MAGNO 12m

Modular Single Phase
DIN Rail Smart Energy Meter
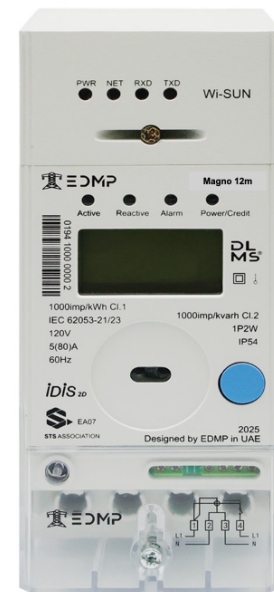
ELECTRICITY

Powering the Future with Precision and Control

Magno 12m is a modular single-phase DIN-Rail energy meter with LCD designed for advanced commercial and industrial applications. **IDIS-compliant**, it supports both prepaid **(STS/CTS)** and postpaid metering modes. The meter is equipped with an 80A or 100A UC3-compliant relay and offers flexible communication options including **G3-PLC, RF Wi-SUN, Hybrid**, and **Cellular**.

It can function as a split meter with the **MeterLink CIU** or integrate seamlessly into centralized systems via the **GridPuls-PLC or GridPuls-RF**. Utilizing the **DLMS/COSEM** protocol, **Magno 12m** ensures secure, interoperable, and future-ready energy metering.

DLMS® | IDIS | STS ASSOCIATION | G3-PLC Alliance

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
- 1 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-I Phase angle
- Absolute value |Ai|=|+A|+|-A| |Ae|=|-A|

Multi TOU Tariff
- Up to 8 tariff
- Multiple Seasons, Days, Weeks, Special Days
- Up to 12 separate import and export registers
- Up to 12 seasons
- At least 12 periods

Prepayment
- Configurable prepayment and post-payment mode
- Three levels for remaining credit alarm
- Emergency credit, friendly time and friendly days support

Load control
- Remote control command support
- Over current control support
- Power limit support
- 2 poles internal relay (for 80A meter)
- 1 poles internal relay (for 100A meter)
- Re-connect/Dis-connect by locally or remotely

Load Profile
- Multiple channels and Load Curves
- 24hrs daily survey
- Intervals programmable from 1 to 60 minutes
- Storage 8 channels (15 min) for a year

Communication Ports – Wide Area Network (WAN)
- G3-PLC
- RF WiSUN
- G3 Hybrid (PLC and WiSUN)
- Cellular (CAT1, 4G, 3G, 2G)

Communication Ports - Others
- HAN: RF module - Communicate with UIU (User Interface Unit)
- Optical: Comply with IEC62056-21standard, DLMS(IEC62056-21 mode E)
- Additional: RS485, VTC interface

Input/Output Ports (Optional)
- Dual Resource Signal (Tariff change)
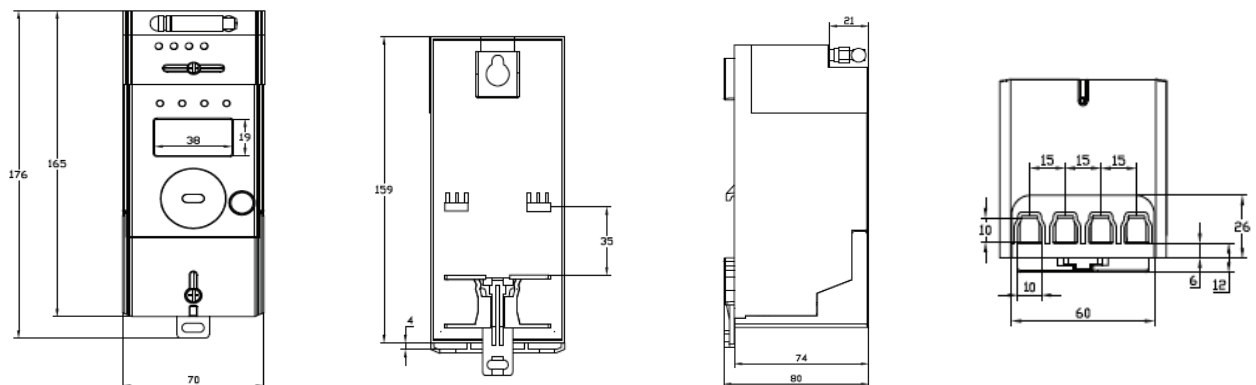- Meter enclosure detection

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	• 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 • IDIS Compliant
Billing Record	• Up to 12-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
LCD	• 7 segment liquid crystal display • Backlight (Optional) • 5 label digits • 4 enunciators
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	220V~240V, 110V~120V
Operating Voltage Range	40%Un~130% Un (When Un = 220V – 240V) 80%Un~130% Un (When Un = 110V – 120V)
Rated Current & Starting Current	5(100)A, 5(80)A, 5(60)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 ≤0.5VA
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 to +70 , Humidity is up to 95% -40 to +80 Humidity is up to 95%
EMC Performance	Impulse voltage > 10kV, 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
Dimensions	L 70 x W 74 x H 165 mm

Diagram