

# 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



# Main Functionalities

<b>Standards &amp; Compliance</b>	<ul style="list-style-type: none"><li>• IEC 62052-11, 21, 31</li><li>• IEC 62053-23, 24</li><li>• IEC 62059-31-1</li></ul>	<ul style="list-style-type: none"><li>• IEC 62059-32-1</li><li>• EN62053-23</li><li>• EN50470-3</li></ul>
<b>Measurement</b>	<ul style="list-style-type: none"><li>• 1 elements 4 quadrants</li><li>• Import/Export Absolute/Q1/Q2/Q3/Q4: Wh, varh and Vah</li><li>• Power (per phase / total): W, var, VA</li><li>• Vrms, Irms</li><li>• Power factor, frequency</li><li>• V-I Phase angle</li><li>• Absolute value <math> Ai = +A + -A </math> <math> Ae = -A </math></li></ul>	
<b>Multi TOU Tariff</b>	<ul style="list-style-type: none"><li>• Up to 8 tariff</li><li>• Multiple Seasons, Days, Weeks, Special Days</li><li>• Up to 12 separate import and export registers</li><li>• Up to 12 seasons</li><li>• At least 12 periods</li></ul>	
<b>Prepayment</b>	<ul style="list-style-type: none"><li>• Configurable prepayment and post-payment mode</li><li>• Three levels for remaining credit alarm</li><li>• Emergency credit, friendly time and friendly days support</li></ul>	
<b>Load control</b>	<ul style="list-style-type: none"><li>• Remote control command support</li><li>• Over current control support</li><li>• Power limit support</li><li>• 2 poles internal relay (for 80A meter)</li><li>• 1 poles internal relay (for 100A meter)</li><li>• Re-connect/Dis-connect by locally or remotely</li></ul>	
<b>Load Profile</b>	<ul style="list-style-type: none"><li>• Multiple channels and Load Curves</li><li>• 24hrs daily survey</li><li>• Intervals programmable from 1 to 60 minutes</li><li>• Storage 8 channels (15 min) for a year</li></ul>	
<b>Communication Ports – Wide Area Network (WAN)</b>	<ul style="list-style-type: none"><li>• G3-PLC</li><li>• RF WiSUN</li><li>• G3 Hybrid (PLC and WiSUN)</li><li>• Cellular (CAT1, 4G, 3G, 2G)</li></ul>	
<b>Communication Ports – Others</b>	<ul style="list-style-type: none"><li>• HAN: RF module - Communicate with UIU (User Interface Unit)</li><li>• Optical: Comply with IEC62056-21 standard, DLMS(IEC62056-21 mode E)</li><li>• Additional: RS485, VTC interface</li></ul>	
<b>Input/Output Ports (Optional)</b>	<ul style="list-style-type: none"><li>• Dual Resource Signal (Tariff change)</li><li>• Meter enclosure detection</li></ul>	

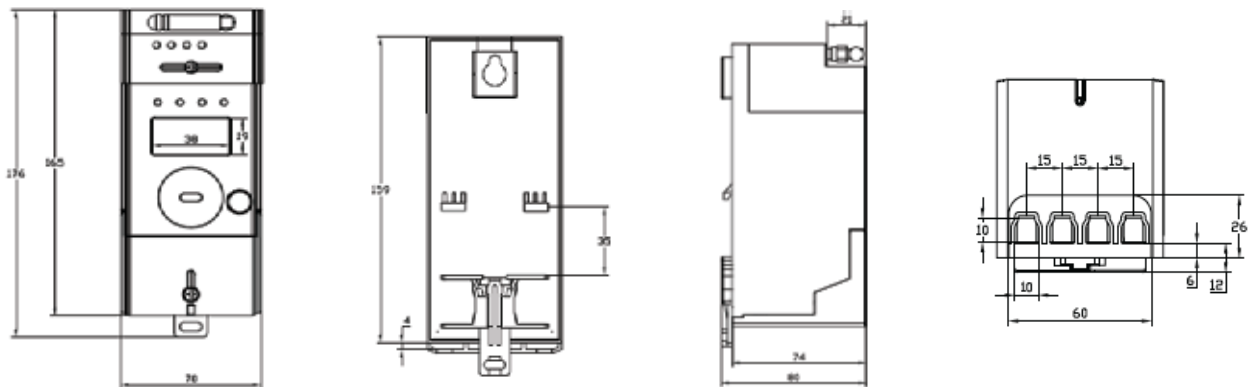
## Additional Functionalities:

<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 TCP/IP 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> <b>Limit Operation Range</b>	-25 to +70 , Humidity is up to 95% -40 to +80 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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PO Box 125428, Plot No. MO0147C, Junction of N400 & N406 Streets,  
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