



M180R

General Overview

M180R - single-phase, 20(80)A, wall mounted, direct measurement electricity meter with two-way Power Line Communication (PLC) for transmitting and receiving data over the power network to a central unit (Concentrator).

M180R has an internal load switching relay and is capable of remotely disconnecting/reconnecting power from/to the customer.

The M180R can function as a credit meter or as a prepayment meter. It can be remotely changed from one status to the other. The meter can be remotely credited with electricity. A customer goes to a vending station and buys electricity. The vending station is integrated into a control software which notifies a concentrator of the purchased electricity, the concentrator then remotely credits the meter by sending an encrypted 20 digits token (STS or other) to the meter. There is an option to credit the meter with the purchased electricity by using a separate display unit, which is installed in the customer's residence. In such a case the 20 digits token is inserted by the customer using the keypad on the display and the meter is credited the purchased electricity.

Optional: M180R can receive metering data from other sources, like water/gas meters via unlicensed RF communication and send report to the concentrator via power line.

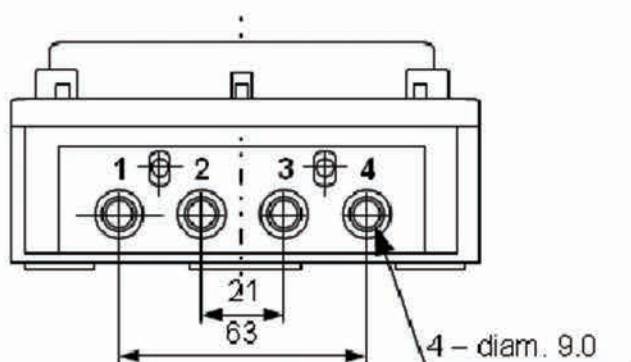
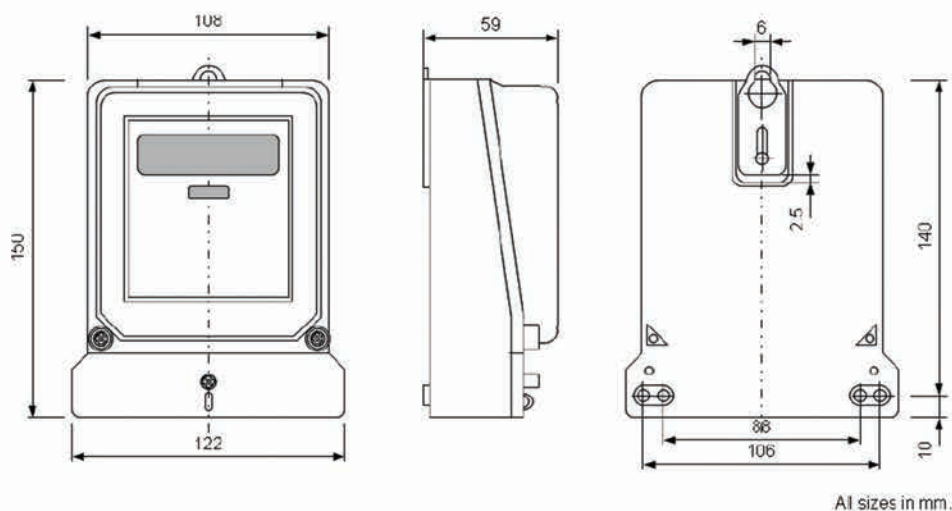
Features:

- ✓ 20(80)A, Class 1 or Class 2, direct measurement static watt-hour meter.
- ✓ Real two-way "A" band Power Line Communication.
- ✓ Automatic calibration (NO physical adjustment).
- ✓ Calculates locally Time of Use (TOU) consumption at multiple tariffs.
- ✓ Internal 100A load switching element.
- ✓ Remote disconnection.
- ✓ Remotely limits customer maximum power demand.
- ✓ Measures and reports line voltage.
- ✓ Repeats and amplifies signals transmitted by other distant units – No distance limitation.
- ✓ Non-volatile backup memory.
- ✓ 2 line 16 character large LCD display.
- ✓ IrDA Optical port for reading.
- ✓ Communicates over power network with CIU (split display) unit placed within customer's premises.
- ✓ For meter operated with separate CIU (split display) unit:
 - ✓ Prepayment STS operation, simple & TOU;
 - ✓ Keypad entry for prepaid energy, STS tokens;
 - ✓ Reconnection controlled by customer.
- ✓ Reads Water/GAS meters via unlicensed RF communication and sends reports to the concentrator (optional).



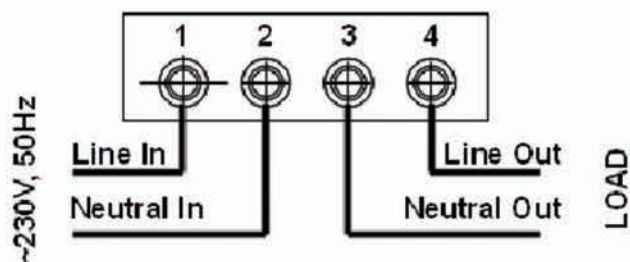
Technical Specifications

M180R Dimensions



All sizes in mm.

Connection Diagram





Technical Specifications

General	
Nominal Voltage (Un)	230V AC
Supply Voltage range	80% - 115% Un
Nominal Frequency (fn)	50Hz
Consumption at Un	1.2 W – 8 Var (Capacitive)
System connections	3 phase 4 wire
Measurement	
Class index acc. to IEC62053-21	Class 1
Basic Current (Ib)	20A
Maximum continuous current (Imax)	80A
Environmental	
Temperature range operation	-10°C to 55°C
storage	-25°C to 70°C
Insulation Strength	
Protective Class acc. to IEC62052-11	Class I ↓
Display	
Type	LCD with led back light
Format	16 Characters x 2 Lines
Character size	4.3mm x 2.95mm
LED Indicators	
Peak tariff	Red
Standard tariff	Yellow
Off Peak tariff	Green
Flash rate	1000 imp/kWh
Communication Interfaces	
PLC Frequency range	A-band 60-90 kHz
PLC Method	Spread FSK
Optical Comm. port IrDA baud rate	9600bps
Optional: RF -receive only - Frequency	Unlicensed 433 MHz
Disconnection device	
Type	Polarized latching relay
Maximum switching current	100A
Maximum switching power	25kVA
Mechanical life	100 000 operation minimum
Weight and Dimensions/ Case protection	
Weight	635 g
Width	122 mm
Height	155 mm
Depth	57 mm
Enclosure protection (IEC60529)	IP51