

# Mk10E

ATLAS – Smart Three Phase CT Class 0.5s Meter



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  
READY



CTWC  
CONNECTED



HIGH  
ACCURACY



UPS



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## Main Functionalities:

Standards & Compliance	<ul style="list-style-type: none"><li>▪ Class 0.5S and Class 1</li><li>▪ IEC 62052-11, 62053-21, *62052-31, 62053-22, 62053-23, *62053-24</li><li>▪ AS 62052.11, 62053.21, 62053.22,, 62053.23</li><li>▪ NMI M6</li></ul>
Measurement	<ul style="list-style-type: none"><li>▪ 3 phase 3 wire</li><li>▪ 3 phase 4 wire</li><li>▪ Option for neutral current measurement</li></ul>
Voltage	<ul style="list-style-type: none"><li>▪ Nominal voltage: 57.7V – 240V</li><li>▪ Operating range: 52V – 290V</li><li>▪ Withstand: Up to 290V</li><li>▪ Burden: IEC 62053-61 compliant</li></ul>
Current	<ul style="list-style-type: none"><li>▪ CT range: 1/4A, 1/10A, 5/6A, 5/10A, 5/20A</li><li>▪ CT limit: 20 x I<sub>max</sub> for 0.5 seconds</li><li>▪ WC range: 5/100A, 10/100A</li><li>▪ Burden: &lt;0.5VA/phase</li></ul>
Inputs/Outputs Configuration	<ul style="list-style-type: none"><li>▪ Up to 4 independently isolated I/O</li><li>▪ Options include: Passive/Active Inputs, S0/BOSFET/Relay outputs</li><li>▪ Passive input voltage: 5V, 12V, 48V, 110V, 240V</li><li>▪ Active input voltage: 12V (common ground)</li><li>▪ S0 Output: 27V, 27mA maximum</li><li>▪ BOSFET output: 240V, 100mA maximum</li><li>▪ Relay output: 240V, 2A</li><li>▪ 2 Programmable LED indicators</li><li>▪ Programmable output pulse</li></ul>
Communication Ports	<ul style="list-style-type: none"><li>▪ Up to 3 independently working communication ports:<ul style="list-style-type: none"><li>▪ Optical port: FLAG (IEC 62056-21) or ANSI Type 2 (ANSI C12.18)</li><li>▪ RS-232 with modem power supply (2G/3G/4G LTE supported)</li><li>▪ RS-485 multi-drop (2 or 4-wire RJ45 or 2-wire screw terminal)</li></ul></li><li>▪ UDP/IP GPRS/PPP capable</li><li>▪ Compatible with MV-90™</li><li>▪ Supports Function Based Setup</li></ul>
Security	<ul style="list-style-type: none"><li>▪ Multi-level security (username and password including encrypted log-in)</li><li>▪ Up to 7 independent security levels</li><li>▪ Up to 6 individual users</li><li>▪ AES128 bit encryption</li></ul>
Battery	<ul style="list-style-type: none"><li>▪ Internal battery</li><li>▪ Option for external for backup</li><li>▪ Option for UPS battery</li><li>▪ Option for additional Supercap (72 hours)</li><li>▪ Backup time: 10 years</li></ul>
Protocol	<ul style="list-style-type: none"><li>▪ EDMI command line</li><li>▪ DLMS</li><li>▪ MODBUS</li></ul>

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## Additional Functionalities:

Measured Values	<ul style="list-style-type: none"><li>▪ 3 elements 4 quadrants</li><li>▪ Import/Export/Absolute Wh, varh and VAh</li><li>▪ Fundamental Wh</li><li>▪ Per quadrant Wh, varh and VAh</li><li>▪ Phase A,B,C and Total</li><li>▪ W, var, VA, Vrms, Irms</li><li>▪ Power factor, frequency, phasor angles</li></ul>
Power Quality Indication	<ul style="list-style-type: none"><li>▪ Total Harmonic Distortion (THD)</li><li>▪ Unbalance (sequence components)</li><li>▪ Option for live waveform display</li><li>▪ Sag/Swell<ul style="list-style-type: none"><li>▪ 5 Cycle resolution</li><li>▪ Records time/date/phase/duration/average and worst excursion</li><li>▪ Programmable trigger levels</li></ul></li></ul>
Load Profile	<ul style="list-style-type: none"><li>▪ Over 5000 days storage (2 channels, 30-minute intervals)</li><li>▪ Supports Advanced Demand Management (ADM) with prioritised rules</li><li>▪ AMI ready</li><li>▪ Up to 32 channels and 4 independent surveys</li><li>▪ Intervals programmable from 1 to 60 minutes</li><li>▪ Energy, instantaneous readings, pulsing input as channel sources</li><li>▪ Ability to store average/minimum/maximum values for interval duration</li></ul>
Tine of Use	<ul style="list-style-type: none"><li>▪ Up to 8 rates plus unified rate</li><li>▪ Up to 32 separate import and export registers</li><li>▪ Daily, weekly, monthly, yearly and special days</li><li>▪ Up to 200 programmable special days</li><li>▪ Up to 61 previous billing periods plus billing totals</li><li>▪ Block or rolling maximum demand</li><li>▪ Time of maximum demand</li><li>▪ Energy, pulsing inputs</li></ul>
Tamper Detection and Alarms	<ul style="list-style-type: none"><li>▪ Provision for sealing with conventional wire or plastic seals</li><li>▪ Bypassing current and reverse current detection</li><li>▪ Advanced tamper detection and logging</li><li>▪ Pre-programmed alarms for meter self check</li><li>▪ Alarms trigger LEDs enunciators, relay outputs or communications event</li><li>▪ Alarms are stored in event logs</li><li>▪ Option for fixed threshold magnetic tamper detection</li><li>▪ *Option for high-sensitivity 3D magnetic tamper detection with configurable threshold</li><li>▪ Source impedance monitoring</li></ul>
Software	<ul style="list-style-type: none"><li>▪ EDMI EziView software available for meter programming and reading (Windows® compatible)</li><li>▪ EDMI MultiDrive software available</li><li>▪ EDMP GridLynk Head End Software available for large scale AMI and AMR solutions</li></ul>

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## 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	-25°C to +60°C, Humidity is up to 95%
Operating Range Limit	-40°C to +70°C Humidity is up to 95%
EMC Performance	Impulse voltage > 12kV
Protection Class	IP54 comply with IEC60529 Insulation grade II

## Diagram:



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