



## MA105H2E Smart Single Phase Meter

- Smart meter MA105H2E for smart energy data management
- Compliant with DLMS/COSEM and M-Bus
- Modular WAN / LAN capacity and HAN equipment's management
- Improve revenue and energy efficiency with advanced measurement with TOU
- Accurate clock and daylight saving time supported
- Remote authenticated firmware upgrade
- Protect from fraud or tampering, alarm and events record
- Security, reliability
- Advanced design for operating costs reduction
- optional short terminal cover for convenient installation
- Ground fault detection with current balance



## Main features

- **Measurement**
  - Total active and reactive energy
  - Import and Export active and reactive energy
  - Instantaneous voltage and current, PF, Vrms, Irms, active and reactive power
- **Billing data**
  - 175 days electricity meter and M-Bus equipment data
  - Cumulative active and reactive energy
- **Profiles for energy and power quality**
  - 4 programmable channels for active and reactive energy and power quality profile
  - Programmable profiles capture period ( typically 5, 10, 15, 30 or 60 minutes )
- **Real time clock**
  - Accuracy according to IEC 61038
  - Daylight saving time supported
  - Synchronization with Time zone available
- **Communication interface**
  - WAN communication to CS via RF between meter and gateway or via LTE/GPRS
  - HAN communication with Wired M-Bus to smart water/ gas/ heat meter
  - Wired M-Bus supports up to 50mA power supply
  - Available interface to IHD or more applications
  - Optical local communication, IEC62056-21 mode E
- **Display**
  - Segment LCD, With OBIS code and icons. Four programmable display mode
  - Two LEDs, for energy pulse output
- **Anti-tamper features**
  - Main and Terminal cover open detection ( power on and power outage )
  - Access with incorrect keys and reply
  - Magnetic field detection
- **Load control**
  - Disconnect / Reconnect on request locally or remotely
  - optional single pole relay, Bi-pole realy, dual relay, No relay
  - Automatically disconnect and reconnect with threshold
- **Event record**
  - Up to 40 kinds of event record with timestamp
  - Power failure long term / short term
  - Tampering events
  - Voltage related events
  - Relay control events
  - Firmware upgrade events
- **Privacy and security**
  - Support high level security 3, 4, 5 with encryption and authentication
  - Keys change wrapping
- **Advanced flexible platform design**
  - Support multiple communication channels GPRS / LTE / LTE M/  
NB-IoT/ RF mesh/ PLC
  - Replace communication module without turning off
  - Support authenticated firmware upgrade remotely/locally
  - Compliant with DLMS/COSEM and M-Bus



## Technical specifications

### Reference standard

- EN 50470-1, EN 50470-3, IEC 62055-21, IEC 61008-1, IEC 62059-31/41, IEC 62052-11, IEC 62053-21/22/23
- IEC 62056-21/46/53/61/62 EN 13757-2/4

### Approval

- DLMS
- MID/IEC

### Electrical

Accuracy	Active	Class B
	Reactive (optional)	Class 2
Voltage	Rated voltage	110V, 127V, 220V, 230V, 240V
	Voltage withstand	440V 6hours
	Operation voltage range	80% to 115% Un
Current	Rated current	5(40)A, 5(60)A, 5(80)A, 10(40)A, 10(60)A, 10(80)A
	Starting current	20mA(min)
Frequency	50Hz(60Hz) ± 5%	
Power consumption	Voltage circuit	≤0.9W, 5VA
	Current circuit	≤0.5VA
Pulse constant	2000 imp/kWh	

### Reliability

Meter life	20 Years
Data retention	>20 Years

### Mechanical

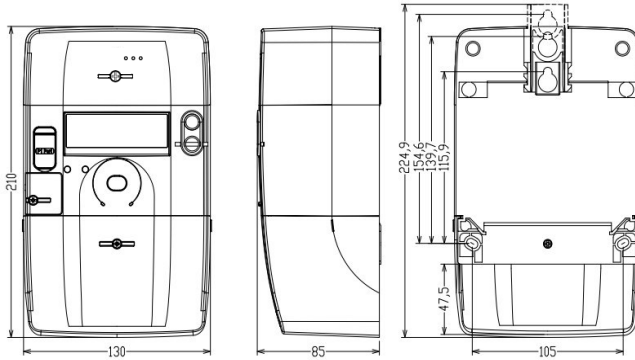
Dimensions (L x W x H)	224.9 x 130 x 85(mm)
Weight (Kg)	0.97
Enclosure material	PC+GF
Terminals	professional Lifting system with wrong connection prevention
Insulation protection	Class II

### Environmental

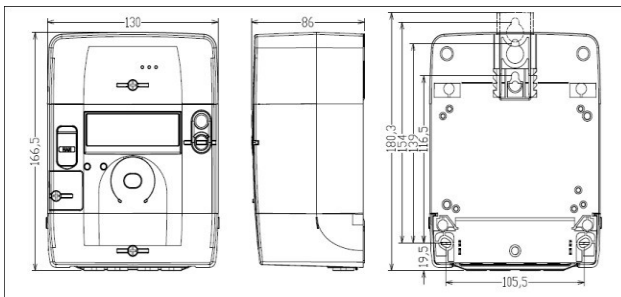
Operating temperature	-40°C to 70°C
Storage temperature	-40°C to 70°C
Operating humidity	Maximum 95% RH
Ingress protection	IP54

## Overall dimensions

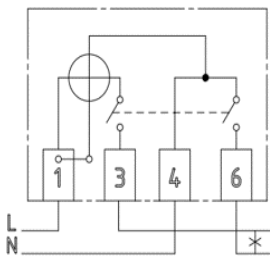
### Long terminal cover



### Short terminal cover



## Wiring diagram



## Display format

