

MAGNO 33+ CT/CTVT

FOR COMMERCIAL AND INDUSTRIAL USE



**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

DUAL SOURCE THREE PHASE CT/CTVT SMART ENERGY METER

■ Main Functionalities

Standards & Compliance

- IEC62052-11,31
- IEC62053-21,22,23,24
- IEC62059-1, 31
- IEC62059-1, 32
- 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

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 21-62056 standard, DLMS (IEC 21-62056 mode E)
- **Additional:** 2x RS485 (with Power Supply), RS232 Port, VTC interface

Input/Output Ports (Optional)

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

■ Additional Functionalities

Standards & Compliance

- 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 Mode-E DLMS
- HDLC DLMS and TCP/IP DLMS, Support suite-0, suite-1, and suite-2
- 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 100/57.7V~480/277V

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.0.5 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

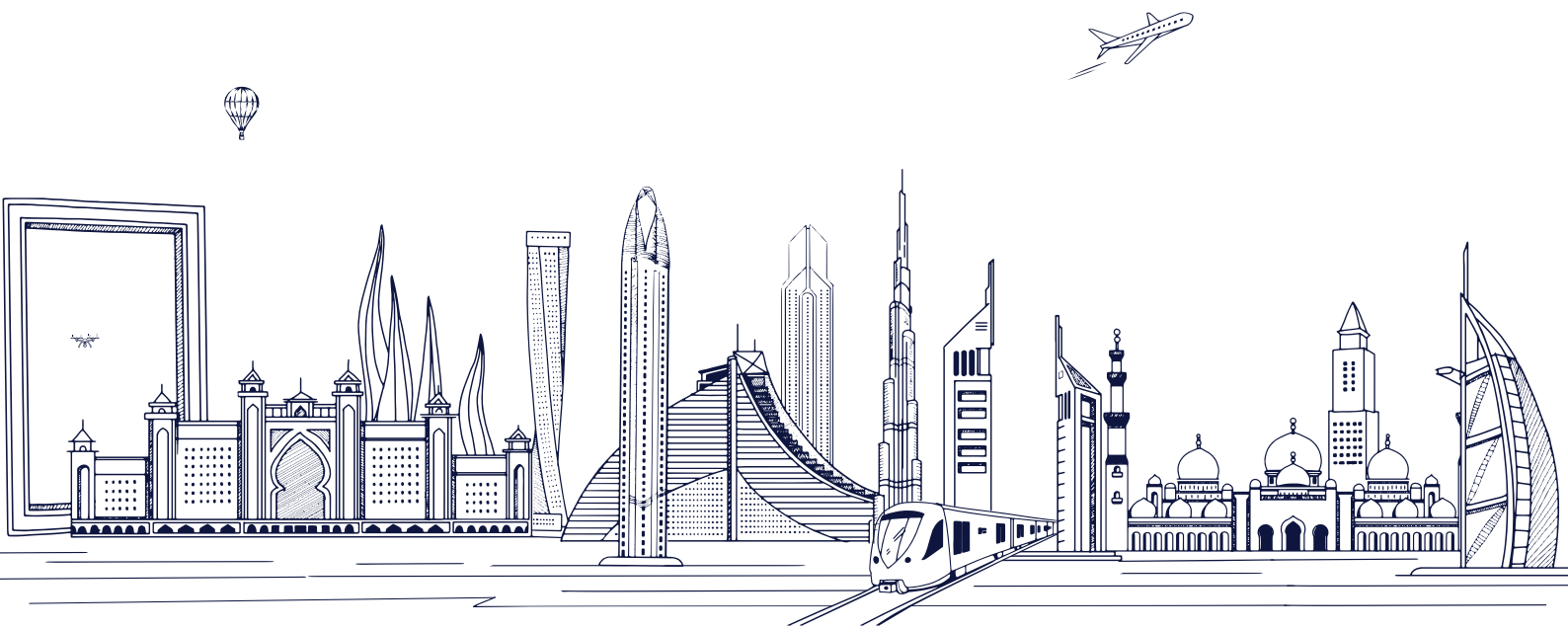
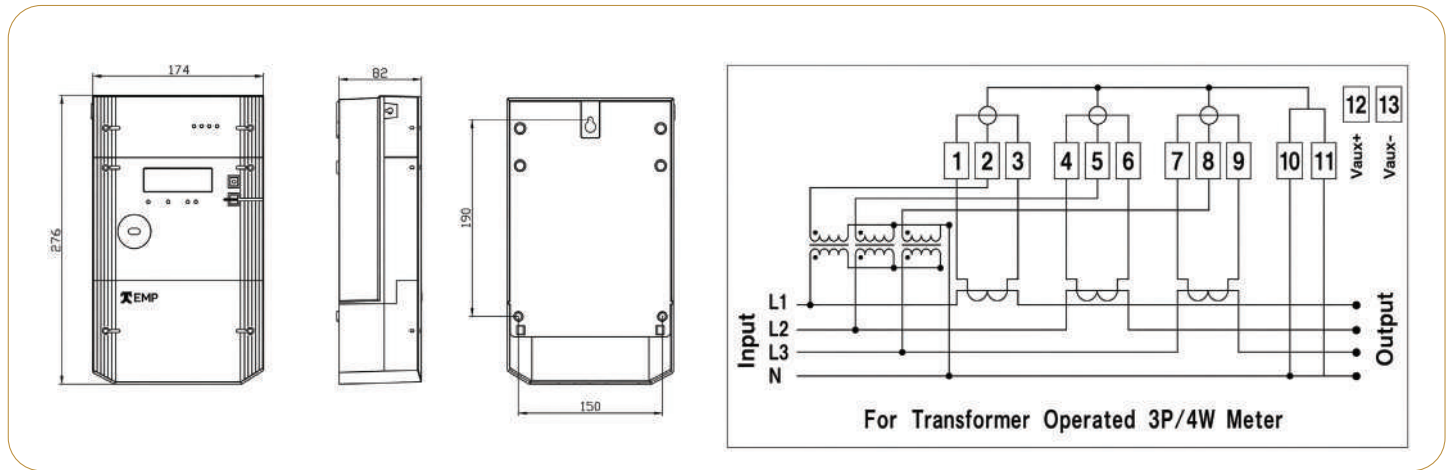
Protection Class

- 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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