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.

SERIES 3

Key Features							
AMI							
AMI READY	DISCONNECT RELAY	MEASURE EVERYTHING	LARGE LCD DISPLAY	ANTI TAMPER	MULTIPLE COMMS OPTIONS	UPGRADEABLE	LARGE DATA STORAGE

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Single Phase Smart Meter with Two-Element Feature

128mm (W)

233mm (H)

85mm (D)

Weight: 1.8kg
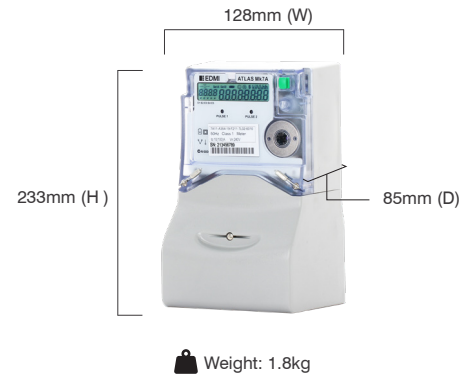
Standards and Compliance

- 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 ±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 ≤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

- EDMI command line
- DLMS
- MODBUS

Software

- EDMI AMI 2.0 (Storm)
- EDMI Storm mobile software available for meter programming and reading
- EDMI 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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