

MAGNO 33+ CT/CTVT

For Commercial and Industrial Use
Dual Source Three Phase
CT/CTVT Smart Energy Meter

 **Powering the Future with Precision and Control**

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**, **DLMS/COSEM** and **IDIS Protocol**. 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.

 **ELECTRICITY**

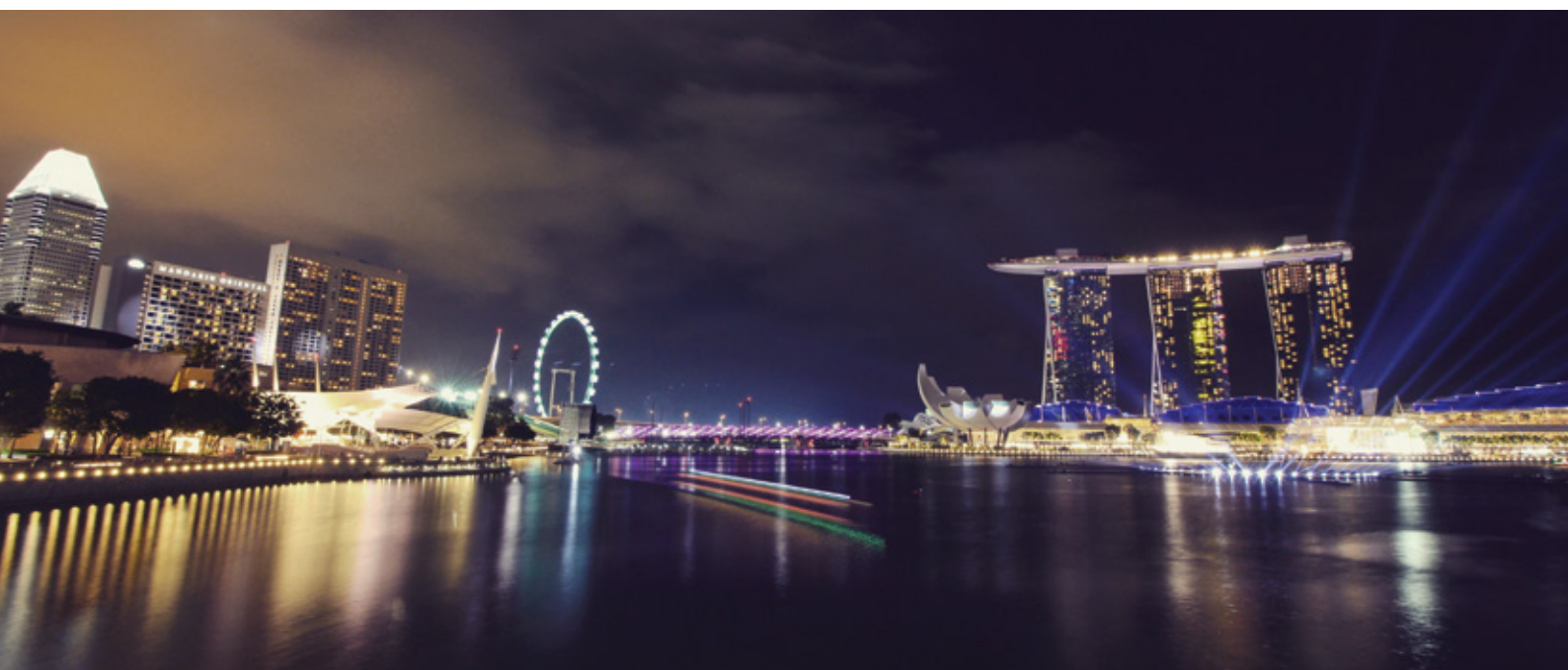



STS
ASSOCIATION

**DL
MS[®]**

idIs
IDIS
COMPLIANT


DUAL
WALLET



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

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

Auxiliary Power

- 100 to 240 VAC / 140 to 340 VDC

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: 2x RS485 (with Power Supply), RS232 Port, VTC interface

Input/Output Ports (Optional)

- Pulse Output
- Dual Source Signal (Tariff change)
- Meter enclosure opening/tamper detection (Active input)
- External Relay output
- Pulse Input

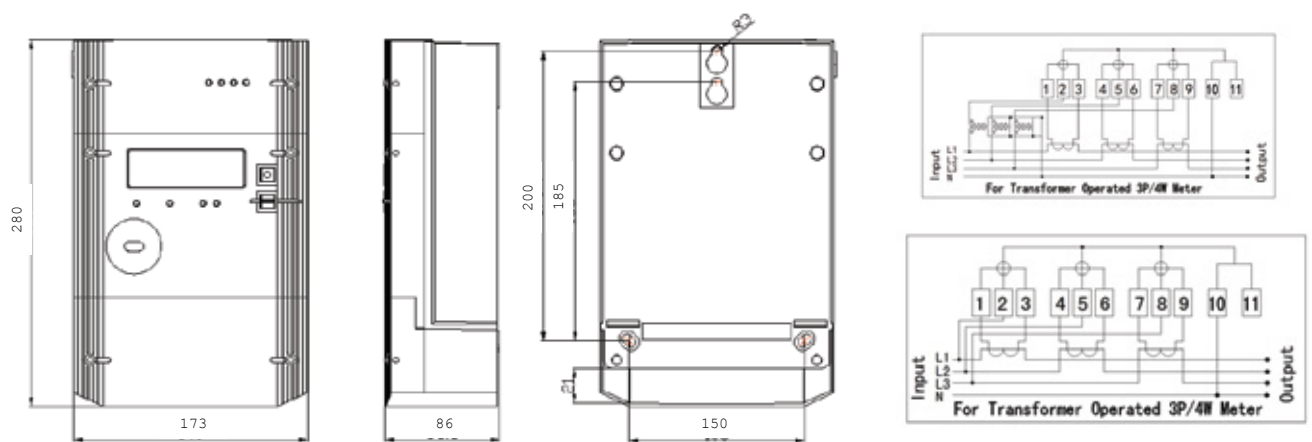
Additional Functionalities:

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

Technical Specification:

Rated Nominal Voltage	• 3x 57.7/100V~277/480V
Operating Voltage Range	• 80%Un~120%Un
Rated Current & Starting Current	• 5(100)A, 5(80)A and 0.4% 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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