MAGNO 33 CT/CTVT
For Commercial and Industrial Use

Powering the Future with Precision and Control

The Magno 33 CT/CTVT is a highly versatile three-phase smart meter designed specifically for commercial and industrial energy management, offering a flexible and scalable solution for your Advanced Metering Infrastructure (AMI) initiatives. This meter is engineered for large-scale applications where high accuracy, reliability, and real-time data are critical to efficient energy management.

The Magno 33 CT/CTVT provides robust functionality, including enhanced energy measurement, power quality monitoring, load management, and automated reporting, ensuring that businesses can optimize energy consumption and improve operational efficiency. Furthermore, the Magno 33 CT/CTVT offers the flexibility to work seamlessly in both prepaid and postpaid billing systems, providing utilities with adaptable solutions to meet diverse customer needs.

Built with a focus on exceptional accuracy, the Magno 33 CT/CTVT integrates a high-grade measurement engine that delivers precise and reliable data, making it an invaluable tool for utilities.

⚡ ELECTRICITY

STS ASSOCIATION | DLMS® DLMS PROTOCOL | G3-Alliance

THREE PHASE CT/CTVT
SMART ENERGY METER

Main Functionalities

Standards & Compliance

- IEC 31 ,21 ,11-62052
- IEC 24 ,23-62053
- IEC 1-31-62059
- IEC 1-32-62059
- EN23-62053
- EN3-50470

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 21-62056standard, 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)
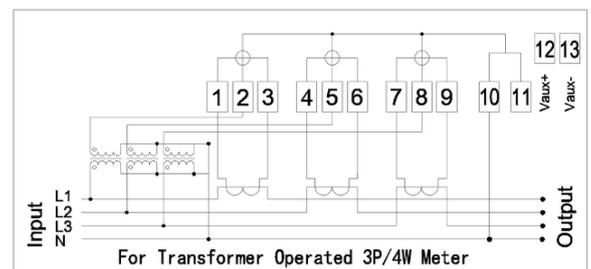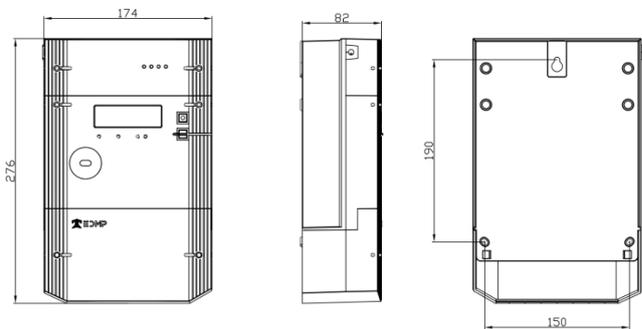- External Relay output
- Pulse Input

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 • IEC21-62056 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	• 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	(20)5A 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 **Limit Operation Range**	–25°C to +60°C, Humidity is up to 95 % –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

For Transformer Operated 3P/4W Meter