

# 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

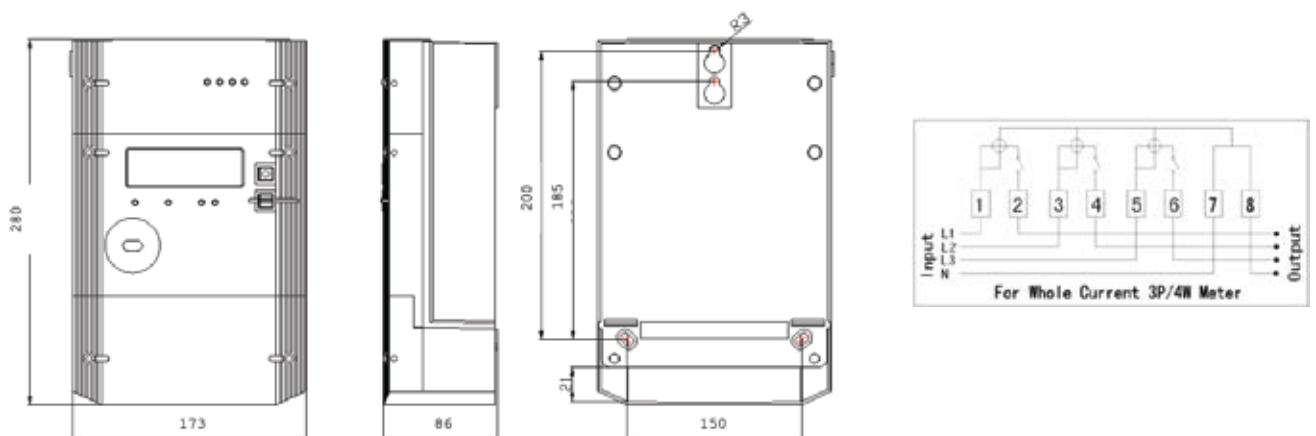
## Additional Functionalities:

<b>Event</b>	<ul style="list-style-type: none"><li>● Fraud detection log (Meter cover &amp; terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.)</li><li>● Failure detection log (Memory error, relay error, battery low voltage, clock invalid etc.)</li><li>● Power quality event log (Under voltage / Over voltage(Sag/Swell) ,Over current/current imbalance, Power up/down, etc.)</li><li>● Security event log (Parameters change, clock adjust, etc.)</li><li>● Standard event log (Power up/on, time synchronization, etc.)</li></ul>
<b>Anti Tamper</b>	<ul style="list-style-type: none"><li>● More than 4 sealing positions</li><li>● Terminal cover, meter cover and module cover sealing</li><li>● Self-protection under Overload control, Abnormal voltage control, Arrearage control, Tamper control, Malfunction control, Fire disaster control etc.</li></ul>
<b>Alarm</b>	<ul style="list-style-type: none"><li>● Alarms with LED/Buzzer and LCD on CIU</li><li>● Alarm can be configurable</li></ul>
<b>Tariff Expense (Optional)</b>	<ul style="list-style-type: none"><li>● Up to 10 steps tariff</li><li>● Up to 5 steps Monthly service charge</li><li>● Up to 5 kinds subsidy</li><li>● Up to 3 kinds fixed charge</li><li>● Up to 5 kinds levies charge</li><li>● Up to 3 kinds VAT charge</li></ul>
<b>Communication Protocol</b>	<ul style="list-style-type: none"><li>● International open protocol</li><li>● IEC62056-21 E mode DLMS</li><li>● HDLC DLMS and TCPIP DLMS, Support suite 0 and suite 1</li><li>● STS/CTS Token and SMS</li><li>● LLS support 3 level passwords for local and remote communication</li><li>● HLS support auth and encryption for local and remote communication</li><li>● IDIS Compliant</li></ul>
<b>Billing Record</b>	<ul style="list-style-type: none"><li>● Up to 13-month billing data</li><li>● Calculate monthly net consumption of energy</li><li>● Up to 31 days daily data</li><li>● Calculate daily net consumption of energy</li></ul>
<b>Firmware Upgrade</b>	<ul style="list-style-type: none"><li>● The firmware can be upgraded via local interface and WAN interface.</li><li>● Schedule activity image support</li></ul>
<b>CIU unit</b>	<ul style="list-style-type: none"><li>● The meter can communicate with the CIU via RF or PLC</li><li>● Parameters transfer</li><li>● Credit token, Key change token, clear balance token, clear tamper token, set power limit token, test token etc.</li><li>● Fully complies with STS standard</li></ul>
<b>Keypad</b>	<ul style="list-style-type: none"><li>● High-durability silicone rubber keypad</li><li>● 12-key numeric keypad (0-9, Enter, Clear)</li><li>● Soft-touch keys with enhanced tactile response</li></ul>

# 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 ±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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