P1 Tester
WiFi / Bluetooth
P1M-009

P1 port tester and P1 protocol analyzer, with Bluetooth (dual mode) and WiFi access point.
Compatible with DSMR 2.2, DSMR 4.x and ESMR 5.0.

Key features:

1 Compatible with DSMR 2.2, DSMR 4.0 and DSMR 5.0

2 Parses and converts the P1 data protocol. Checks its correctness.

3 Tests voltage level on +5V line.

4 Tests "current parameters" of +5V line.

5 Rechargeable LiPo battery on board (8 hours of work without recharging)

6 Test results presented on the front panel and available on the internal web-page.

7 Test results accessible via WiFi and Bluetooth (dual mode – EDR and BLE).

8 Test results can be sent via e-mail.

9 Tested against all major smart meters available on the Dutch market

Description:

The device is designed to test and troubleshoot the P1 port of a Smart Meter.

Tested are the most important electrical parameters and the correctness of P1 data transfer.

Three separate test profiles available, one for DSMR 2.2, one for DSMR 4.0 and one for DSMR 5.0.

The test results are presented directly on the device front panel by means of multi-color LEDs.

The device is equipped with built in WiFi access point and dual mode Bluetooth (EDR and BLE).

Technical Specification:

Compatible with SM standards:	DSMR 2.2, DSMR 4.0, DSMR 5.0
Operation time without recharging:	around 8 hours
Re-chargeable via:	any micro-USB cable or power supply
WiFi range:	10 m
Bluetooth range:	30 m
Voltage tests tolerance:	5%
Current test tolerance:	10%
Load generation tolerance:	20%
Operating temperature:	+5 to +40°C
Storage temperature:	-5 to +60°C
Warranty:	2 years

Tested DSMR 2.2 parameters:

P1 datagram parsing:	Electricity, Gas, Phase
P1 datagram timing:	10s (+/- 1s)

Tested DSMR 4.0 parameters:

P1 datagram parsing:	Electricity, Gas, Phase
P1 datagram timing:	10s (+/- 1s)
P1 CRC	
Maximal load:	100 mA
Overload:	>150mA
Correct P1 voltage on "+5V line" (at idle load):	4,5V to 5,5V
Correct P1 voltage on "+5V line" (at maximal load):	4,2V to 5,5V
Correct P1 voltage on "+5V line" (at overload load):	max 2,2V
Correct P1 maximal current on "+5V line":	from 80 to 150mA

Tested ESMR 5.0 parameters:

P1 datagram parsing:	Electricity, Gas, Phase
P1 datagram timing:	1s (+/- 0.2s)
P1 CRC	
Maximal load:	250 mA
Overload:	>300mA
Correct P1 voltage on "+5V line" (at idle load):	4,9V to 5,3V
Correct P1 voltage on "+5V line" (at maximal load):	4,9V to 5,3V
Correct P1 voltage on "+5V line" (at overload load):	max 2V
Correct P1 maximal current on "+5V line":	from 240 to 280mA