

# 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 **MeterLink CIU** or integrate seamlessly into centralized systems via the **GridPuls-RF** or **GridPuls-PLC**. Utilizing the **DLMS/COSEM** protocol, **Magno 12m** ensures secure, interoperable, and future-ready energy metering.



ELECTRICITY

MODULAR SINGLE PHASE DIN RAIL SMART ENERGY METER

## ■ 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  $|A_i| = | +A | + | -A |$   $|A_e| = | -A |$

### Multi TOU Tariff

- Up to 8 tari
- 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
- 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 tari
- 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 TCP/IP DLMS, Support suite 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

## LCD

- 8 segment liquid crystal display
- Backlight (Optional)
- 8 digits
- 4 enunciators

## 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

- 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 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

- -25°C to +70°C, Humidity is up to 95%

### Limit Operation Range

- -40°C to +80°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

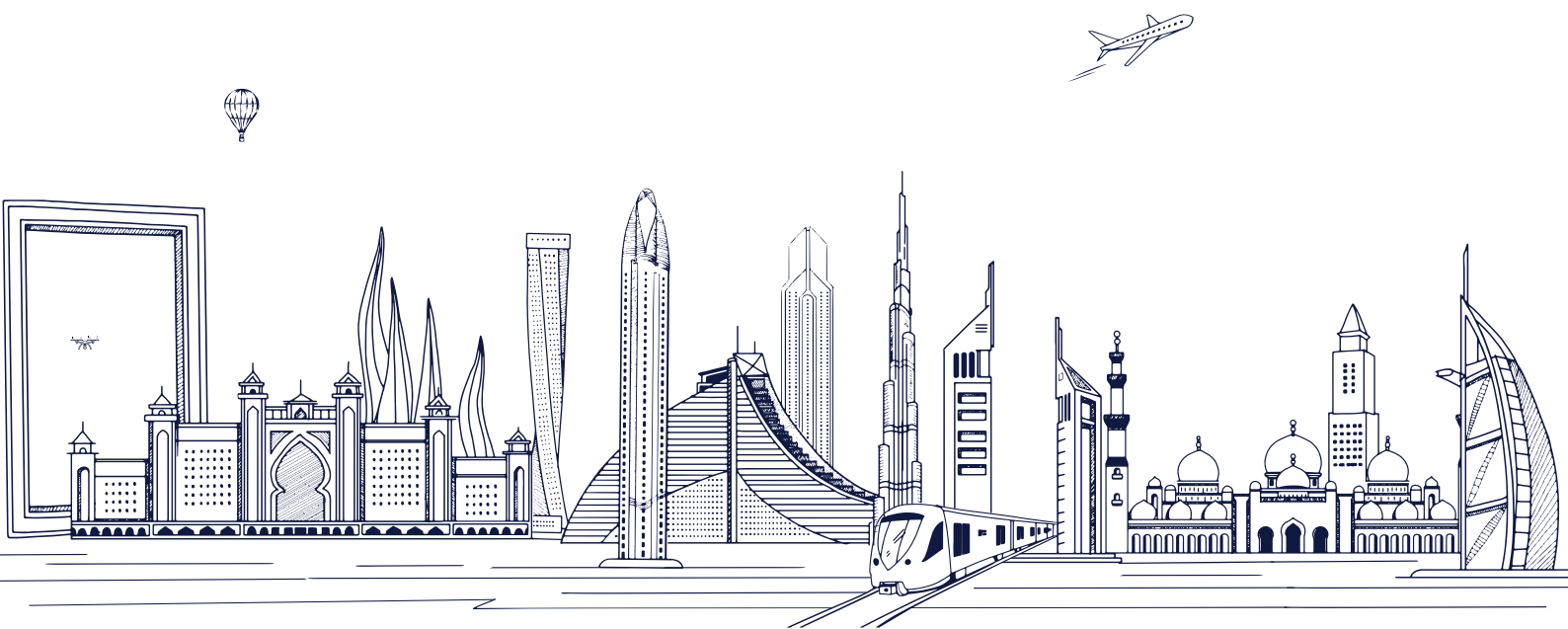
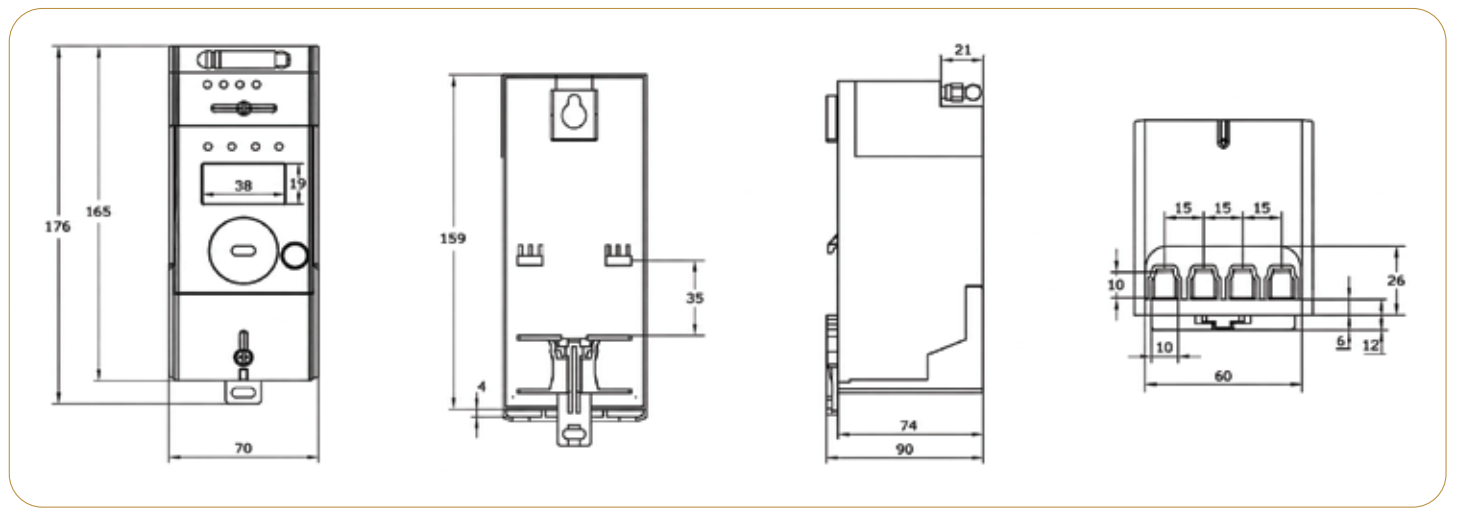
### Housing Material

- Polycarbonate with non-conductive, high impact, smooth finish, durable, non-flammable, UV stabilized, UV resistant and high resistance to weathering

### Dimensions

- L70 x W 80 x H170
- For Wisun L70 x W 90 x H170

## Diagram



### EDMP GROUP

📍 71-75 Shelton Street, Covent Garden, London, WC2H 9JQ, United Kingdom

### EDMP JAFZA

📍 PO Box 125428, Plot No. MO0147C, Junction of N400 & N406 Streets Jebel Ali Free Zone, Dubai, United Arab Emirates  
✉ info@edmpgroup.com 🌐 www.edmpgroup.com