ELECTRICITY

Mk6Es

X-Series 2 – Class 0.2S

Power Quality (Class S) Smart Meter

The Mk6Es combines high precision metering and comprehensive data for network operation for power quality and substation monitoring. Designed for grid edge, transmission and distribution metering it provides unprecedented state-of-the-art metrology in terms of accuracy, precision, and reliability. It boasts IEC 61850 substation protocol compliance and Power Quality Class S measurement.

| Key Features

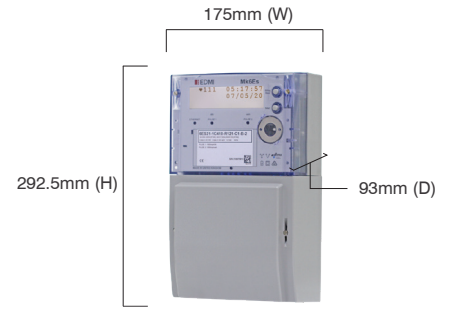| SECURE	HIGH ACCURACY	DLMS READY	LARGE LCD DISPLAY	MEASURE EVERYTHING	ETHERNET	ANTI TAMPER	SCRIPT EXTENSION

Mk6Es

X-Series 2 - Class 0.2S

Power Quality (Class S) Smart Meter

175mm (W)

292.5mm (H)

93mm (D)

Weight: 2.2 kg

Standards and Compliance
- Class 0.2S Active and Class 0.5S Reactive
- IEC 62052-11, 62053-22, 62053-24, 62052-31, 62059-32-1, SP-1618

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

Voltage
- Nominal voltage:
  57 - 240V L-N/100V - 415 L-L or
  57 - 277V L-N/100V - 480 L-L
- Impulse voltage: 12kV
- Terminal size: Ø 3.2mm - 3.3mm

Current
- CT range:
  0.3/6A, 1/6A, 1/10A, 5/10A, 5/20A
- CT limit: 20 x Imax for 0.5 seconds
- Terminal size: Ø 6.4mm - 6.6mm

Auxiliary Supply Option
- 100 to 240 VAC/140 to 340 VDC
- Auxiliary only input/Auxiliary priority/Phase priority

Power Consumption
- Voltage circuit: <10VA/phase @ Vn
- Current circuit: <0.5VA/phase @ In

Frequency
- 50Hz/60Hz

Inputs/Outputs Configuration
- 2 x LED indicators + 1 x Ethernet indicator
- 4 x passive inputs (5VDC/12VDC/24VDC/48VDC 110VAC/240VAC)

- 6 x BOSFET outputs (240V, 100mA maximum)

Battery
- External lithium thionyl chloride battery (3.6V, 1200mAh)
- Internal super capacitor (5V)
- Backup time: 72 hours without power (super capacitor)
- Read-Without-Power(optional): Nickel metal hydride (NiMH) battery (3.6V, 500mAh, Charge cycle: 1000 times)
- Backup time: 10 years without power (lithium battery)

Real-time Clock
- Precision clock accuracy: <5ppm (15 seconds per month) at full temperature range (-40°C to +85°C)
- RTC and frequency synchronisation
- Mains synchronised or internal crystal time keeping with revert

Data Memory
- 64MB of non-volatile memory

Display
- Display digit size: 9mm x 5.2mm
- 16 Characters by 3 lines alphanumeric display
- Programmable units, multi pliers and leading zeros
- Displays any available meter parameter
- Up to 64 user-defined screen pages to display any meter/ energy parameter

Measured Values
- 3 elements, 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Per quadrant: Wh,varh and VAh
- Phase A, B, C and Total
- W, var, VA

- True RMS voltage and current (3 phase + neutral)
- CT and VT correction
- Transformer and line loss compensation
- Power factor, frequency, phase angles

Power Quality
- IEC 61000-4-30 Class S
- Power frequency
- Magnitude of supply voltage
- Supply voltage sag and swell
- Voltage interruption
- Unbalance supply voltage
- Voltage harmonics
- Voltage total harmonics distortion (THD)

Load Survey/Profile
- Up to 70 channels and 2 independent surveys
- Intervals programmable from 1 minute to 1 month
- 30 days storage (70 channels, 30 minute interval)
- 120 days storage (15 channels, 30 minute interval)
- 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 100 previous periods plus period totals
- Block or rolling maximum demand
- Energy, pulsing inputs
- Time of maximum demand

Calendar
- Supports Daylight Saving time

Tamper Detection and Alarms
- Multiple tamper detection options
- Provision for sealing with conventional wire or plastic seals
- Pre-configured alarms self-check
- Alarms trigger LEDs and/or communication event

Security
- Multi-level security (username and password including encrypted log-in)
- Up to 7 independent levels
- Up to 6 individual users

Advanced Security
- On-chip AES-128
- Secure boot

Script Extensions
- Mk6Es Genius meter continues the adaptable concept of meter"extensions", introduced in the original MK6 Genius using EziScript, complex register manipulations can be performed allowing sophisticated processing capabilities.
- Standard toolbox extensions provided
- Customer-specific extensions will be made to order

Communications
- Up to 3 independently working communication ports:
  - Optical port: FLAG (IEC 62056-21)
  - RS-232 with modem power supply (7W, 13VDC max) or Ethernet
  - RS 485 (2 or 4-wire RJ45 or 2 or 4-wire screw terminal
- Extension card features:
  - 2x RJ45 RS-485
  - 1x 2-wire RS-485/1x4-wire RS-485

  - 2x Active I/P (5VDC)/2xSO O/P (27VDC, 20mA rated)
- GSM/GPRS supported
- Built-in Ethernet Port (10/100Mbps)
- Supports local and remote upgrade and configurations

Protocol
- EDMI command line
- DLMS/COSEM
- IDIS companion specification
- MODBUS (RTU)
- DL/T-645:2007
- IEC 61850 Communication

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)

Environmental
- Specified operating range: -25˚C to +60˚C
- Operating range limit: -40˚C to +70˚C
- Storage range limit: -40˚C to +85˚C
- Relative humidity:
  Up to 75% mean, 95% non-condensing for 30 days
- Ingress protection: IP54
- Salt spray resistance: ASTM B117

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www.edmi-meters.com

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