MAGNO 33+

For Residential and Commercial Use

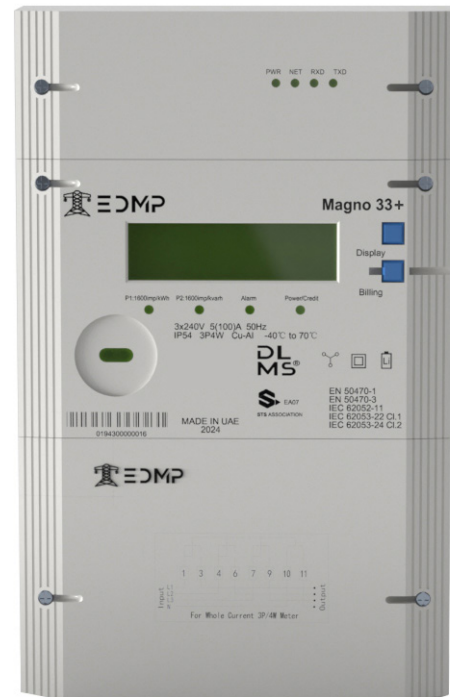## Dual Source Three Phase Direct Current Smart Energy Meter

ELECTRICITY

Powering the Future with Precision and Control

The Magno 33+ is a three-phase dual-source meter designed for residential and commercial use. It features integrated 100A UC3-compliant relays for remote disconnection and reconnection of electrical services. This meter allows measurement of power consumption from multiple sources with flexible payment modes, including dual-wallet functionality for prepayment systems. Compliant with STS/CTS standards and utilizing the DLMS/COSEM protocol, the Magno 33+ ensures seamless integration and reliable operation across diverse applications.
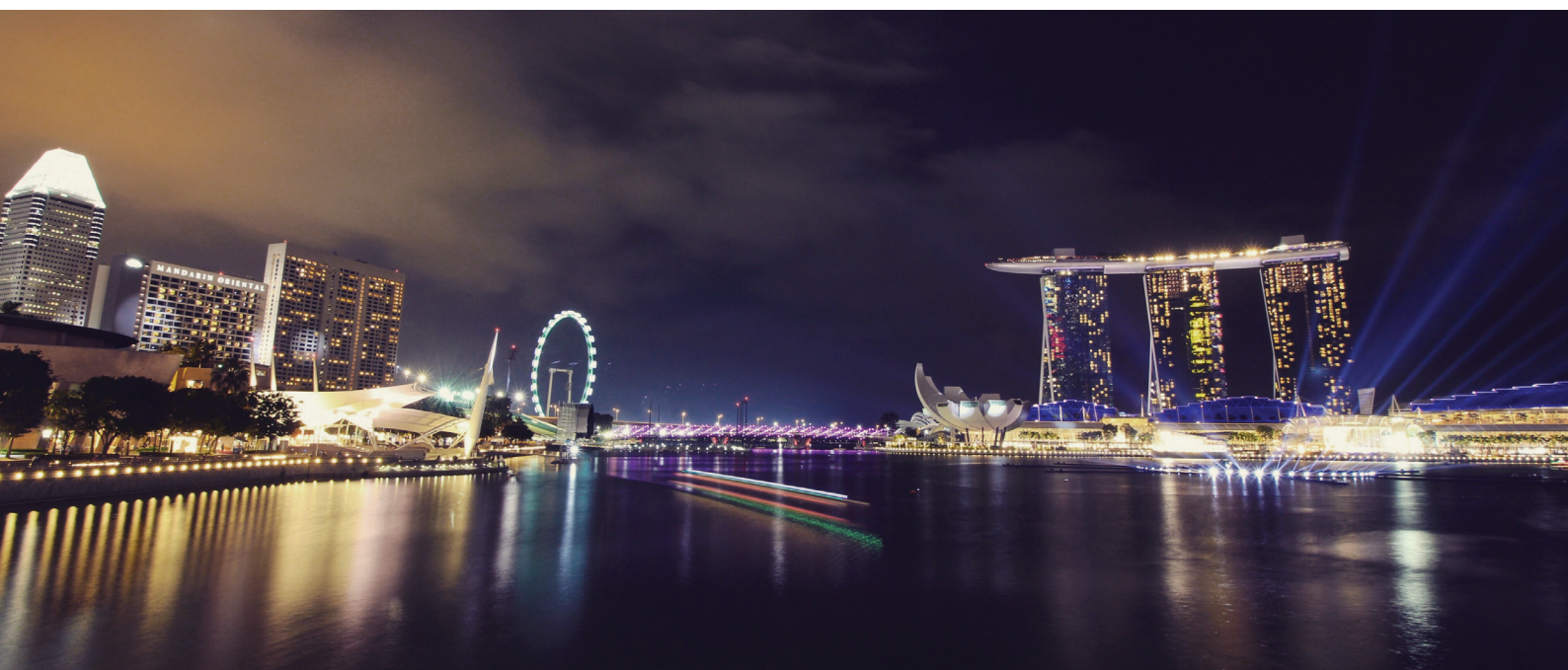
STS ASSOCIATION

DLMS PROTOCOL

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
- Meter Keypad (Optional)

Load control
- 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
- 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 62056-21standard, DLMS(IEC 62056-21 mode E)
- Additional: RS485 (2 wire), VTC interface

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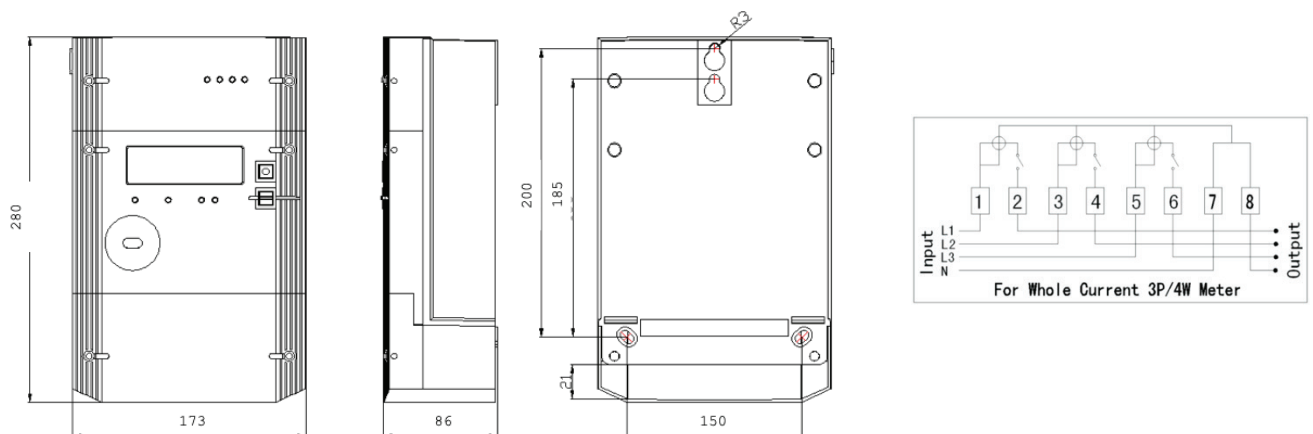- External Relay output

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 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 120/208V~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.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 **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 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

For Whole Current 3P/4W Meter

EDMP

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