**ELECTRICITY**

# Mk10D

## ATLAS – Class 1 and Class 2

### Three Phase Smart Meter with Disconnect Feature

Built on the advanced Atlas metering platform, the Mk10D adds three 100A UC3 compliant relays into the meter which allows for disconnection and reconnection of electrical services remotely.

## | Key Features

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

# Mk10D

**ATLAS** - Class 1 and Class 2

## Three Phase Smart Meter with Disconnect Feature

175mm (W)
262mm (H)
95mm (D)

**Weight: 2.5kg**

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

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

## Voltage
- Nominal voltage: 120V, 220V – 240V
- Operating range: 110V – 130V, 176V – 276V
- Withstand: Up to 290V
- Burden: IEC 62053-61 compliant

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

## Frequency
- 45Hz - 65Hz

## Relay
- 100A IEC 62055-31 Annex C UC3
- Relay fault detection
- *Option for individual supply switching at 100A
- *Enhanced relay switching time ≤10s
- *May be ordered without disconnect relays

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

## Battery
- Internal battery
- *Option for external battery
- *Option for additional supercap (72 hours)
- Backup time of 10 years without power (Lithium Battery)

## Real-time Clock
- Accuracy (internal) within 15 seconds per month at 23ºC

## Data Memory
- 2.1 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 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
- 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 (compatible with the majority of modems in the market)
  - RS-485 multi-drop (2 or 4-wire RJ45 or 2-wire screw terminal)
- Compatible with MV-90™

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

*Specifications with * symbol available in manufacturing codes with prefix 1Dx3*