⚡ **ELECTRICITY**

Mk6E

⚛ **GENIUS** – Class 0.2S and Class 0.5S (MID Class C)

High Accuracy Three Phase Smart Meter

The Mk6E is an enhanced upgrade of the Mk6 meter, built with a higher class accuracy of 0.2S, catering to the high-end markets. The Mk6E is a high-precision meter created for generation and transmission applications, as well as for revenue metering at high-end consumer facilities.

I Key Features

| AMI READY | HIGH ACCURACY | DLMS READY | LARGE LCD DISPLAY | MEASURE EVERYTHING | UPGRADEABLE | ANTI TAMPER | SCRIPT EXTENSION |

Mk6E

⚛ **GENIUS** - Class 0.2S and Class 0.5S (MID Class C)

High Accuracy Three Phase Smart Meter

173mm (W)

262mm (H)

93mm (D)

🔒 Weight: 2kg

Standards and Compliance
- Class 0.2S and Class 0.5S
- IEC 62052-11, 62053-22 (Class 0.2S and Class 0.5S), 62053-23 (Class 2)
- EN 50470-1, EN 50470-3
- NMI-M6

Measurement
- 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:
  1/4A, 1/6A, 5/10A and 5/20A
- 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 10 I/O total, independent common ground with 4kV isolation
- Active input: 5V
- Passive input voltage:
  5V, 12V, 24V, 48V, 110V, 240V
- BOSFET output:
  240V, 100mA maximum
- 2 Programmable LED indicators
- Programmable output pulse width:
  1ms to 250ms
- Programmable output polarity
- Time synchronised (optional)

Battery
- Backup type: Optional lithium battery 1200mAh, 3.6V 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, pulsing inputs, average/min/max readings

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

Mk6E GENIUS plus®meter continues the successful concept of meter "Extensions" introduced in the original Mk6 Genius® using "EziScript", complex register manipulations can be performed allowing sophisticated meter functions. New extensions are constantly under development, contact us to find out the latest updates.

Some examples of currently available extensions are:
- Send SMS at percentage of maximum demand, or equipment failure alarm
- Maximum demand control of loads via pulsing outputs
- Time of use history, etc

Communications
- Up to 3 independently working communication 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
- EDMI command line
- MODBUS
- DNP3 level 2
- IEC 870-5-102
- DL/T 645-2007
- DLMS

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

EDMI

`2000` - `6` `E` `?` `?` - `?` `?` `?` `?` `?` - `?` `?` `?` - `?` `?` `?` - `?` `?` `?` - `?`

Accuracy
0 = Class 0.5S
2 = Class 0.2S

Series
0 = Standard config (MC68HC16)

Voltage Range
1 = 57-240V l-n (50-290V maximum limits)
2 = 57-110V l-n (Same HW as Opt 1)
3 = 190-240V l-n (Same HW as Opt 1)

Current Range
A = 1(4)A CT
B = 5(20)A CT
C = 1(6)A CT
D = 0.3(1.2)A CT (Special Option please consult Engineering)
E= 1(10)A CT (Special Option please consult Engineering)
F= 5(10)A CT

Auxiliary Range**
0 = no auxiliary voltage input
*1 = 24V DC (+/- 10%) Auxiliary Change-Over Input, Phase Priority [reserved]
2 = 100V-250V AC/DC Auxiliary-Only Input
3 = 100V-250V AC/DC Auxiliary Change-Over, Auxiliary Priority
4 = 100V-250V AC/DC Auxiliary Change-Over, Phase Priority
5 = Dual Auxiliary (Reserved, requested by Raj India market)

Terminal/Block Configuration
1 = AABBCC   standard CT terminal configuration + Standard Terminal Block
3 = AABBCCN   TNB CT terminal configuration + Standard Terminal Block
4 = ABCCBA   Special Option + Standard Terminal Block
5 = AABBCC+TBL   standard CT terminal configuration + Terminal Block with lid
7 = AABBCCN+TBL   TNB CT terminal configuration + Terminal Block with lid
8 = ABCCBA+TBL   Special Option + Terminal Block with lid
E = AABBCC   standard CT terminal configuration + Terminal Block with 5mm VT hole
F = AABBCCNN   standard WC terminal configuration + Terminal Block with 5mm VT hole
G = AABBCCN   TNB CT terminal configuration + Terminal Block with 5mm VT hole
H = ABCCBA   Special Option + Terminal Block with 5mm VT hole

Terminal Covers
1 = Standard Terminal Cover
2 = Short Terminal Cover
3 = Long Terminal Cover

Local Communications (Optical Port)
1 = IEC Flag
2 = ANSI C12.18 (standard)
3 = ANSI C12.18 (inverted)

Note: extended I/O cards are not mentioned as being separate in these proposed codes. All options are part of the whole meter.

Remote Communications (Modem Port)
0 = no modem port fitted
1 = RS232 with 1xRJ45
2 = RS232 with 1xRJ45 (High Power/High voltage)
3 = RS485 (4-wire) with 2xRJ45 (+5V)
4 = RS485 (4-wire) with Screw Terminals (+5V)
5 = RS232 with 1xRJ45 (+5V)

Those options specific to the extended I/O card are marked with an asterisk (*).

Extended Communications (SCADA Port)*
0 = no extended port fitted
1 = SCADA (RS485 Only) card, 2xRJ45, 1xRJ45 NULL, 1x Screw Terminal (Inform Engineering before place the order)
2 = RS485(2XRJ45) and RS232(DB25) connector

Those options specific to the auxiliary C/O card are marked with two asterisks (**).

Battery Options
4 = High-capacity 3.6V Lithium 1200mAh external battery
5 = High-capacity 3.6V Lithium 1200mAh external battery + TypeA SuperCap
6 = High-capacity 3.6V Lithium 1200mAh external battery + TypeB SuperCap

Internal Clock Options
2 = precision clock 15s/month, over full temp range   (5ppm TCXO module)

LCD Display
1 = Standard 16-character X 2-line display with green backlight
2 = 20-character X 4-line display with green backlight
3 = Special (7x5 dots) Larger Pixels, 16-character X 2-line display with green backlight (specially for Wallaby)

Standard I/O Options (Top-Row)
0 = no top-row I/O   note: inputs/outputs always fitted in even numbers.
A = 2 x 240V BOSFET outputs (C,D)
B = 4 x 240V BOSFET outputs (C,D,E,F)
C = 6 x 240V BOSFET outputs (C,D,E,F,G,H)   (note: A,B are linked
D = 8 x 240V BOSFET outputs (A,B,C,D,E,F,G,H)   to pulsing LEDs)
E = 2 x Passive Inputs, 2 x 240V BOSFET outputs (C,D)
F = 2 x Passive Inputs, 4 x 240V BOSFET outputs (C,D,E,F)
G = 2 x Passive Inputs, 6 x 240V BOSFET outputs (C,D,E,F,G,H)
H = 2 x Passive Inputs, 8 x 240V BOSFET outputs (A,B,C,D,E,F,G,H)
I = 4 x Passive Inputs, 2 x 240V BOSFET outputs (C,D)
J = 4 x Passive Inputs, 4 x 240V BOSFET outputs (C,D,E,F)
K = 4 x Passive Inputs, 6 x 240V BOSFET outputs (C,D,E,F,G,H)
L = 2 x Passive Inputs Only
M = 4 x Passive Inputs Only
N = 10 x 240V BOSFET outputs (A,B,C,D,E,F,G,H,I,J)
P = 2 x Passive Inputs(IP3,4), 8 x 240V BOSFET outputs WITHOUT linking Pulsing LED (CD,EF,GH,IJ)

Extended I/O Options (Bottom-Row)*
0 = no bottom-row I/O
*A = 8 x Passive Inputs [example]

Input Voltage Options
0 = no inputs fitted (For BOSFET Outputs Only)
1 = 5V inputs (+/- 20%)
2 = 12V inputs (+/- 20%)
3 = 24V inputs (+/- 20%)
4 = 48V inputs (+/- 20%)
5 = 110V inputs (+/- 20%)
6 = 240V inputs (+/- 20%)

HIGH ACCURACY THREE PHASE SMART MATER , MODEL : MK6E , C1 0.2S

2000-6E

2000-6E20-1E311-132-621-K05

Accuracy
2 = Class 0.2S
Reserved (for future options)
0 = Standard config
Voltage Range
1 = 57-240V l-n (50-290V maximum limits)
Current Range
E= 1(10)A CT (Special Option please consult Engineering)
Auxiliary Range**
3 = 100V-250V AC/DC Auxiliary Change-Over, Auxiliary Priority
Terminal/Block Configuration
1 = AABBCC standard CT terminal configuration + Standard Terminal Block
Terminal Covers
1 = Standard Terminal Cover
Local Communications (Optical Port)
1 = IEC Flag
Remote Communications (Modem Port)
3 = RS485 (4-wire) with 2xRJ45
All options are part of the whole meter.
2 = RS485(2XRJ45) and RS232(DB25) connector
Battery Options
6 = High-capacity 3.6V Lithium 1200mAh external battery + TypeB SuperCap
Internal Clock Options
2 = precision clock 15s/month, over full temp range (5 ppm TCXO module)
LCD Display
1 = Standard 16-character X 2-line display with green backlight
Standard I/O Options (Top-Row)
K = 4 x Passive Inputs, 6 x 240V BOSFET outputs (C,D,E,F,G,H)
Extended I/O Options (Bottom-Row)*
0 = no bottom-row I/O
Input Voltage Options applies to all non-S0 (passive) inputs only
5 = 110V inputs (+/- 20%)