xemex

P1MB TCP
Smart Meter interface module

Product Overview

The Xemex P1 Dongle is a compact converter module that makes the Smart Meter P1 message contents available via Modbus TCP. The module supports P1 in the Netherlands defined by the DSMR4.2 or higher standard, and in Belgium the E-MUCS standard.

The Dongle connects to the P1 port of the Smart Meter via a cable with RJ12 connectors on both ends. The unit is powered by the power present on the P1 port of the Smart Meter.

The memory map for Modbus TCP is changeable by selecting an available template during configuration. This configuration can be done via a web interface.

User interaction is facilitated by a multicolor backlit button, which utilize color coding to indicate the Dongle's status.

Typical use cases

1. When utilizing the P1 input
   a. DSMR 4.2 gives new P1 data every 10sec
   b. SMR 5.0 gives P1 data every 1sec*
   c. E-MUCS gives new P1 data every 1sec
   d. Limit cable length to max 30m
2. When utilizing the P1 output
   a. Power supply is required
   b. Limit length to Max 30m
3. When the ethernet port, limit the cable length to max 30m

IT Connection

The following are based on IPv4:
- mDNS
- Fixed IP
- DHCP

Modbus TCP Meters

- Phoenix EMPro
- **More coming soon**

Technology

General
- Connects directly to P1 port of Smart Meter
- Powered from P1 of Smart Meter
- Optional power via USB-C port
- Data frequency: Identical to P1 Message
- Modbus TCP meter emulation
- Easy configurable via Web Interface

P1 interface
- P1 input port – RJ12
- P1 output port – RJ12
- Protocol compatible with DSMR 4.2 & 5
- Hardware compatible NL/BE
- Support for 1 phase & 3 phase meters

LEDs & Button
- 1 LED to visualize status
  - Red 'On': Booting
  - Red 'Blink': No P1 data
  - Orange 'Blink': No IP address
  - Green 'Blink': Network config needed
  - Green 'On': No Issues
- Button:
  - Click: Reconnect to network
  - Hold 1 sec: Reset to factory defaults

Technical specification
- Operating voltage: 5V DC
- Power consumption: < 3W
- Operating temperature range: 0°C till 50°C
- Storage temperature range: -40°C till 85°C
- IP rating: IP22
- Dimensions (HxWxD in mm): 25 x 50 x 70

Compliance
- IEC 62368-1:2023
- EN 55032:2016
- EN 55032:2017

*Note:

- SMR5 for L+G E350 gives every second P1 data but re-iterates the data 10 times
- SMR5 for L+G E360 gives every second new P1 data