



Mk10E

Advanced Three Phase Electronic Revenue Meter



Atlas Series - Class 0.5S and Class 1

PRODUCT INFORMATION

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.



KEY FEATURES

AMI

AMI READY



HIGH ACCURACY



CT \ WC CONNECTED



LARGE DATA STORAGE



LARGE LCD DISPLAY



MEASURE EVERYTHING



UPGRADEABLE



ANTI TAMPER

Mk10E



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Advanced Three Phase Electronic Revenue Meter



SPECIFICATIONS

Measurement

- Class 0.5S & Class 1 (MID Class C & Class B)
- Compliance with IEC 62052-11, 62053-21, 62053-22, 62053-23
- Compliance with AS 62052.11, 62053.21, 62053.22, 62053.23
- Compliance with EN 50470-1, 50470-3
- 3 Phase 3 Wire, 3 Phase 4 Wire

Voltage & Power Supply

- Nominal Voltage: 57.7V – 240V L-N
- Operating Limit: 52V – 290V L-N
- Burden: <10VA/phase @ Vn (3 Phase) (IEC 52053-61 Compliant)
- Frequency Range: 45Hz – 65Hz
- Option for Auxiliary Supply & UPS

Current

- CT Range: 1/4A, 1/10A, 5/20A
- CT Limit: 20 times I_{max} for 0.5 seconds
- WC Range: 5/100A, 10/100A (Class 1 or 2)
- WC Limit: 30 times I_{max} for 0.5 cycles
- Burden: <0.5VA/phase

Measured Energy Values

- 3 Element 4 Quadrant
- Import/Export Wh, varh and VAh
- Per Quadrant Wh, varh and VAh
- Absolute Wh, varh and VAh
- Phase A, B, C & Total

Other Measured & Display Values

- Power: W, var, VA
- True RMS Voltage/Current (3 Phase)
- Power Factor, Frequency, Phasor Angles

Power Quality Indication

- Total Harmonic Distortion (THD)
- Sequence Components
- Waveform Display

Sag / Swell

- 5 Cycle Resolution
- Records Time/Date/Phase/Duration/ Average & Worst Excursion
- Programmable Trigger Levels

Inputs / Outputs Configuration

- Standard Top Row I/O:
 - Up to 4 I/O Total, Independent Common Ground, 4KV Isolation
 - Options Include: Passive/Active Inputs, SO/BOSFET/Relay Outputs
 - Passive Input Voltage: 5V, 12V, 48V, 110V, 240V
 - Active Input Voltage: 12V
 - BOSFET Output: 240V, 100mA maximum
 - SO Output: 27V, 27mA maximum
 - Relay Output: 240V, 5A/2A
- Extended Bottom Row I/O: (Optional)
 - As per Standard I/O
 - Output Pulse Width: 1ms to 100ms

Environmental

- Operating Range: -25°C to +60°C
- Limit Range: -40°C to +70°C
- Storage Range: -40°C to +80°C
- Relative Humidity: Up to 95% non-condensing for 30 days
- Ingress Protection: IP54
- Salt Spray Resistant (IEC 60068-2-11)

Large LCD Display

- Large 7-Segment Display
- Display Digit Size: 10.7mm (H)
- Up to 60 User-Defined Screens of any Meter Parameter
- Definable Enunciators
- Display Available without Main Power

Load Survey / Profile

- AMI Ready
- Up to 2.1 Megabytes of Non-Volatile Memory
- Over 7200 Days (20 Years) Storage (2 Channels, 30-Minute Intervals)
- Up to 32 Channels
- Intervals Programmable from 1 to 60 Minutes
- 2 Independent Surveys
- Energy, Instantaneous Readings, Pulsing Inputs as Channel Sources
- Ability to Store Average/Minimum/Maximum Values for Interval Duration

Time Clock & Calendar

- Accuracy (internal) within 15 Seconds per Month at 23°C
- Backup Time of 10 Years without Power (Lithium Battery)
- Mains Synchronised or Internal Crystal Timing (Selectable)
- Supports Daylight Saving Time
- Supports Gregorian or Persian Calendars

Time of Use

- Up to 8 Rates plus Unified Rate
- Up to 32 Separate Import & Export Registers
- Daily, Weekly, Monthly, Yearly & Special
- Up to 200 programmable Special Days
- Up to 61 Previous Periods plus Period Totals
- Block or Rolling Maximum Demand
- Energy, Pulsing Inputs
- Time of Maximum Demand

Physical Dimensions

- Standard Version: Approx. 262mm (L) x 175mm (W) x 95mm (D)
- Weight: Approx. 2.0 kg

Security

- Multi-level Security (Username & Password including Encrypted Log-in)
- Up to 7 Independent Security Levels
- Up to 6 Individual Users

Tamper Detection & Alarms

- Provision for Sealing with Conventional Wire or Plastic Seals
- Bypassing & Reverse Current
- 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 Magnetic Immunity

Communications

- 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 Supported)
- RS-485 Multi-Drop (4 or 2 Wire, RJ45 or Screw Terminal)
- Option for second RS-232 Port
- UDP/IP GPRS/PPP Capable
- Option for Zigbee Mesh RF

Battery Options

- Internal Battery
- Replaceable External Battery
- Option for Additional Supercap

Software

- EDMi EziView Software Available for Meter Programming & Reading (Windows 7/Vista/XP/2000)
- EDMi MultiDrive Software available for Large Scale AMI & AMR Solutions (Windows 7/Vista/XP/2000)
- Supported by many popular third-party multi-vendor AMR systems, including MV-90™

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