

# MAGNO 12m

Modular Single Phase DIN  
Rail Smart Energy Meter



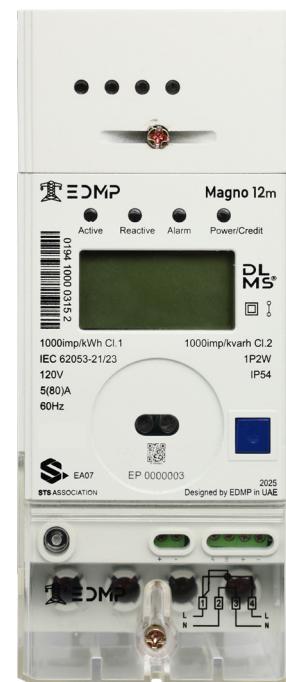
## Powering the Future with Precision and Control

**Magno 12m** is a modular single-phase DIN-Rail energy meter with LCD designed for advanced commercial and industrial applications. 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 **Magno Collector** or **TeleMag**. Utilizing the **DLMS/COSEM** protocol, **Magno 12m** ensures secure, interoperable, and future-ready energy metering.



ELECTRICITY



**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 IEC62056-21 standard, DLMS(IEC62056-21 mode E)
- Additional: RS485, VTC interface

## Input/Output Ports (Optional)

- Dual Resource Signal (Tariff change)
- Meter enclosure detection

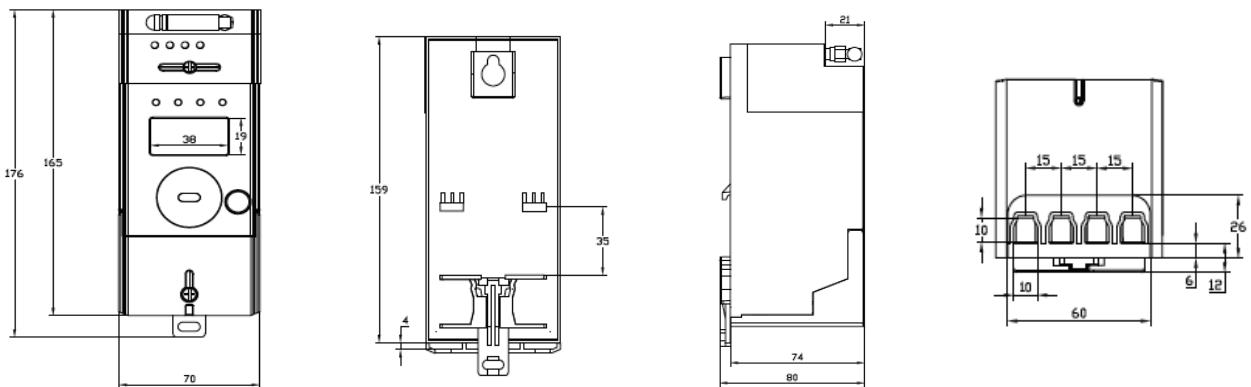
## Additional Functionalities:

<b>Event</b>	<ul style="list-style-type: none"><li>• Fraud detection log (Meter cover &amp; terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.)</li><li>• Failure detection log (Memory error, relay error, battery low voltage, clock invalid etc.)</li><li>• Power quality event log (Under voltage / Over voltage(Sag/Swell) ,Over current/current imbalance, Power up/down, etc.)</li><li>• Security event log (Parameters change, clock adjust, etc.)</li><li>• Standard event log (Power up/on, time synchronization, etc.)</li></ul>
<b>Anti Tamper</b>	<ul style="list-style-type: none"><li>• Terminal cover, meter cover and module cover sealing</li><li>• Self-protection under Overload control, Abnormal voltage control, Arrearage control, Tamper control, Malfunction control, Fire disaster control etc.</li></ul>
<b>Alarm</b>	<ul style="list-style-type: none"><li>• Alarms with LED/Buzzer and LCD on CIU</li><li>• Alarm can be configurable</li></ul>
<b>Tariff Expense (Optional)</b>	<ul style="list-style-type: none"><li>• Up to 10 steps tariff</li><li>• Up to 5 steps Monthly service charge</li><li>• Up to 5 kinds subsidy</li><li>• Up to 3 kinds fixed charge</li><li>• Up to 5 kinds levies charge</li><li>• Up to 3 kinds VAT charge</li></ul>
<b>Communication Protocol</b>	<ul style="list-style-type: none"><li>• International open protocol</li><li>• IEC62056-21 E mode DLMS</li><li>• HDLC DLMS and TCPIP DLMS, Support suite 0 and suite 1</li><li>• STS/CTS Token and SMS</li><li>• LLS support 3 level passwords for local and remote communication</li><li>• HLS support auth and encryption for local and remote communication</li></ul>
<b>Billing Record</b>	<ul style="list-style-type: none"><li>• Up to 12-month billing data</li><li>• Calculate monthly net consumption of energy</li><li>• Up to 31 days daily data</li><li>• Calculate daily net consumption of energy</li></ul>
<b>Firmware Upgrade</b>	<ul style="list-style-type: none"><li>• The firmware can be upgraded via local interface and WAN interface.</li><li>• Schedule activity image support</li></ul>
<b>LCD</b>	<ul style="list-style-type: none"><li>• 8 segment liquid crystal display</li><li>• Backlight (Optional)</li><li>• 8 digits</li><li>• 4 enunciators</li></ul>
<b>CIU unit</b>	<ul style="list-style-type: none"><li>• The meter can communicate with the CIU via RF or PLC</li><li>• Parameters transfer</li><li>• Credit token, Key change token, clear balance token, clear tamper token, set power limit token, test token etc.</li><li>• Fully complies with STS standard</li></ul>

## Technical Specification:

<b>Rated Nominal Voltage</b>	220V~240V, 110V~120V
<b>Operating Voltage Range</b>	40%Un~130% Un (When Un = 220V – 240V) 80%Un~130% Un (When Un = 110V – 120V)
<b>Rated Current &amp; Starting Current</b>	5(100)A, 5(80)A, 5(60)A and 0.4% Ib
<b>Rated Frequency</b>	50Hz or 60Hz ±5%
<b>Pulse Constant (Configurable)</b>	1000imp/kWh 1000imp/kvarh (Default)
<b>Accuracy Class</b>	Cl.1 for Active Cl.2 for Reactive
<b>Power Consumption</b>	Voltage circuit ≤2 W or 5VA, Current circuit ≤0.5VA
<b>Battery and Life</b>	Replaceable Lithium battery, life more than 15 years Supercap (Optional) – 5 yr lifetime with power off
<b>Normal Operation Range</b>	-25°C to +70°C, Humidity is up to 95%
<b>Limit Operation Range</b>	-40°C to +80°C Humidity is up to 95%
<b>EMC Performance</b>	Impulse voltage > 6kV, AC voltage > 4kV, Short circuit Current > 3kA, Electrostatic Discharge contact: 8kV & air: 15kV
<b>Protection Class</b>	IP54 comply with IEC60529 Insulation grade II
<b>Housing Material</b>	Polycarbonate with non-conductive, high impact, smooth finish, durable, non-flammable, UV stabilized, UV resistant and high resistance to weathering
<b>Dimensions</b>	L70 x W 80 x H170  For Wisun L70 x W 90 x H170

### Diagram



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