

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

DLMS Compliant

G3-PLC Alliance

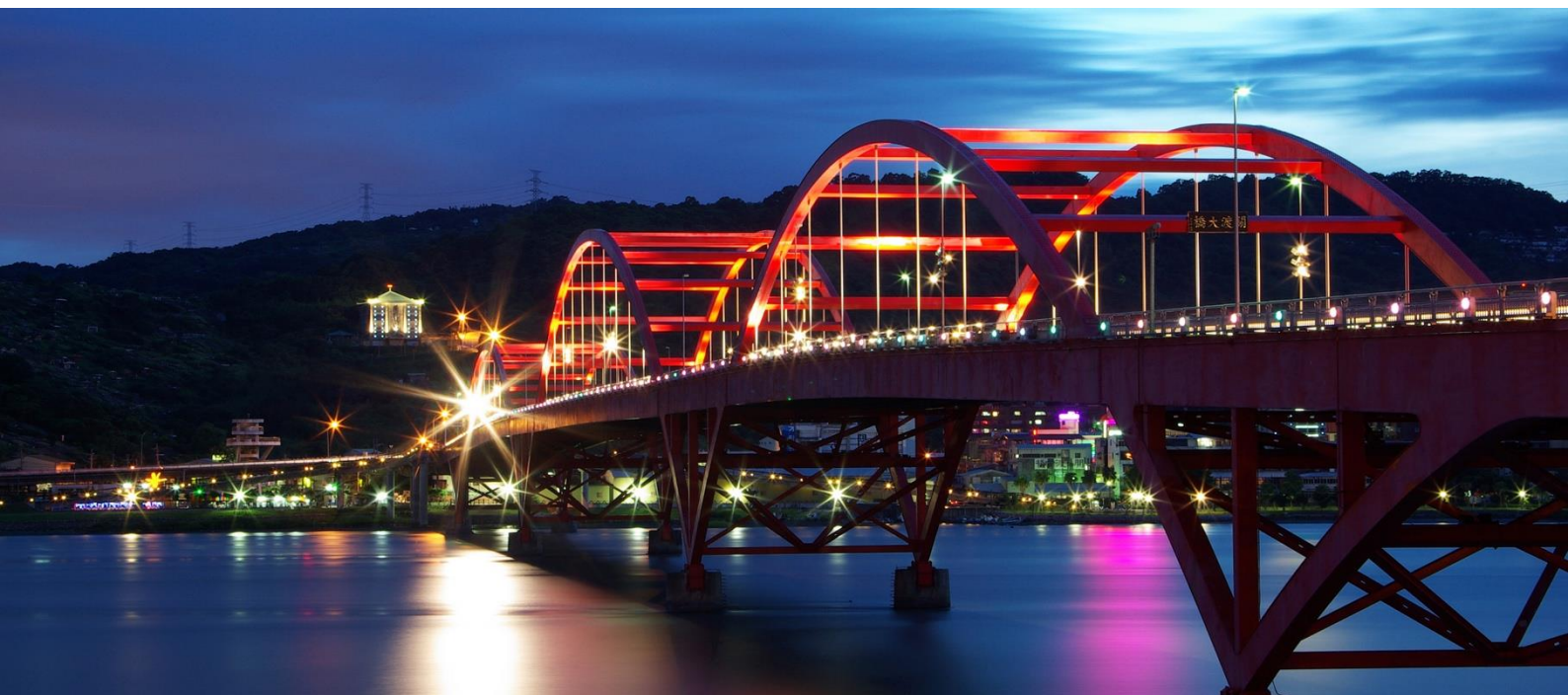
G3PLC Compliant

STS ASSOCIATION

STS Compliant



Interchangeable
Communication



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Main Functionalities:

Standards & Compliance	<ul style="list-style-type: none">▪ IEC 62052-11, 21, 31▪ IEC 62053-23, 24▪ IEC 62059-31-1▪ IEC 62059-32-1	<ul style="list-style-type: none">▪ EN62053-23▪ EN50470-3
Measurement	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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 62056-21 standard, DLMS(IEC 62056-21 mode E)▪ Additional: RS485 (2 wire), VTC interface	
Input/Output Ports (Optional)	<ul style="list-style-type: none">▪ Pulse Output▪ Dual Resource Signal (Tariff change)▪ Meter enclosure opening/tamper detection (Active input)▪ External Relay output	

Additional Functionalities:

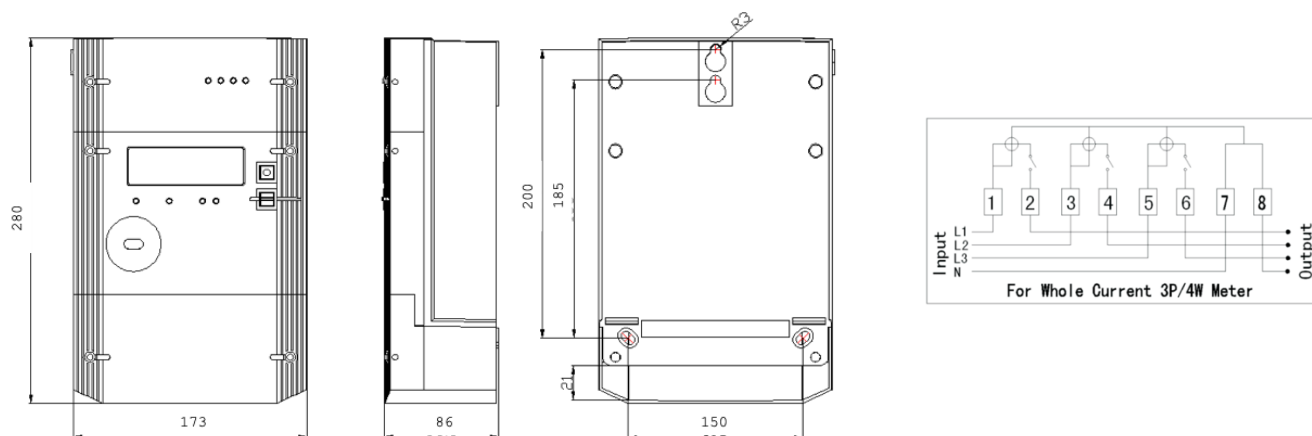
Event	<ul style="list-style-type: none"> Fraud detection log (Meter cover & terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.) Failure detection log (Memory error, relay error, battery low voltage, clock invalid 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.)
AntiTamper	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Alarms with LED/Buzzer and LCD on CIU Alarm can be configurable
Tariff Expense (Optional)	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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
Billing Record	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> The firmware can be upgraded via local interface and WAN interface. Schedule activity image support
CIU unit	<ul style="list-style-type: none"> 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 $\pm 5\%$
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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