

Mk10E

 **ATLAS** – Class 0.5S and Class 1

Three Phase CT/WC Smart Meter

Built on the advanced Atlas metering platform, the Mk10E has a Class 0.5S measurement engine with many enhancements including smart grid solutions, high data storage, data processing, UPS configuration and enhanced communications capabilities.



I Key Features

AMI

AMI READY



HIGH ACCURACY



CT-WC CONNECTED



MULTIPLE COMMS OPTIONS



MEASURE EVERYTHING



UPGRADEABLE




ANTI TAMPER

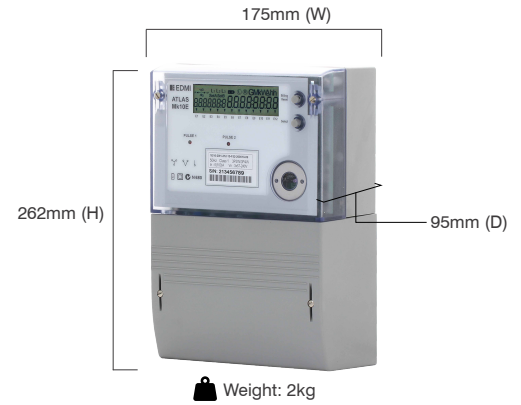


UPS

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Standards and Compliance

- Class 0.5S and Class 1
- IEC 62052-11, 62053-21, *62052-31, 62053-22, 62053-23, *62053-24
- AS 62052.11, 62053.21, 62053.22, 62053.23
- NMI M6

Measurement

- 3 phase 3 wire
- 3 phase 4 wire
- Option for neutral current measurement

Voltage

- Nominal voltage: 57.7V – 240V
- Operating range: 52V – 290V
- Withstand: Up to 290V
- Burden: IEC 62053-61 compliant

Auxiliary Supply Options

- 57.7V - 240V Auxiliary Supply
- Battery UPS

Current

- CT range: 1/4A, 1/10A, 5/6A, 5/10A, 5/20A
- CT limit: 20 x I_{max} for 0.5 seconds
- WC range: 5/100A, 10/100A
- Burden: <0.5VA/phase

Frequency

- 45Hz - 65Hz

Inputs/Outputs Configuration

- Up to 4 independently isolated I/O
- Options include: Passive/Active inputs, S0/BOSFET/Relay outputs
- Passive input voltage: 5V, 12V, 48V, 110V, 240V
- Active input voltage: 12V (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
- Option for external for backup
- Option for UPS battery
- Option for additional Supercap (72 hours)
- Backup time: 10 years without power (Lithium Battery)

Real-time Clock

- Accuracy (internal) within 15 seconds per month at 23°C

Data Memory

- 2 MB of non-volatile memory

Display

- Large 7 segment alphanumeric display with 10.7mm x 6.67mm digit size
- *Large 14 segment alphanumeric display with 10.5mm x 5.1mm digit size
- Up to 60 user-defined screens of any meter parameter
- Definable enunciators
- Display available without main power
- LED Backlight Option

Measured Values

- 3 elements 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Fundamental Wh
- Per quadrant Wh, varh and VAh
- Phase A,B,C and Total
- W, var, VA, Vrms, Irms
- Power factor, frequency, phasor angles
- Supports ripple control/AFLC

Power Quality Indication

- Total Harmonic Distortion (THD)
- Unbalance (sequence components)
- 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 5000 days storage (2 channels, 30-minute intervals)
- Supports Advanced Demand Management (ADM) with prioritised rules
- AMI ready
- Up to 32 channels and 4 independent surveys
- Intervals programmable from 1 to 60 minutes
- Energy, instantaneous readings, pulsing input 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
- Option for fixed-threshold magnetic tamper detection
- *Option for high-sensitivity 3D magnetic tamper detection with configurable threshold
- Source impedance monitoring

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 (2G/3G/4G LTE supported)
 - RS-485 multi-drop (2 or 4-wire RJ45 or 2-wire screw terminal)
- UDP/IP GPRS/PPP capable
- Compatible with MV-90™
- Supports Function Based Setup

Protocol

- EDMI command line
- DLMS
- MODBUS

Software

- EDMI EziView software available for meter programming and reading (Windows® compatible)
- EDMI MultiDrive software available for large scale AMI and AMR solutions (Windows® compatible)
- Supported by many popular third-party multi-vendor AMR systems

Environmental

- Specified operating range:
 - 25°C to +60°C
- Operating range limit:
 - 40°C to +70°C
- Storage range limit:
 - 40°C to +80°C
- Relative humidity:
 - Up to 95% non-condensing for 30 days
- Ingress protection: IP54
- Protective Class II
- Surge Test: 5kV
- Impulse Test: 10kV

Specifications with * symbol available in manufacturing codes with prefix 1Ex3

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