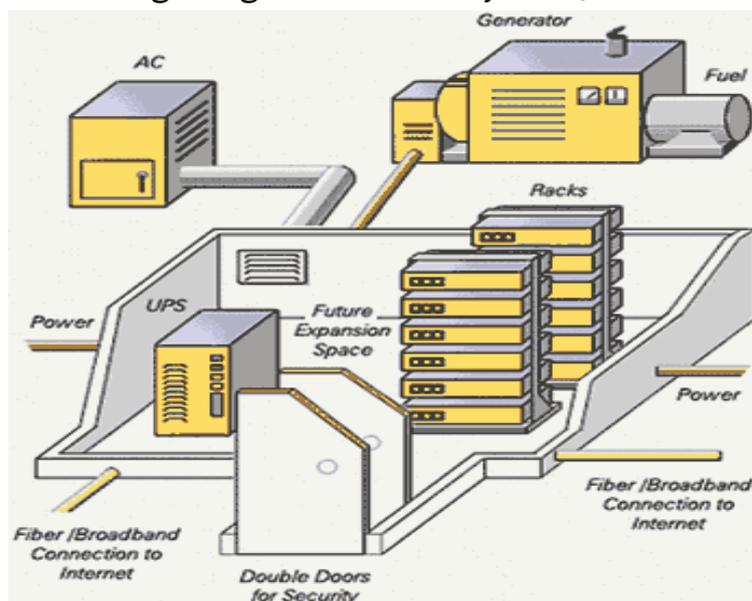
4. **Three-phase monitoring with Aron Insertion:** for three-phase applications, without neutral, balanced or unbalanced, using only two **QI-POWER-485** devices, you can estimate the total power. To do this you need to have a master Modbus device that is capable to calculate the formula below.

Three-phase ARON Connection



Green Data Center

Energy monitoring: the **QI-POWER-485-LV** can be used to measure the DC Power consumed of each Server in a Data Center. The LV version allows you to measure with a high degree of accuracy the 48 V DC and the DC Current.





AC/DC Motor Controls

Monitoring of several parameters: The **QI-POWER-485** measures several parameters like: $\text{Cos}\varphi$, Frequency, V_{peak} , I_{peak} , THD (Total Harmonics Distortion), Active, Reactive, and Apparent Power that allows you to monitor the most important values of an Electric Motor. The **QI-POWER-485** is also suitable for DC Brushless motors.

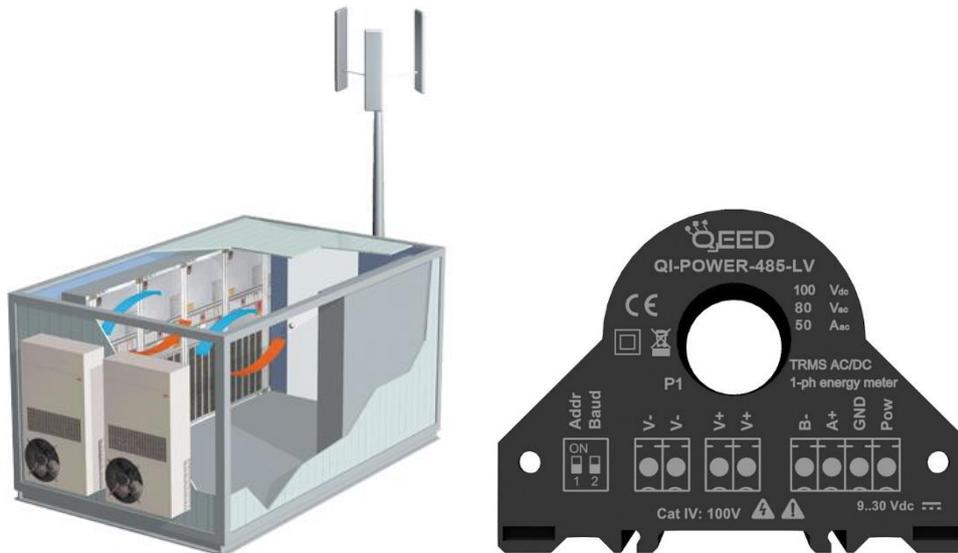


Railway monitoring: the **QI-POWER-485** is suitable for single phase monitoring on Railways. Ideal for rail applications required to work at $16 \frac{2}{3}$ Hz, to monitor the electric traction (typical of German, Austrian and Switzerland). The configuration of the **QI-POWER-485** allows you to set the TV and TA ratio using a primary device that covers the High Voltage and Current request for this application.



Telecommunication Radio Base Stations: The **QI-POWER-485-LV** (Low Voltage) has a Voltage measurement range up to 100 V DC or 80 V AC.

The **QI-POWER-485-LV** allows you to have the correct accuracy to measure the 48 V DC of the rectifier in a Telecommunication shelter together with the DC Current measurement (up to 400 A) of the battery pack. **All in one device.**



Electrical Car chargers: The **QI-POWER-485-300** can be used to monitor the charging of Electrical cars. Also for the new FAST CHARGERS because the device allows you to measure both the 330 A DC and 550 V DC together and gives you all the information by RS485 Modbus RTU.

