⚡ ELECTRICITY

Mk10E

ATLAS – Class 0.5S and Class 1S

Three Phase CT 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 and enhanced communications capabilities.

| Key Features

AMI READY	HIGH ACCURACY	LARGE DATA STORAGE	MULTIPLE COMMS OPTIONS	MEASURE EVERYTHING	UPGRADEABLE	ANTI TAMPER

Mk10E

ATLAS - Class 0.5S and Class 1S

Three Phase CT Smart Meter

175mm (W)

262mm (H)

95mm (D)

Weight: 2kg

Standards and Compliance

- Class 0.5S and Class 1S
- IEC 62052-11, 62052-31, 62053-22, 62053-24, 62054-21
- AS 62052.11, 62053.22, 62052-31, 62053-24, 62054-21
- NMI M6

Measurement

- 3 phase 3 wire
- 3 phase 4 wire

Voltage

- Nominal voltage: 57.7V – 240V
- Operating range: 52V – 290V
- Withstand: Up to 456V
- Burden: IEC 62053-61 compliant

Current

- CT range: 1/4A, 1/10A, 5/6A, 5/10A, 5/20A
- CT limit: 20 x Imax for 0.5 seconds
- Burden: <0.5VA/phase
- Overload current: 128A

Frequency

- 50Hz ± 6%

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 additional Supercap (72 hours)
- Backup time: 10 years without power (Lithium Battery)

Real-time Clock

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

Data Memory

- 4.2 MB of non-volatile memory

Display

- 8 digit numerical value field and 6 digit description field
- Large 14 segment (starburst) 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 10,000 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
- Configurable threshold; 3D magnetic tamper detection
- 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

Safety

- Protective Class II
- Surge Test: 6kV
- Impulse Test: 12kV

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 (It supports most modems in the market)
  - RS-485 multi-drop (2 or 4-wire RJ45 or 2-wire screw terminal)
- UDP/IP GPRS/PPP capable
- Compatible with MV-90™

Protocol

- EDMI command line
- DLMS

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
- Supports Function Based Setup

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

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