

Mk7Mi

Class 1

Single Phase Smart Meter

Designed for residential use, the Mk7Mi is a single phase meter with integrated 100A UC3 compliant relays which allows disconnection and reconnection of electrical services remotely. It is able to operate on either STS compliant prepaid mode or post-paid mode. Flexible communication options with HAN and WAN ports.



Key Features

AMI

AMI READY



DISCONNECT
RELAY



HIGH
SECURITY



LARGE DATA
STORAGE



MULTIPLE COMMS
OPTIONS

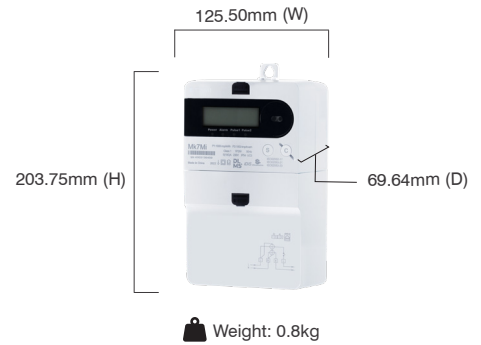


DLMS/COSEM
IDIS

Mk7Mi

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Single Phase Smart Meter



Standards and Compliance

- Class 1
- IEC 62052-11, 62053-21, 62053-23, 62059-31-1, 62059-32-1, 62055-31, 62055-41
- EN 50470-1, 50470-3

Measurement

- 1 phase 2 wire (optional neutral current measurement)

Voltage

- Nominal voltage: 220V to 240V
- Operating range: 0.5Un to 1.2Un
- Impulse voltage: 6kV (Optional 10kV)

Current

- WC range: 5/100A
- WC limit: 30 times I_{max} for 0.5 cycles
- Phase current measurement sensor: Shunt
- Neutral current measurement sensor: CT

Terminal

- Terminal cross-section: 67.9mm²

Power Consumption

- Voltage circuit: <10VA/phase, 2W @ V_n
- Current circuit: <2.5VA/phase @ I_n

Lid Cover and Terminal Cover

- Opaque or transparent option
- Long terminal cover and short terminal cover option

Frequency

- 50Hz/60Hz

Inputs/Outputs Configuration

- Up to 4 x LED indicators
- 1 x DO
- 1 x DI
- 1 x Active Input

Relay

- Up to two internal disconnect relays

Battery

- External replaceable lithium battery (1200 mAh)
- Internal super capacitor
- Backup time: 5 years without power (lithium battery)
- Backup time: Up to 7 days without power (super capacitor)

Real-time Clock

- Precision clock accuracy: <5ppm (15 seconds per month) at 23°C

Data Memory

- 8MB of non-volatile memory

Display

- Seven-segment alphanumeric display with 8mm x 5mm digit size
- Display available without main power
- Option for backlight

Measured Values

- 1 element 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Four quadrant varh
- Power: W, var, VA, Vrms, Irms
- Power factor, frequency
- Temperature

Load Survey/Profile

- Up to 50 channels for 2 independent load surveys, 16 channels for PQ profile log and 16 channels for 7 independent data event log
- Intervals programmable from 1 to 1440 minutes
- Energy, instantaneous readings
- Ability to store average/minimum/maximum values for internal duration

Time of Use

- Up to 8 rates plus unified rate
- Daily, weekly, monthly, yearly and special days
- Up to 12 previous periods plus period totals
- Block or rolling maximum demand
- Time of maximum demand

Calendar

- Supports Daylight Saving time
- RTC and synchronisation

Tamper Detection and Alarms

- Provision for sealing with conventional wire or plastic seals
- Reverse current detection
- Line and neutral current unbalance detection
- Meter cover and terminal cover detection
- Load side voltage detection

- Overload detection
- Magnetic tamper detection
- Alarm are stored in event logs

Security

- AES-GCM-128
- Security Suite 0

Operation Mode

- Postpaid/Prepaid

Communications

- 3 independently working communication ports:
 - 1) Optical port: FLAG (IEC 62056-21)
 - 2) Built-in HAN
 - RF 868MHz
 - ISM 2.4GHz
 - 3) Built-in LAN
 - PLC (to CIU)
 - 4) External
 - RS-232 with 12V modem power supply
 - RS-485 (2-wire)
 - RS-485 (4-wire)
 - WAN: Multiple communication options available

Protocol

- DLMS
- IDIS (Package 2)

Environmental

- Specified operating range:
 - 25°C to +70°C
- Storage range limit:
 - 40°C to +80°C
- Relative humidity:
 - 95%, non-condensing for 30 days
- Ingress protection: IP54 (without suction)

EDMI Limited (Headquarters)

47 Yishun Industrial Park A, Singapore 768724

Tel: +65 6756 2938 Fax: +65 6756 0125

Email: marketing@edmi-meters.com

techsupport@edmi-meters.com

www.edmi-meters.com

