

Mk10E

ATLAS – Smart Three Phase
CT Class 0.5s Meter



Powering the Future with
Precision and Control

Designed for Transformer measurement use, **Mk10E** is 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.



DLMS
PROTOCOL



CT-WC
CONNECTED



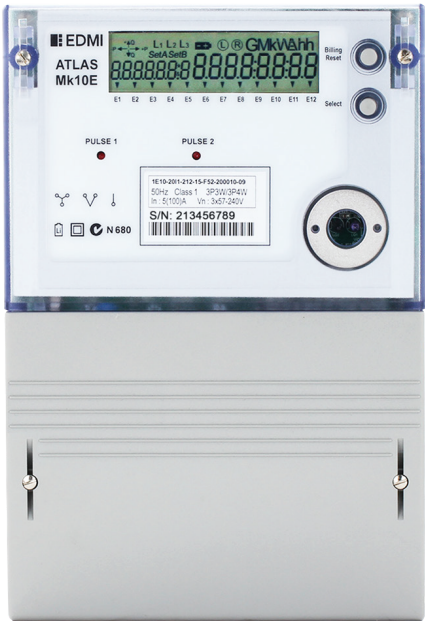
HIGH
ACCURACY



UPS



ELECTRICITY



Main Functionalities

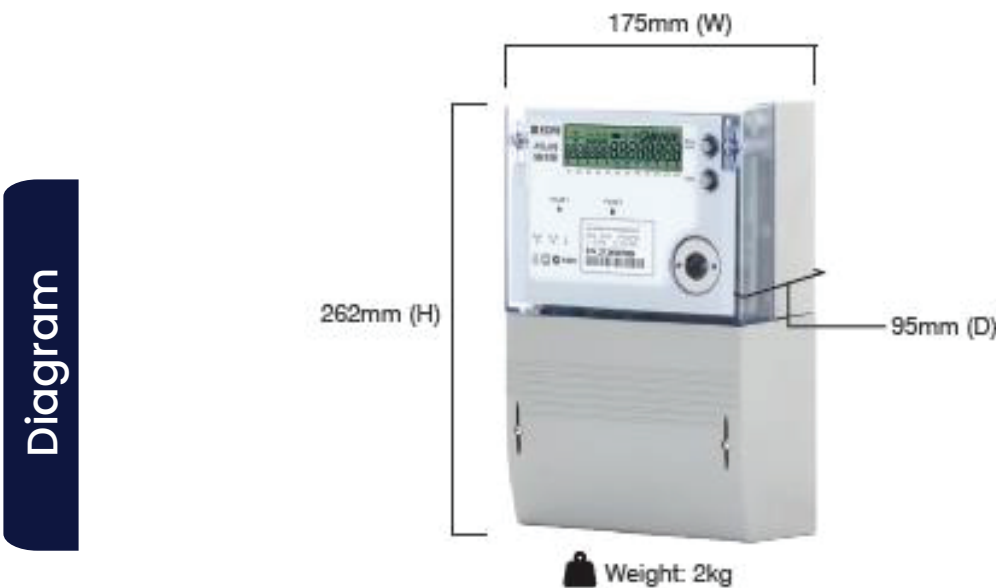
Measurement Capabilities	• Class 0.5S and Class 1 • IEC 62052-11, 62053-21, *62052-31, 62053-22, 62053-23, *62053-24 • AS 62052.11, 62053.21, 62053.22,, 62053.23 • NMI M6
Measurement	• 3 phase 3 wire • 3 phase 4 wire • Option for neutral current measurement
Voltage	• Nominal voltage: 57.7V – 240V • Operating range: 52V – 290V • Withstand: Up to 290V • Burden: IEC 62053-61 compliant
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
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
Communication Ports	• 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
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
Battery	• Internal battery • Option for external for backup • Option for UPS battery • Option for additional Supercap (72 hours) • Backup time: 10 years
Protocol	• EDM I command line • DLMS • MODBUS

Additional Functionalities

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
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 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
Tine 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
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
Software	• EDMl EziView software available for meter programming and reading (Windows® compatible) • EDMl MultiDrive software available • EDMP GridLink Head End Software available for large scale AMI and AMR solutions

Technical Specification

Rated Nominal Voltage	57.7V – 240V
Operating Voltage Range	52V – 290V
Rated Current & Starting Current	1/4A, 1/10A, 5/6A, 5/10A, 5/20A
Rated Frequency	45Hz - 65Hz
Pulse Constant (Configurable)	10000imp/kWh 10000imp/kvarh (Default)
Accuracy Class	- Cl.0.5S for Active - Cl.1 for Reactive
Auxiliary Supply Options	57.7V - 240V Auxiliary Supply - Battery UPS
Battery and Life	- Internal Lithium Battery (3.6V) - Backup Time: 10 years without battery (lithium Battery)
Data Memory	2 MB of non-volatile memory
Real Time Clock	Accuracy (internal) within 15 seconds per month at 23°C
Specified Operation Range Operating Range Limit	-25 to +60 , Humidity is up to 95% -40 to +70 Humidity is up to 95%
EMC Performance	Impulse voltage > 12kV
Protection Class	- IP54 comply with IEC60529 - Insulation grade II



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