

MAGNO 33+ CT/CTVT

For Commercial and Industrial Use

Dual Source Three Phase CT/CTVT Smart Energy Meter



The **Magno 33+ CT/CTVT** is a dual source three-phase smart meter designed for commercial and industrial energy management, ideal for Advanced Metering Infrastructure (AMI) initiatives. It features **dual-source** functionality, enabling consumption measurement from multiple sources with flexible payment modes, including **dual-wallet** prepayment. Supporting both prepaid and postpaid billing options, compliant against **STS/CTS** Standard. it ensures adaptability for diverse needs. With enhanced energy measurement, power quality monitoring, load management, and automated reporting, it delivers precise, reliable data for optimized energy use and operational efficiency.

DL
MS®

DLMS Compliant

G3-PLC
Alliance

G3PLC Compliant

STS ASSOCIATION

STS Compliant



DUAL WALLET



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Main Functionalities:

Standards & Compliance	<ul style="list-style-type: none">IEC 62052-11, 21, 31IEC 62053-23, 24IEC 62059-31-1IEC 62059-32-1	<ul style="list-style-type: none">EN62053-23EN50470-3
Measurement	<ul style="list-style-type: none">3 elements 4 quadrantsImport/Export Absolute/Q1/Q2/Q3/Q4: Wh, varh and VahPower (per phase / total): W, var, VAVrms, IrmsPower factor, frequencyV-V and V-I phase anglesVoltage THD, Current THDHarmonics up to 50th	
Multi TOU Tariff	<ul style="list-style-type: none">Up to 8 tariffUp to 200 programmable special days Daily, Weekly, Monthly, Yearly & SpecialUp to 32 separate import and export registersUp to 12 seasonsUp to 100 Previous period plus Period totals	
Prepayment	<ul style="list-style-type: none">Configurable prepayment and post-payment modeThree levels for remaining credit alarmEmergency credit, friendly time and friendly days supportDual wallet	
Auxiliary Power	<ul style="list-style-type: none">100 to 240 VAC / 140 to 340 VDC	
Load Profile	<ul style="list-style-type: none">At least 50 channelsSupport 3 independent surveys24hrs daily surveyIntervals programmable from 1 to 60 minutesStorage 8 channels (15 min) for a year	
Communication Ports	<ul style="list-style-type: none">WAN: Plug and play module to support various communication technologyWAN: G3-PLC, WiSUN, LoRaWAN, Cellular (GPRS, 3G, 4G/LTE, NB-IoT), or EthernetRF or PLC module – For communication with CIU (Customer Interface Unit)Optical: Comply with IEC 62056-21 standard, DLMS (IEC 62056-21 mode E)Additional: 2x RS485 (with Power Supply), RS232 Port, VTC interface	
Input/Output Ports	<ul style="list-style-type: none">Pulse OutputDual Source Signal (Tariff change)Meter enclosure opening/tamper detection (Active input)External Relay outputPulse Input	

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Additional Functionalities:

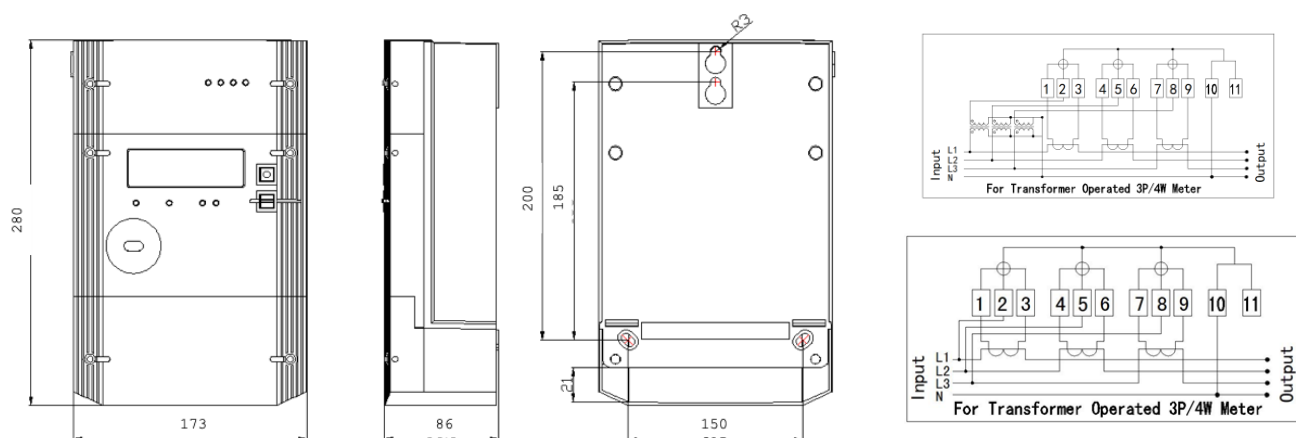
Event	<ul style="list-style-type: none">▪ Fraud detection log (Meter cover & terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.)▪ Failure detection log (Memory error, relay error, battery low voltage, clock invalid 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 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
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 57.7/100V~277/480V
Operating Voltage Range	80%Un~120%Un
Rated Current & Starting Current	5(20)A and 0.1 % Ib
Rated Frequency	50Hz or 60Hz ±5%
Pulse Constant (Configurable)	1000imp/kWh 1000imp/kvarh (Default)
Accuracy Class	Cl.0.5s for Active kWh Cl.0.5s for Reactive kvarh
Power Consumption	Voltage circuit ≤ 2 W or 10VA, Current circuit ≤ 1 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 comply with IEC60529 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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