

P2000 Series MID Approved Multifunction Meter complete with RS 485 Modbus and Pulse Output

Features

- Whole current 120 Amps or 5 amp current transformer operated
- Communication by IR port IEC 62056-21
- Communication by RS 485 Modbus (Autometers V6)
- Pulse output IEC 62053-31 (kWh)
- Accuracy – kWh Class 0.5s or 1 kWh Class C, A or B, EC Directive 2004/22/EC [MID] kvarh Class 2
- Import/export kWh, kvarh and kVAh
- Back light switches on when scrolling
- Large size liquid crystal display with 11.9mm x 6mm Digits
- Comprehensive tariff structure
- Instrumentation indicated by OBIS code
- Internal clock with battery back-up
- Certified 10 year product life
- Extensive security data
- High security, compact design
- 12kV impulse withstand
- Double insulated, polycarbonate case to DIN 43857 Part 2 and Part 4 (except for top fixing centres)
- IP53 in accordance with IEC 60529
- Connectability to Horizon full Monitoring and Invoicing package

Options

- Load profiling
- Range of communications media (External GSM/GPRS)
- Terminal cover with cut-out
- External battery for viewing display and reading register data during power outages

Display



The P2000-D and P2000-T are configured to show the standard IEC 62056-61 OBIS identification code which is explained on the terminal cover. See main image opposite. An optional battery can support the display and optical port reading during power down.

Tariff Structure

- 8 Time-of-use (TOU) registers
- 4 Maximum demand registers
- 40 Switching times
(4 daily profiles, each has max 10 changes)
- 4 Seasons
- 4 Change of season dates
- 16 End of billing dates



Picture showing the P2000-T meter listing the standard set of pre-programmed measurement parameters.

The P2000-D and P2000-T offer highly secure tariff metering with a variant to suit any commercial or light industrial application, with load profiling functions.

The meters are supplied with a large liquid crystal display with back light illumination so that the meter display can be read in virtually any lighting situations. Both the P2000-D and the P2000-T are pre programmed to display various electrical parameters as listed on the front of the terminal cover. All parameters are listed individually with the OBIS code.

Operation

Pressing the blue buttons on the front of the meter will automatically change the display register to one of those listed on the front of the terminal cover, after a period of approximately three minutes the register will default back to 1:1.8.0. kWh

- | | |
|--------------------|---|
| Top blue button | Enables you to scroll back through the list |
| Centre blue button | Enables you to scroll forward in the list |
| Red Button | Enables you to reset the maximum demand |

To read any of the listed parameters continually press the centre blue button and scroll through the list.

Communication from the meters can be obtained by three ways, Pulse output, pre set and fixed at 1 kwh per pulse, Optical port which can only be used with external hardware and software and the RS 485 Modbus (Autometers protocol V6) which is a wired connection. Using Modbus enables up to 127 meters to be read per Lan , Protocol for the Modbus can be obtained direct from Autometers Systems Ltd. Details for the pulse and Modbus connections are on the reverse side.

The meters are MID approved with appendix "B" and "D".

Data Storage load profile

Up to 300 days of half hour data for one channel

Programmable integration period

Two channels of load profile storage for any measured quantity

Instrumentation values

Security

The meter offers high security with many useful security features. The meter stores all registration and configuration data to non-volatile memory. The data is stored in non-volatile memory.

Energy measurement

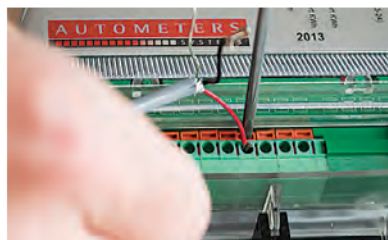
Import/export kWh, kvarh and kVAh energy

Communications

Local: IEC 62056-21 Remote: Optional Serial Data Port

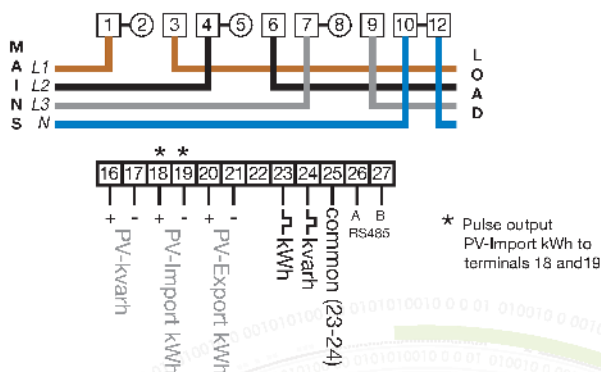
Fast data collection of cumulative registers, historical data and load profiling using data stream mode

Low Voltage Terminals

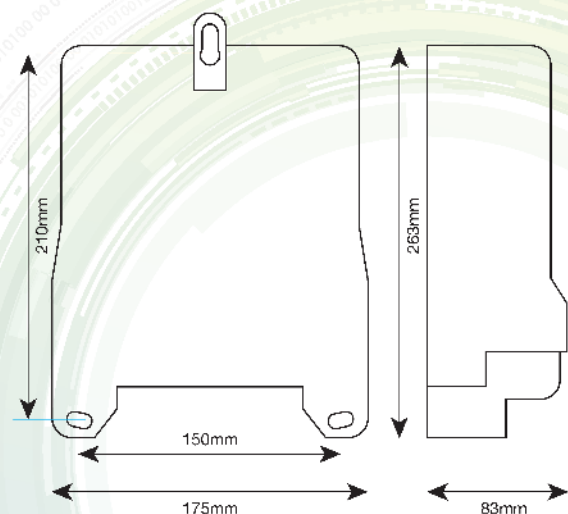


Push orange tab down to open terminal and release to lock conductor in terminal.

Whole Current



Dimensions and Fixing Centres



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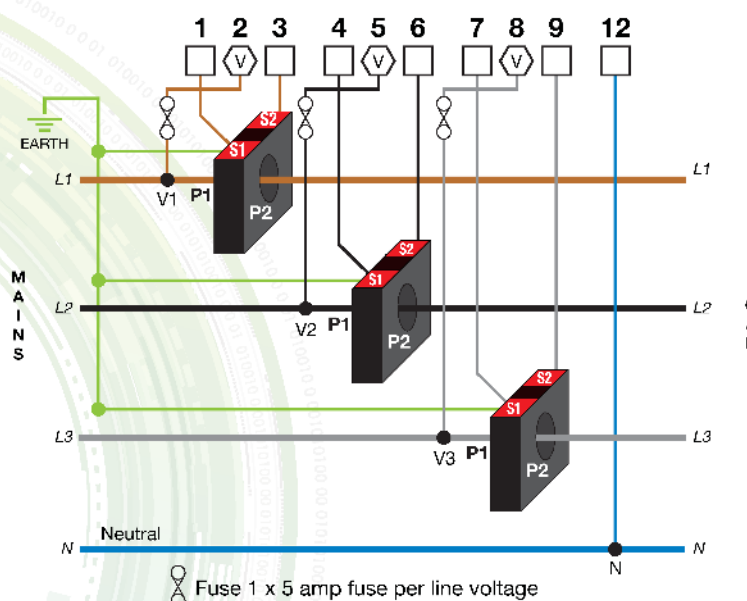
System Connections

3 Element	3 phase, 4 wire 1 phase, 2 wire
2 Element	3 phase, 3 wire

Technical Data

Current Range	Direct connected 20-160A, 10-100A, 5-100A CT operated 5-10A*, 1-10A, 1-2A
Voltage Range	220-240V* (L-N) or 220-240V (L-L) 380-415V (L-L) 105-127V (L-N) or 105-127V (L-L) 181-220V (L-L)
Frequency	50 or 60Hz
Burden	0.8W, 1.3VA burden/phase [max]
Voltage Circuits (230V)	4VA @ 100A/phase [max]
Current Circuits (DC)	0.22VA per phase
Current Circuits (CT)	
Insulation	4kV RMS 50Hz
Impulse Withstand	12kV 1.2/50µs 40 ohm source
Display LCD	11.9 x 6mm. High contrast, wide angle
Modbus Settings	Baud Rate: 9600 Parity type: Even Data Format: Floating Point F.P. Format: High word first Modbus Address: 1-999 Wire mode: Two
Front Optical Port	1200
Temperature	-45° to +65° C (Operational range) -45° to +85° C (Storage)
Humidity	Annual mean 75% (95% for 30 days spread over one year)
Pulse Width	100 ms fixed
Wh/Pulse (120 Amp)	1 impulse/kWh (1000 watt hours/pulse fixed)
Wh/Pulse (5 Amp)	1 impulse/kWh (1000 watt hours/pulse fixed)
Weight	940 grams
Specifications	kWh Class 0.5s, 1 EN 62053-21/22 kWh Class A, B or C, EN 50470 (MID) kvarh Class 2 or 3 EN 62053-23 IP53 to IEC 60529
Case	

Current Transformer Operated



Innovative Metering Solutions...

Product development is continuous and Autometers Systems Ltd reserves the right to make alterations and manufacture without notice. Products as delivered may therefore differ from the descriptions and illustrations in this publication.

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