

MAGNO 33

For Residential and Commercial Use

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.



G3-Alliance



Main Functionalities

Standards & Compliance	• IEC 62052-11, 21, 31 • IEC 62053-23, 24 • IEC 62059-31-1 • IEC 62059-32-1 • EN62053-23 • EN50470-3 • 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)
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 62056-21 standard, 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

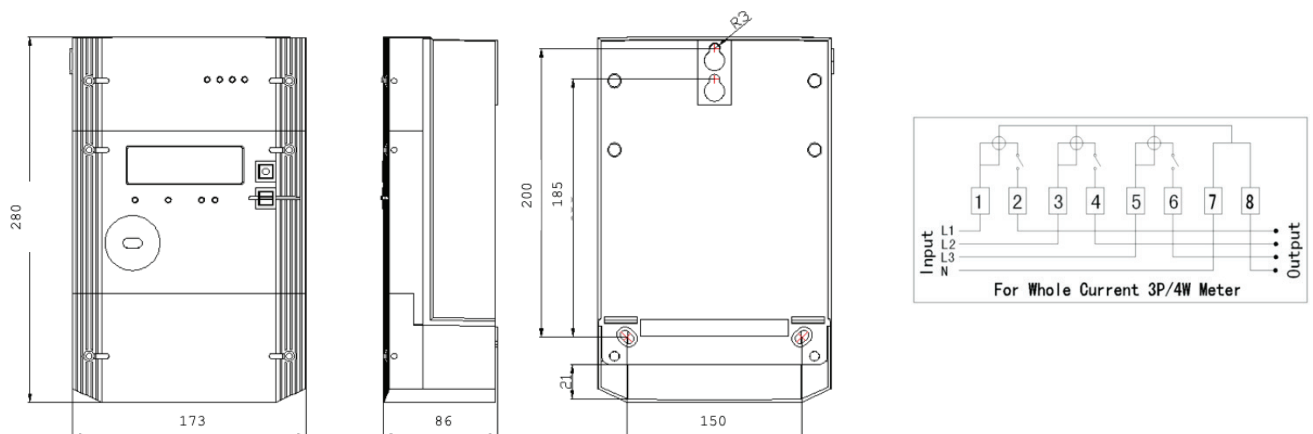
Additional Functionalities:

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.)
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 E mode DLMS ● HDLC DLMS and TCP/IP DLMS, Support suite 0 and suite 1 ● 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	● Up to 13-month billing data ● Calculate monthly net consumption of energy ● Up to 31 days daily data ● Calculate daily net consumption of energy
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

Technical Specification:

Rated Nominal Voltage	3x 208/120V~480/277V
Operating Voltage Range	80%Un~120%Un
Rated Current & Starting Current	(100)5A and 0.4 % Ib
Rated Frequency	50Hz or 60Hz $\pm 5\%$
Pulse Constant (Configurable)	1000imp/kWh 1000imp/kvarh (Default)
Accuracy Class	Cl.1 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 lifetime with power off
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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