

# Single Phase Two Wire Energy Meter

## M40R-11

### PRODUCT INFORMATION

Single phase static smart bi-directional energy meter with all advance features and compliant with DLMS protocol.

M40R-11 is an excellent product for consumers with single phase two wire connection. The meter operates in both Import & Export Mode and provides full tamper proof features and accurate energy information.



### KEY FEATURES

- AMI/AMR capabilities
- DLMS compliant
- Modular communication port supports different communication technologies
- Two-way communication including but not limited to RF Mesh, GPRS, 3G, NB-IoT, PLC, Wi-Fi, Ethernet point to point (P2P)
- Connect/Disconnect capabilities with single pole relay
- Net metering feature available
- Field replaceable communication module
- Load control management: Demand based as standard feature and Current based (optional)
- Four quadrant energy measurement
- Read out display parameters during power outage
- Extensive anti-tamper features and Hourly Load Profile Data
- Alarm and monitoring services
- Bi-directional Metering

# M40R-11

CLASS 1.0

## SINGLE PHASE TWO WIRE ENERGY METER

### SPECIFICATIONS



#### STANDARDS

- IEC 62052-11, IEC 62053-21, IEC 62056-21
- IS 13779, CBIP Publication 304

#### METER TYPE

- Single Phase, 2 Wire

#### MEASURING ELEMENTS

- Two channel measurement (Phase-Shunt), (Neutral-CT)

#### MEASUREMENT

- kWh Import, kVAh Import, kWh Export, kVAh Export, Net kWh, Net kVAh, kW, kVA, Vrms, Irms, V, A, Hz

#### MAXIMUM DEMAND

- Maximum Demand kW (MD) Import
- Maximum Demand kVA (MD) Import
- Maximum Demand kW (MD) Export
- Maximum Demand kVA (MD) Export
- Integration Programmable Periods: 15 and 30 minutes

#### DISPLAY MODES

- The M40R-11 supports three display modes: AUTO, PUSH and Battery Mode

#### VOLTAGE

- Rated Voltage: 240V (-40% to +20%) (other ratings can be given as per customer's request)
- Safe operating Voltage: 120V to 400V AC

#### CURRENT

- Current rating: 10(80)A (other ratings can be given as per customer's request)
- Starting Current: 0.4% of basic current

#### FREQUENCY

- Rated frequency: 60Hz  $\pm$ 2% (50Hz on request)

#### POWER CONSUMPTION

- Voltage circuit: < 1W, < 8VA
- Current circuit: < 4VA

#### REAL-TIME CLOCK

- Precision clock accuracy:  $\pm$ 5ppm at reference temperature

#### METER CONSTANT

- 1000 imp/kWh (other constants on request)

#### COMMUNICATIONS

- RF Mesh and Optical port
- Communication protocol: DLMS
- Baud rate: 9600 baud

#### DATA STORAGE

- 1 MB of non-volatile memory
- Life of data: >20 years

#### TAMPER/EVENT

#### DETECTION/PREVENTION

- Top cover and terminal cover open detection
- Partial and full Earth Tamper detection (Different Combinations)
- Supply and Load wires interchange detection (Different Combinations)
- Under and over Voltage detection
- Over Current and Over Load detection
- Power OFF/ON events
- Event/Tamper logging records along with date
- Immune to high density magnetic field interference
- Neutral Disturbance detection
- Resistance to 0.5mT magnetic field
- Relay connect & disconnect detection

#### LCD DISPLAY

- Custom made HTN Type LCD Display (55mm x 19mm) with white backlit
- 7 digits display with digit size (9.4mm x 6mm)
- Annunciators: Low Battery, kW, kVA, kWh, kVAh

#### LED OUTPUT

- Single LED indicator available for Active Energy

#### OVER CURRENT/VOLTAGE HANDLING

- Over Current: Up to 120% of Imax
- Over Voltage: Up to 400V AC applied short time between phase & neutral wires

#### ENVIRONMENTAL

- IP 54
- Operating Temp: -40°C to +70°C
- Humidity: 95% RH

#### SECURITY

- Meter cover seal: 2 factory sealable screws
- Terminal cover seal: 1 field sealable screw
- Modem cover seal: 1 field sealable provision
- Password protected access to read and write

#### LOGICAL STRUCTURE

- Public Client Association (PC)
- Meter Reading Association (MR)
- Utility Settings Association (US)

#### BATTERY

- Internal lithium battery
- Battery life: 15 years
- 48 Hours Supercap backup for RWP mode

#### CALENDAR SUPPORT

- Gregorian (English)

#### MULTI-TARIFF

- Up to 4 Tariff tables can be programmed
- Active and passive calendar support with programmable season profile, week profile and day profile

#### SOFTWARE

- BCS software provided by DMS
- Supported by third party DLMS client software

#### LOAD PROFILE

- 30/60 minutes integration for 35 days

#### TERMINAL TYPE

- Fixed type terminal
- Pressure plate type terminals (optional)

#### PHYSICAL DIMENSION

- Dimension: 220mm x 120mm x 70mm
- Weight: 1 kg.
- Material: Polycarbonate
- Mounting Type: Projection



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