

MAGNO 12m

Modular Single Phase
DIN Rail Smart Energy Meter



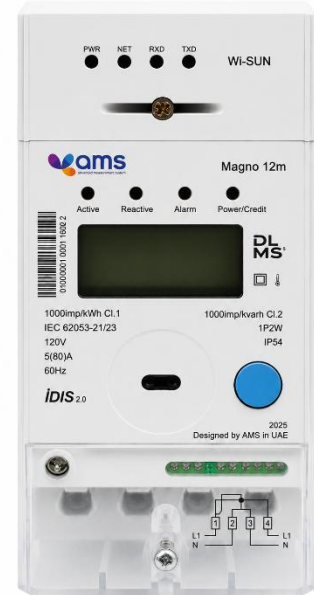
**Powering the Future with
Precision and Control**

Magno 12m is a modular single-phase DIN-Rail energy meter with LCD designed for advanced commercial and industrial applications. **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 **Meter Link CIU** or integrate seamlessly into centralized systems via the **Grid Puls-PLC** or **Grid Puls-RF**. Utilizing the **DLMS/COSEM** protocol, **Magno 12m** ensures secure, interoperable, and future-ready energy metering.



ELECTRICITY



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 element 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 tariffs
- 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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● Alarms with LED/Buzzer and LCD on CIU● Alarm can be configurable
Tariff Expense (Optional)	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● International open protocol● IEC62056-21 E mode DLMS● HDLC DLMS and TCP/IP 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	<ul style="list-style-type: none">● 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	<ul style="list-style-type: none">● The firmware can be upgraded via local interface and WAN interface.● Schedule activity image support
LCD	<ul style="list-style-type: none">● 7 segment liquid crystal display● Backlight (Optional)● 5 label digits● 4 enunciators
CIU unit	<ul style="list-style-type: none">● 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 \pm 5%
Pulse Constant (Configurable)	1000imp/kWh 1000imp/kvarh (Default)
Accuracy Class	Cl.1 for Active Cl.2 for Reactive
Power Consumption	Voltage circuit \leq 2 W or 5VA, Current circuit \leq 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% -40to +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

