SINGLE-PHASE DIRECT CONNECTION SMART METER

UNIQUE M1100R230

5(100)A I 230V, 127v, and 110v configuration available I 50/60Hz I Wall Mounted

Designed for advanced smart and accurate energy measurement, remote control, and seamless integration into AMI and prepayment environments.

Product Overview

The M1100R230 is a direct connection single-phase watt-hour meter. It measures both active and reactive energy and voltage per phase and enables full remote management via multiple communication channels. It supports both credit and STS-compliant prepayment modes, with flexible options for disconnection, load control, and time-of-use readings and configuration.

Communication Architecture

Data is transmitted from the meter to a local concentrator via Power Line Communication (PLC) and RF LoRa, and from the concentrator to the home office via GSM 4G or Ethernet. Data is sent by email to pre-programmed email addresses.

Features

Measurement & Metering

- Measures active and reactive energy and voltage.
- Supports energy import/export measurement.
- Time-of-Use (TOU) tariff support, with remote TOU tariff schedule table update.
- Supports wireless RF water meter integration
- Reports data and status periodically and upon request
- Comparison of energy supplied by transformers to energy billed (at concentrator level)
- Data readings recorded with time stamps

Security & Reliability

- Tamper detection: terminal and cover open alerts
- Alerts for leakage, bypass, and Voltage fluctuations
- Backup battery and non-volatile memory

Communication interfaces

- Two-way PLC and RF LoRa 433MHz communication with concentrator
- Optical port for local reading (IEC 62056-21 compatible)
- Repeats and amplifies signals sent by other units effectively eliminating distance limitations

Installation and Usage

- Automatic self-calibration
- Graphic LCD Display with back light able to display during outage
- Directly energized by power lines

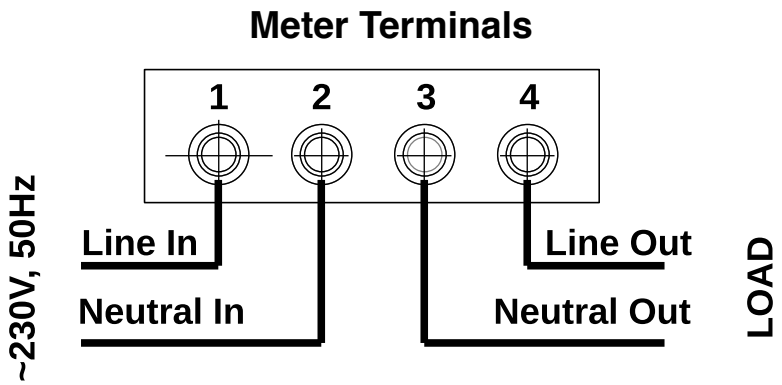
Remote Control & Automation

- Remote disconnect/reconnect via internal 100A switching relay
- Remote Load limiting
- Remote TOU updates
- Remote firmware upgrades
- Switchable between credit and prepayment modes
- Real-time clock with remote synchronization

Industry Standards

- Class 1 (active), Class 2 (reactive) IEC 62052-11, IEC 62053-21, IEC 62055-31, SANS 1524-1
- STS certified for prepayment use

Connection Diagram



Technical Specifications

Parameter	Specification
Nominal Voltage (Un)	230VAC, 127VAC, or 110VAC
Supply Voltage Range	80% – 115% Un
Nominal Frequency (fn)	50Hz / 60Hz
System Connection	1-phase, 2-wire
Power Consumption at Un	1.2W / 8 Var (capacitive)
Accuracy Class	Active energy – Class 1 (IEC 62053-21), Reactive energy – Class 2 (IEC 62053-23)
Basic Current (Ib)	10A
Maximum Current (Imax)	100A
Operating Temperature	–10°C to 55°C
Storage Temperature	–25°C to 70°C
Insulation Class	Class II (IEC 62052-11)
Display	Graphic LCD with backlight
IEC60529 Protection Rating	IP54 (standard), IP66 (with optional enclosure)
LED Indicators	Red (Peak), Yellow (Standard), Green (Off-peak)
Energy Flash Rate	1000 pulses/kWh Blue LED(Active), 1000 pulses/kVarh Yellow LED (Reactive)
PLC Frequency range	A-band 60-90 kHz
PLC Method	Spread FSK
RF LoRa	433 MHz
Optical Port	IEC 62056-21, Android compatible
Relay Type	Polarized latching
Max Switching Current	100A
Max Switching Power	25 Kva
Mechanical Life	100,000 operations
Dimensions (W×H×D)	106 × 180 × 50 mm (including long terminal cover)
Weight	525 g
Standards Compliance	IEC 62052-11, IEC 62053-21, IEC 63055-31, SANS 1524-1, STS certified