

MAGNO 33 DC

FOR RESIDENTIAL AND COMMERCIAL
PREPAYMENT USE



Powering the Future with Precision and Control

The **Magno 33 with Keypad** is a directly connected three-phase smart meter designed for commercial and industrial energy management, supporting Advanced Metering Infrastructure (AMI) initiatives. Equipped with advanced **anti-tamper** features, the **Magno 33** helps utilities safeguard their revenues by detecting fraud and minimising line losses.

This high-performance meter is fully compliant with **STS/CTS** standards for prepaid metering via **keypad** entry, as well as the **DLMS/COSEM** and **IDIS protocol**, ensuring seamless compatibility with a wide range of utility systems.

With its reliable and robust performance, the **Magno 33 with Keypad** is an ideal solution for both residential and commercial customers, delivering exceptional **accuracy**, **security**, and **efficiency** in modern energy management.



ELECTRICITY

THREE PHASE DIRECT CURRENT SMART ENERGY METER

■ Main Functionalities

Standards & Compliance

- IEC62052- 11, 31
- IEC62053- 21, 22, 23, 24
- IEC62059- 31-1
- IEC62059-32-1
- EN62053-23
- EN50470-1,3
- DLMS/COSEM
- STS/CTS
- IDIS Package 2
- G3-Alliance

Measurement

- 3 elements 4 quadrants
- Import/Export Absolute/Q1/Q2/Q3/Q4:
Wh, varh and VAh
- Power (per phase / total): W, var, VA Vrms, Irms
- Power factor, frequency
- V-V and V-I phase angles
- Voltage THD, Current THD
- Harmonics up to 50th

Multi TOU Tariff

- Up to 8 tariff
- Up to 200 programmable special days Daily, Weekly, Monthly, Yearly & Special
- Up to 32 separate import and export registers
- Up to 12 seasons
- Up to 100 Previous period plus Period totals

Prepayment

- Configurable prepayment and post-payment mode
Three levels for remaining credit alarm
- Emergency credit, friendly time and friendly days support
- Dual wallet
- Meter Keypad (Optional)

■ Additional Functionalities

Event

- Fraud detection log (Meter cover & terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.)
- Failure detection log (Memory error, relay error, battery low voltage, clock invalid etc.)
- Power quality event log (Under voltage / Over voltage(Sag/Swell) ,Over current/current imbalance, Power up/down, etc.)
- Security event log
(Parameters change, clock adjust, etc.)
- Standard event log
(Power up/on, time synchronization, etc.)

Load control

- Remote control command support
- Over current control support
- Power limit support
- 3 poles internal relay
- Re-connect/Dis-connect by locally or remotely

Load Profile

- At least 50 channels
- Support 3 independent surveys
- 24hrs daily survey
- Intervals programmable from 1 to 60 minutes
- Storage 8 channels (15 min) for a year

Communication Ports

- WAN: Plug and play module to support various communication technology
- WAN: G3-PLC, WiSUN, Cellular (GPRS, 3G, 4G/LTE, NB-IoT), or Ethernet
- RF or PLC module – For communication with CIU (Customer Interface Unit)
- Optical: Comply with IEC 62056-21standard, DLMS(IEC 62056-21 mode E)
- Additional: RS485 (2 wire), VTC interface

Input/Output Ports (Optional)

- Pulse Output
- Dual Source Signal (Tariff change)
- Meter enclosure opening/tamper detection (Active input)
- External Relay output

Anti Tamper

- More than 4 sealing positions
- Terminal cover, meter cover and module cover sealing
- Self-protection under Overload control, Abnormal voltage control, Arrearage control, Tamper control,
- Malfunction control, Fire disaster control etc.

Alarm

- Alarms with LED/Buzzer and LCD on CIU
- Alarm can be configurable

Tariff Expense (Optional)

- Up to 10 steps tariff
- Up to 5 steps Monthly service charge
- Up to 5 kinds subsidy
- Up to 3 kinds fixed charge
- Up to 5 kinds levies charge
- Up to 3 kinds VAT charge

Communication Protocol

- International open protocol
- IEC62056-21 Mode-E DLMS
- HDLC DLMS and TCP/IP DLMS, Support suite-0, suite-1, and suite-2
- STS/CTS Token and SMS
- LLS support 3 level passwords for local and remote communication
- HLS support auth and encryption for local and remote communication
- IDIS Compliant

Billing Record

- 60-Months (5-Years)
- Calculate monthly net consumption of energy
- Up to 31 days daily data
- Calculate daily net consumption of energy

■ Technical Specification

Rated Nominal Voltage

- 3x 208/120V~480/277V

Operating Voltage Range

- 80%Un~120%Un

Rated Current & Starting Current

- 5(100)A and 0.4 % Ib

Rated Frequency

- 50Hz or 60Hz $\pm 5\%$

Pulse Constant (Configurable)

- 1000imp/kWh
- 1000imp/kvarh (Default)

Accuracy Class

- Cl 0.5s for Active
- Cl .2 for Reactive

Power Consumption

- Voltage circuit ≤ 2 W or 5VA, Current circuit ≤ 0.5 VA

Battery and Life

- Replaceable Lithium battery, life more than 15 years
- Supercap (Optional) – 5 yr life time with power off

Firmware Upgrade

- The firmware can be upgraded via local interface and WAN interface.
- Schedule activity image support

CIU unit

- The meter can communicate with the CIU via RF or PLC
- Parameters transfer
- Credit token, Key change token, clear balance token, clear tamper token, set power limit token, test token etc.
- Fully complies with STS standard

Keypad

- High-durability silicone rubber keypad
- 12-key numeric keypad (0-9, Enter, Clear)
- Soft-touch keys with enhanced tactile response

Normal Operation Range

- -25°C to +60°C, Humidity is up to 95%

Limit Operation Range

- -40°C to +70°C, Humidity is up to 95%

EMC Performance

- Impulse voltage > 6KV, AC voltage > 4KV, Short circuit
- Current > 3KA, Electrostatic Discharge contact: 8KV & air: 15KV

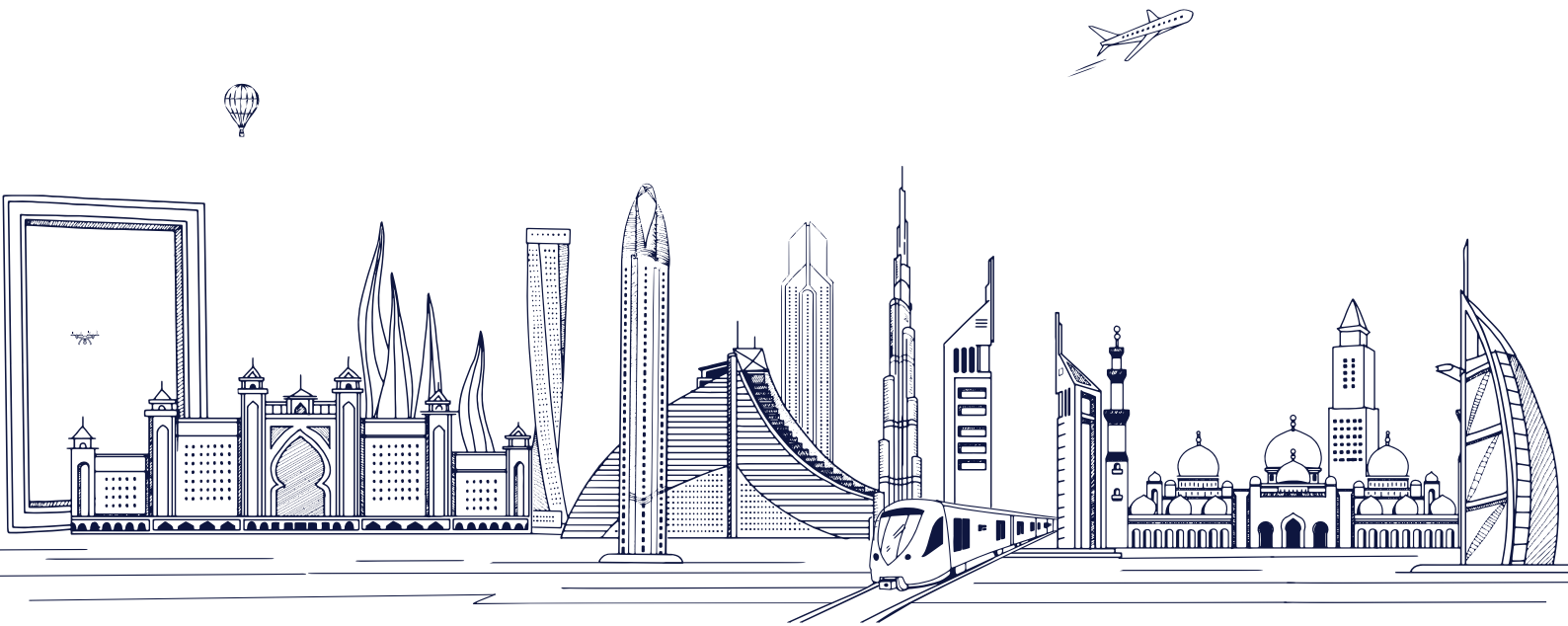
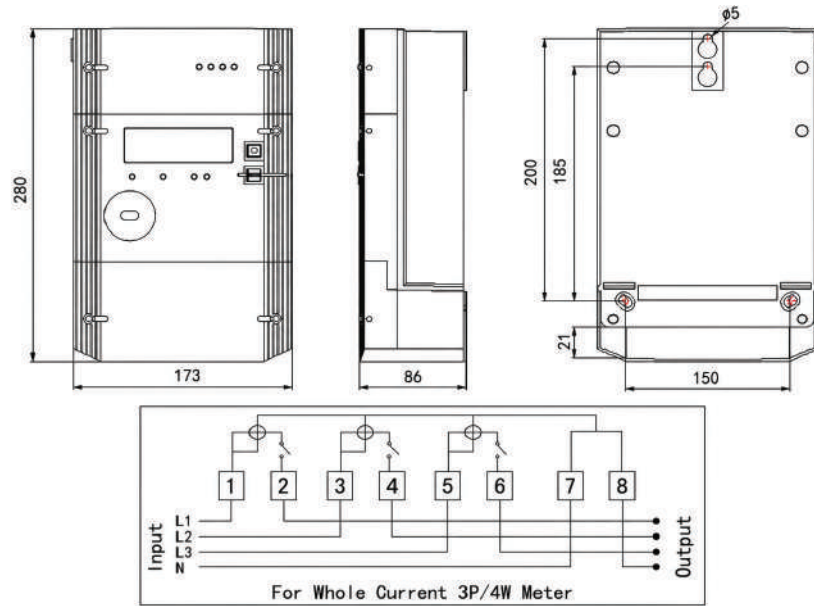
Protection Class

- IP54 compliant with IEC 60529
- Insulation grade II

Housing Material

- Polycarbonate with non-conductive, high impact, smooth finish, durable, non-flammable, UV stabilized, UV resistant and high resistance to weathering

■ Diagram



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