

Mk7A

ATLAS – Class 1 and Class 2

Single Phase Smart Meter with
Two-Element Feature

Built on the advanced Atlas metering platform, the Mk7A is a single phase 2-element meter which integrates both a 100A UC3 compliant relay and 40A UC2 compliant load control relay which allows disconnection and reconnection of electrical services remotely.



Key Features

AMI

AMI READY



DISCONNECT
RELAY



MEASURE
EVERYTHING



LARGE LCD
DISPLAY



ANTI TAMPER



MULTIPLE COMMS
OPTIONS



UPGRADEABLE

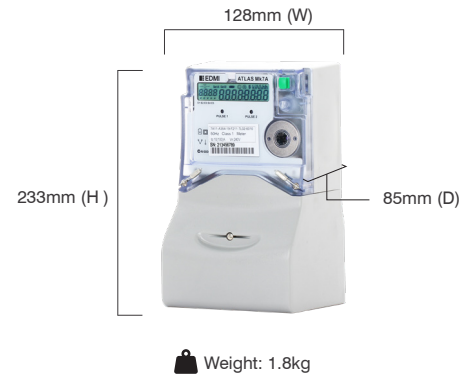


LARGE DATA
STORAGE

Mk7A

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Standards and Compliance

- Class 1 and Class 2
- IEC 62052-11, 62052-21, 62052-31, 62053-21, 62053-23, 62054-21
- AS 62052.11, 62052.21, 62053.21, 62053.23, 62052.31, 62054-21
- NMI M6

Measurement

- 1 phase 2 wire
- Option for neutral current measurement
- Twin element measurement and control (main 100A, load 40A)

Voltage

- Nominal voltage: 220V - 240V
- Operating range: 176V - 276V
- Withstand: 7Ax3 - Up to 456V
- Burden: IEC 62053-21/23 compliant

Current

- WC range: 5/100A, 10/100A
- WC limit: 7000A for 3 cycles
- Burden: <0.5VA/phase
- Overload Current: 128A

Frequency

- 50Hz $\pm 6\%$

Relay

- 100A Main IEC 62055-31 Annex C UC3
- Flexible relay and second element configuration options
- Post-relay voltage detection - hardware capable
- Enhanced relay switching time $\leq 10s$
- 40A Load control 62055-31 Annex C UC2 and IEC 62052-21

Inputs/Outputs Configuration

- Up to 4 I/O total in 2 isolated groups (maximum 1 relay output)
- Options include: Passive/Active inputs, S0/BOSFET/Relay outputs
- Passive input voltage: 5V, 12V, 48V, 110V, 240V
- Active input voltage: 16V (common ground)
- S0 output: 27V, 27mA maximum
- BOSFET output: 240V, 100mA maximum

- Relay output: 240V, 2A
- 2 Programmable LED indicators
- Programmable output pulse width: 1ms to 100ms

Battery

- Internal battery
- Backup time: 10 years without power (Lithium Battery)

Real-time Clock

- Accuracy (internal) within 15 seconds per month at 23°C
- Internal clock or line synchronisation

Data Memory

- 4.2 MB of non-volatile memory

Display

- Large 7 segment alphanumeric display with 10.7mm x 6.67mm digit size
- 8 digit numerical value field
- 4 digit description field
- Up to 60 user-defined screens of any meter parameter
- Definable enunciators
- Display available without main power (where battery fitted)

Measured Values

- 2 elements 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Fundamental Wh
- Per quadrant Wh, varh and VAh
- Main, load and Total
- W, var, VA, Vrms, Irms
- Power factor, frequency, phasor angles
- Supports ripple control/AFLC

Power Quality Indication

- Total Harmonic Distortion (THD)
- Option for live waveform display
- Sag/Swell
 - 5 Cycle resolution
 - Records time/date/phase/duration average and worst excursion
 - Programmable trigger levels

Load Survey/Profile

- Over 10,000 days storage (2 channels, 30-minute intervals)
- AMI Ready
- Supports Advanced Demand Management (ADM) with prioritised rules
- Up to 32 channels and 4 independent surveys
- Intervals programmable from 1 to 60 minutes
- Energy, instantaneous readings, pulsing inputs as channel sources
- Ability to store average/minimum/maximum values for interval duration

Time of Use

- Up to 8 rates plus unified rate
- Up to 32 separate import and export registers
- Daily, weekly, monthly, yearly and special days
- Up to 200 programmable special days
- Up to 61 previous billing periods plus billing totals
- Block or rolling maximum demand
- Time of maximum demand
- Energy, pulsing inputs

Calendar

- Supports Daylight Saving time
- Supports Gregorian or Persian calendars

Tamper Detection and Alarms

- Provision for sealing with conventional wire or plastic seals
- Bypassing current and reverse current detection
- Advanced tamper detection and logging
- Pre-programmed alarms for meter self check
- Alarms trigger LEDs, enunciators, relay outputs or communications event
- Alarms are stored in event logs
- Configurable threshold; 3D magnetic tamper detection

Security

- Multi-level security (username and password including encrypted log-in)

- Up to 7 independent security levels
- Up to 6 individual users
- AES128 bit encryption

Communications

- Up to 3 independently working communication ports:
 - Optical port: FLAG (IEC 62056-21) or ANSI Type 2 (ANSI C12.18)
 - RS-232 with modem power supply (compatible with the majority of modems in the market)

Protocol

- EDM command line
- DLMS
- MODBUS

Software

- EDM AMI 2.0 (Storm)
- EDM Storm mobile software available for meter programming and reading
- EDM Energy Cloud software available for large scale AMI and AMR solutions
- Supported by many popular third-party multi-vendor AMR systems
- Supports Function Based Setup

Environmental

- Specified operating range: -25°C to +60°C
- Limit range of operation: -40°C to +70°C
- Storage range limit: -40°C to +80°C
- Relative humidity: Up to 75% mean, 95% non-condensing for 30 days
- Ingress protection: IP54

Safety

- Protective Class II
- Surge Test: 5kV
- Impulse Test: 10kV

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