


Mk6N

 **GENIUS** – Class 0.5S, Class 1 and Class 2

Three Phase CT/WC Smart Meter

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.



I Key Features

AMI

AMI READY



HIGH ACCURACY



LARGE DATA STORAGE



LARGE LCD DISPLAY



MEASURE EVERYTHING



UPGRADEABLE



ANTI TAMPER



SCRIPT EXTENSION

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Standards and Compliance

- Class 0.5S, Class 1 and Class 2
- IEC 62052-11, 62053-21 (Class 1), 62053-22 (Class 0.5S), 62053-23 (Class 2)
- IEC 62059-32-1:2012

Measurement

- 1 phase (3 circuits)
- 3 phase 3 wire
- 3 phase 4 wire

Voltage

- Nominal voltage: 57V - 240V (phase to neutral)
- Burden: <10VA / phase @ Vn (3 phase), as per IEC 62053-61

Current

- CT range: 1/1.2A, 1/2A, 1/4A, 1/6A, 5/6A, 5/10A and 5/20A
- WC range: 10/100A, 20/100A and 25/100A (Class 1 only)
- Short time over-current: 20 x Imax for 0.5 seconds
- Burden: <0.5VA/phase

Auxiliary Supply Option

- 100 to 240 VAC

Frequency

- 45Hz - 65Hz

Inputs/Outputs Configuration

- Up to 8 I/O via optional extended I/O card
- Active input: 5V
- Additional passive input, SO, BOSFET or relay outputs in the extended I/O card
- Passive input voltage: 5V, 12V, 48V, 110V, 240V
- BOSFET output: 240V, 100mA maximum
- SO output: 1.2V, 20mA maximum
- Relay output: 240V, 5A
- 2 Programmable LED indicators
- Programmable output pulse width: 1ms to 250ms

- Programmable output polarity
- Time synchronised (optional)

Battery

- Backup type: Optional lithium battery 1200mAh, 3.5V and SuperCap (single/dual)
- Backup time: 2 years without power
- Battery shelf life of 10 plus years at room temperature

Real-time Clock

- Accuracy: 0.5 seconds per day (over full temperature range)
- Mains synchronised or internal crystal (TCXO) time keeping. Mains synchronised reverts to internal crystal (TCXO) on loss of all phase volts

Data Memory

- Configuration, TOU data and load survey data
 - Flash RAM
 - Battery backed up RAM

Display

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

Measured Values

- 3 elements, 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Phase A, B, C or Total
- W, var, VA
- True RMS voltage (3 phase)
- True RMS current (3 phase)
- Power factor, frequency, phasor angles

Power Quality Indication

- Total Harmonic Distortion (THD)
- Unbalance

- Fundamental voltage, current and watt measurement
- Harmonics (up to the 50th)
- Sag/Swell
 - 5 Cycle resolution
 - Records time/date/phase/duration/average and worst excursion
 - Programmable trigger levels
- Waveform capture (voltage and current only)

Load Survey/Profile

- NEM compliant
- Over 900 kilobytes of flash data storage space.
 - 3100 day-channel capacity at 30 minute intervals
 - 1875 day capacity at 30 minute intervals/2 channels
 - 520 day capacity at 15 minute intervals/3 channels
- Up to 50 channels
- Interval programmable from 1 minute 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 and special days
- 13 or more previous periods
- Block or rolling maximum demand
- Time of maximum demand
- Configurable billing rest button

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. EDMl 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.

Some examples of currently available extensions are:

- 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

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

Communications

- Up to 3 independently working communications ports:
 - Optical port: FLAG (IEC 62056-21) or ANSI Type 2 (ANSI C12.18)
 - RS-232 (RTS/CTS and DTR/DCD)
 - RS-485 multi-drop (4-wire with RJ45 or screw terminal)
- Option for SCADA card
- Option for internal modem power supply
- PSTN, UDP/IP, GPRS/PPP capable
- Compatible with MV-90™
- Master/Slave arrangement with up to 31 'Slave' meters accessed through one 'Master' gateway meter

Protocol

- EDMl command line
- MODBUS

Software

- Eziview Windows® software (optional), can be used for programming and reading the meter
- Eziview also allows offline configuration of tariff programs and all meter parameters, for later upload to meters

Environmental

- Specified operating range: -25°C to +60°C
- Storage range limit: -25°C to +80°C
- Relative humidity: up to 95% non-condensing

EDMI Limited (Headquarters)

47 Yishun Industrial Park A, Singapore 768724
Tel: +65 6756 2938 Fax: +65 6756 0125
Email: marketing@edmi-meters.com
techsupport@edmi-meters.com

www.edmi-meters.com

