

# Mk6N - Advanced Three Phases Electronic Revenue Meter

The EDM1 Mk6N is an upgraded version of the highly acclaimed Mk6 Genius Energy Meter. The original EDM1 Mk6 stunned the market back in 1998 with its advanced power quality functionality and scripting capability. The new Mk6N is set to do the same today.

Utilizing the same advanced meter design and firmware platform as the original Mk6, the new Mk6N meter updates this platform to address new IEC standards and to incorporate an updated power supply and input protection technology utilized by our latest range of energy meters (including technology drawn from Mk6E Genius and Mk10/Mk7 Atlas series of meters).

## Basic Technical Specification

### Accuracy

- Class 0.5S, Class 1 and Class 2
- IEC62052-11, IEC62053-21 (Class 1), IEC62053-22 (Class 0.5S), IEC62053-23 (Class 2)

### Measurement Modes

- Single Phase (3 Circuits)
- 3 Phase 3 Wire
- 3 Phase 4 Wire

### Measured Energy Values

- 3 Elements, 4 Quadrants
- Import/Export Wh, varh and VAh
- Absolute Wh, varh and VAh
- Phase A, B, C or Total

### Other Measured and Displayed Values

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

### Load Survey / Load Profile

- NEM Compliant
- Standard 400 day-channel capacity at 30 minute intervals
- Optional additional storage to increase to over 2,500 day-channel capacity at 30 minute intervals
- Up to 50 Channels
- Per survey interval programmable from 1 second to 1 month
- Multiple independent surveys
- Energy, instantaneous readings and pulsing inputs as potential survey channel sources
- Ability to store average / minimum / maximum values over interval duration for individual channels

### Time of Use

- 8 rates plus unified rate
- Up to 12 separate import and export registers
- Up to 200 programmable special days
- Daily, Weekly, Monthly, Yearly, Special
- 13 or more previous periods
- Block or Rolling Maximum Demand
- Time of Maximum Demand
- Configurable Billing Reset Button

### Communications Options

- ANSI Type 2 Optical Port (ANSI C12.18) or IEC 62056-21 (IEC 61107) Optical FLAG Port
- RS232 (RTS/CTS and DTR/DCD)
- RS485 (2 or 4 wire multidrop)
- SCADA
- Modems (PSTN/GPRS/GSM/CDMA)
- Internal Modem Power Supply
- MV-90™ Compatible
- PPP / GPRS
- MODBUS
- DNP3
- Master / Slave arrangement with up to 31 'Slave' meters accessed through one 'Master' gateway meter

### Voltage

- Operating Range of 57V to 240V (phase to neutral)
- Burden of < 10VA per phase @ Vn (3 Phase)
- Frequency of 45 to 65Hz

### Current

- CT Range of 1/1.2A, 5/6A, 1/4A and 5/20A
- WC Range of 10/100A (Class 1 Only)
- Short time over-current of 20 times Imax for 0.5 seconds
- Burden of less than 0.5VA per phase

### Auxiliary Supply Options

- 240V, 110V Aux Only (other voltages available on special order)

### Pulsing Inputs / Outputs

- Maximum of 8 I/O with up to 8 outputs (2 standard) or 6 inputs
- Output voltage - 5 ~ 220V DC, 12 ~ 240V AC
- Output current of 0.1A maximum
- Output pulse width 2 output independent LEDs of 1ms to 250ms
- Programmable output polarity
- Input Voltages of 5, 12, 48, 110, 240V AC / DC
- Time synchronised (optional)

### Environmental

- Operating Range of -10 to +60°C
- Storage Range of -40 to +85°C

### Time Clock

- Accuracy (internal) within 30 seconds per month
- Backup time of 2 years without power
- Backup utilizing either lithium battery or optional SuperCap
- Mains synchronised or internal crystal time keeping. Mains synchronised reverts to internal crystal on loss of voltage on all phases.

### Data Storage (Configuration, TOU Data and Load Survey Data)

- FlashRAM
- Battery backed up RAM

### Sag / Swell

- 5 Cycle Resolution
- Records time / date / phase / duration and worst excursion
- Programmable trigger levels

### LCD Display

- 16 Character by 2 line alphanumeric display
- Programmable units, multipliers and leading zeros
- Up to 64 user definable screen displays
- Displays any available meter parameter

### Optional Functions

- Quality of Supply (QOS) features
- Waveform Capture
- Harmonic analysis to the 50th harmonic
- THD Measurement
- Fundamental energy measurement

### Software

- EDM1 Eziview software available for programming and reading of meter (Runs on Windows 98/ME/NT/2000/XP)
- Eziview also allows offline configuration of tariff programs and all meter parameters, for later upload to meters.

### Equipment Failure Alarms (EFAs)

A single user defined alarm condition (via extensions) is available plus pre-programmed alarms based on numerous:

- Self-Checks
- Tamper and wiring checks

### These Alarms Can:

- Turn on LED, LCD indicator or relay output
- Record an event in the event log
- Trigger an event such as a remote alarm, dial an emergency number, send an SMS to a programmable number or send alarm messages via GPRS to a programmable server

### Extensions for Customer Applications

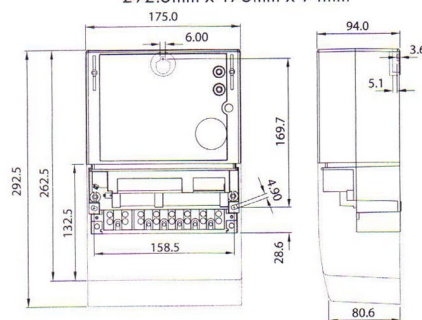
The Mk6N inherits the ability to use Extensions to increase the functionality of the standard metering platform. A simple yet powerful scripting language allows complex register manipulations to be performed that can create customized functions within the meter without the need for a firmware upgrade. EDM1 is always developing new extensions and we offer custom extension creation for specific customer needs. Contact us to find out more about Extensions for the Genius range of meters.

### Examples of currently available Extensions for EDM1 Genius Energy Meters:

- Send SMS at percentage of maximum demand
- Average power factor for billing period
- LCD menu system
- Magnetic tamper detection
- Power factor control extension
- Maximum demand control of loads via pulsing outputs
- Average voltage / current / unbalance, THD etc.
- Voltage Sag / Swell or Power Outage
- Voltage Quality
- Send SMS / GPRS Alarm on Equipment Failure Alarm
- Detect Individual Phase VT Failures

### Mk6N Dimensions (LxWxD)

292.5mm x 175mm x 94mm



### JOINT VENTURE COMPANY

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