MAGNO 33

For Residential and Commercial Use

Three Phase Direct Current Smart Energy Meter

The **Magno 33** 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 minimizing line losses. This high-performance meter is fully compliant with **STS/CTS** standards for prepaid metering and the **DLMS/COSEM** protocol, ensuring seamless compatibility with a wide range of systems. With its reliable, robust performance, the **Magno 33** is the ideal solution for both residential and commercial customers, delivering exceptional accuracy, security, and efficiency in energy management.

DLMS READY | IDIS | STS ASSOCIATION | G3-PLC Alliance

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Main Functionalities:

Standards & Compliance	• IEC 62052-11, 21, 31 • EN62053-23 • IEC 62053-23, 24 • EN50470-3 • IEC 62059-31-1 • IEC 62059-32-1
Measurement	• 3 elements 4 quadrants • Import/Export Absolute/Q1/Q2/Q3/Q4: Wh, varh and VAh • Power (per phase / total): W, var, VA • Vrms, lrms • Power factor, frequency • V-V and V-l 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, LoRaWAN, 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 Resource Signal (Tariff change) • Meter enclosure opening/tamper detection (Active input) • External Relay output

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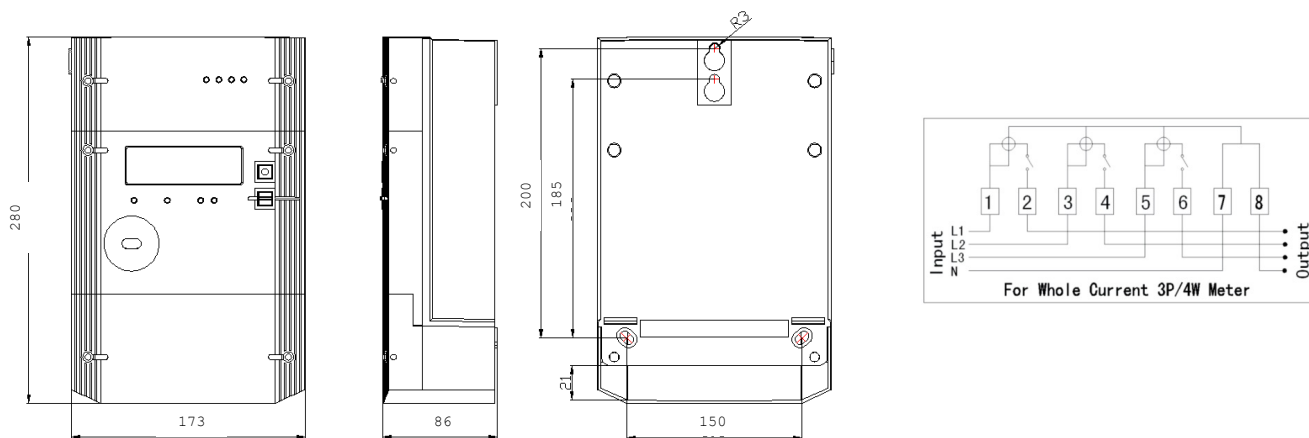## Additional Functionalities:

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 TCPIP 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

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Technical Specification:

Rated Nominal Voltage	3x 120/208V~277/480V
Operating Voltage Range	80%Un~120%Un
Rated Current & Starting Current	5(100)A 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 Limit Operation Range	-25℃ to +60℃, Humidity is up to 95% -40℃ to +70℃ 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:

For Whole Current 3P/4W Meter