

# Mk10A

**ATLAS** – Class 1 and Class 2

Three Phase CT/WC Smart Meter

The Mk10A is another addition to the Atlas series which enhances the Mk10 meter with additional communications capabilities for use in Power Quality indication, advanced commissioning functionalities and larger memory storage.



## Key Features

**AMI**

AMI READY



CT-WC  
CONNECTED



LARGE DATA  
STORAGE



LARGE LCD  
DISPLAY



MEASURE  
EVERYTHING



UPGRADEABLE



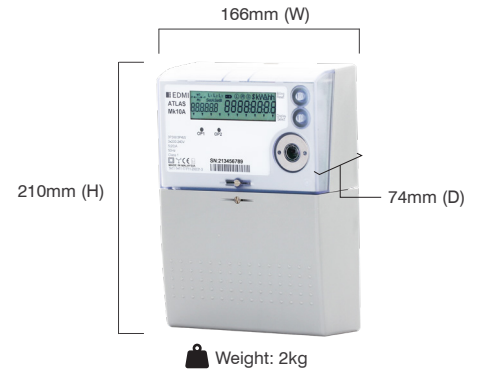
UP TO 4  
IO OPTIONS



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## Three Phase CT/WC Smart Meter



### Standards and Compliance

- Class 1 and Class 2
- IEC 62052-11, 62052-31, 62053-21, 62053-23
- AS 62052-11, 62053-21, 62053-23
- EN 50470-1, 50470-3
- NMI M6

### Measurement

- 1 phase 2 wire
- 3 phase 4 wire
- 3 phase 3 wire

### Voltage

- Nominal voltage: 220V - 240V
- Operating range: 0.8UN to 1.15UN
- Withstand range: 0V to 290V

### Current

- CT range: 1/6A, 5/20A
- CT limit: 20 x I<sub>max</sub> for 0.5 seconds
- WC range: 5/100A, 10/100A
- WC limit: 7000A for 3 cycles
- Burden: <0.5VA/phase

### Power Consumption

- Voltage burden: IEC 62053-61 compliant
- Current burden: <0.5VA/phase

### Frequency

- 45Hz - 65Hz

### Inputs/Outputs Configuration

- Up to 4 x I/O total in 3 isolated groups (maximum 2 relay outputs)
- Option include: Passive/Active input, S0/BOSFET/relay output
- Passive input voltage: 5V, 12V, 48V, 110V, 240V
- Active input voltage: 12V (common ground)
- BOSFET output: 240V, 100mA maximum
- S0 output: 27V, 27mA maximum
- Relay output: 240V, 2A
- 2 Programmable LED indicators
- Programmable output pulse width: 1ms to 100ms

### Battery

- Internal lithium battery (3V)
- Replaceable external battery
- Backup time: 10 years without power

### Real-time Clock

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

### Data Memory

- 2.1MB of non-volatile memory

### Display

- 8 Characters of seven segment display (10.7mm x 4.67mm)
- 6 Digit description field
- Display available without main power

### Measured Values

- Import/Export/Absolute Wh, varh and VAh
- Fundamental Wh
- W, var, VA, Vrms, Irms
- Power factor, frequency, phase angle
- Supports ripple control/AFLC

### Power Quality Indication

- Total Harmonic Distortion (THD)
- Unbalance (sequence components)
- Sag/Swell
  - 5 Cycle resolution
  - Records time/date/phase/duration/average and worst excursion
  - Programmable trigger levels

### LCD Configuration

- Up to 60 user-defined screen of any meter parameter
- Up to 4 display set
- Definable enunciators

### Load Survey/Profile

- AMI ready
- Up to 32 channels and 2 independent surveys
- Interval programmable from 1 to 60 minutes

- Over 3600 days (10 years) storage (2 channels, 30-minute intervals)
- 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 and 8 seasons
- Up to 61 previous billing periods plus billing totals
- Block or rolling maximum demand
- Energy, pulsing inputs
- Time of maximum demand

### Calendar

- Supports Daylight Saving time
- Supports Gregorian or Persian calendars
- RTC and frequency synchronisation

### Tamper Detection and Alarms

- Provision for sealing with conventional wire or plastic seals
- Reverse current detection
- Advanced tamper detection and logging
- Case and terminal cover tamper
- Pre-programmed alarms for meter self-check
- Alarms trigger LEDs, enunciators, relay output or communications event
- Alarms are stored in event logs

### Security

- Multi-level security (username and password including encrypted log-in)
- Up to 7 independent security levels
- Up to 6 individual users

### 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)
  - RS-485 multi-drop (2 or 4-wire RJ45 or 2-wire screw terminal)
- Option for passive RS-232 or second RS-232 port
- MV-90™ compatible

### Protocol

- EDML command line
- MODBUS

### Software

- EDML EziView software available for meter programming and reading (Windows® compatible)
- EDML 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
- 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 (Outdoor), UL50 (3R)
- Salt spray resistant (IEC 60068-2-11)

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