

PIMB module P1/Modbus converter

DIN-sized protocol convertor which makes Smart meter P1 measurement values available by Modbus



Product overview

The Xemex's PIMB module is a DIN-sized converter module, converting Smart Meter P1 messages to Modbus over RS485 messages. The module supports P1 ports defined according DSMR4 and DSMR5 P1 companion specification.

The PIMB is connected to the P1 port of the Smart Meter via a cable with RJ11 connectors on both ends. The Modbus of the module is connected via 3-wires to the RS485 (A(+), B(-) and S), acting as slave device to a Modbus master.

The unit will be powered via the power present on the P1 port of the Smart Meter.

External power supply, via external power adapter, can be added optionally should that be required.

User interface is covered by 3 LED's on the front side of the module:

- PWR: Power present (via P1 or external adapter)
- P1: P1 message correctly received
- 485: successful communication via Modbus

PIMB can be used in combination with the Xemex DINgate Multi-meter. The DINgate Multi-meter will act as Modbus master to the PIMB, logging standard information like import / export energy values. Other information

can be added to the log-function of the DINgate Multi-meter on request. Of course, PIMB can work in combination with other Modbus / RS485 slaves. Application note is available on request.

The PIMB is ideal for use in solutions developed for monitoring energy flow in residential houses or small/medium sized companies.

Specifications

General

- Connects direct to P1 port of smart meter
- Gets power from P1 port of smart meter
- Optional power supply adapter connection for DSMR2 meters*

Functional characteristics

- Translates P1 message from smart meter into Modbus memory map
- Acts as Modbus slave
- Configurable Baudrate on P1 and RS485 port
- Configurable Modbus slave address (default = 16)

Interfaces - Data ports

- RJ11 P1 – Customer data port connection ①
- RS485 (2-Wire + GND) up to 115200 Baud ②
- Optional 5V power supply (DSMR2)* ③

LED indicators

- Power indication ④
- P1 port connection ④
- RS485 Modbus connection ④

Technical specification

- Operating voltage: • 5V from P1 interface smart meter
• External 5V connection for DSMR2 meter*
- Power consumption: • < 50mA
- Temperature range: • - 40°C -> +70°C
- Housing: • DIN 43880 / 1 unit
- Dimensions: • 90 x 18 x 65 mm

(*) for future use

