

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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● 3 phase 3 wire● 3 phase 4 wire● Option for neutral current measurement
Voltage	<ul style="list-style-type: none">● Nominal voltage: 57.7V – 240V● Operating range: 52V – 290V● Withstand: Up to 290V● Burden: IEC 62053-61 compliant
Current	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● Up to 3 independently working communication ports:<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● Internal battery● Option for external for backup● Option for UPS battery● Option for additional Supercap (72 hours)● Backup time: 10 years
Protocol	<ul style="list-style-type: none">● EDMI command line● DLMS● MODBUS

Additional Functionalities

Measured Values	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● Total Harmonic Distortion (THD)● Unbalance (sequence components)● Option for live waveform display● Sag/Swell<ul style="list-style-type: none">● 5 Cycle resolution● Records time/date/phase/duration/average and worst excursion● Programmable trigger levels
Load Profile	<ul style="list-style-type: none">● 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
Time of Use	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● EDMI EziView software available for meter programming and reading (Windows® compatible)● EDMI MultiDrive software available● EDMP GridLynk Head End Software available for large scale AMI and AMR solutions

Technical Specification

Rated Nominal Voltage	<ul style="list-style-type: none">● 57.7V – 240V
Operating Voltage Range	<ul style="list-style-type: none">● 52V – 290V
Rated Current & Starting Current	<ul style="list-style-type: none">● 1/4A, 1/10A, 5/6A, 5/10A, 5/20A
Rated Frequency	<ul style="list-style-type: none">● 45Hz - 65Hz
Pulse Constant (Configurable)	<ul style="list-style-type: none">● 10000imp/kWh● 10000imp/kvarh (Default)
Accuracy Class	<ul style="list-style-type: none">● Cl.0.5S for Active● Cl.1 for Reactive
Auxiliary Supply Options	<ul style="list-style-type: none">● 57.7V - 240V Auxiliary Supply● Battery UPS
Battery and Life	<ul style="list-style-type: none">● Internal Lithium Battery (3.6V)● Backup Time: 10 years without battery (lithium Battery)
Data Memory	<ul style="list-style-type: none">● 2 MB of non-volatile memory
Real Time Clock	<ul style="list-style-type: none">● Accuracy (internal) within 15 seconds per month at 23°C
Specified Operation Range Operating Range Limit	<ul style="list-style-type: none">● -25 to +60 , Humidity is up to 95%● -40 to +70 Humidity is up to 95%
EMC Performance	<ul style="list-style-type: none">● Impulse voltage > 12kV
Protection Class	<ul style="list-style-type: none">● IP54 comply with IEC60529● Insulation grade II

Diagram



EDMP

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