

# MAGNO 33+ CT/CTVT

For Commercial and Industrial Use

Dual Source Three Phase  
CT/CTVT Smart Energy Meter



**Powering the Future with  
Precision and Control**

The **Magno 33+ CT/CTVT** is a **dual source** three-phase smart meter designed for **commercial** and **industrial** energy management, ideal for Advanced Metering Infrastructure (AMI) initiatives. It features **dual-source** functionality, enabling consumption measurement from **multiple sources** with flexible payment modes, including dual-wallet prepayment. Supporting both prepaid and postpaid billing options, compliant against **STS/CTS Standard, DLMS/COSEM protocol**. It ensures adaptability for diverse needs. With enhanced energy measurement, power quality monitoring, load management, and automated reporting, it delivers precise, reliable data for optimized energy use and operational efficiency.



**ELECTRICITY**

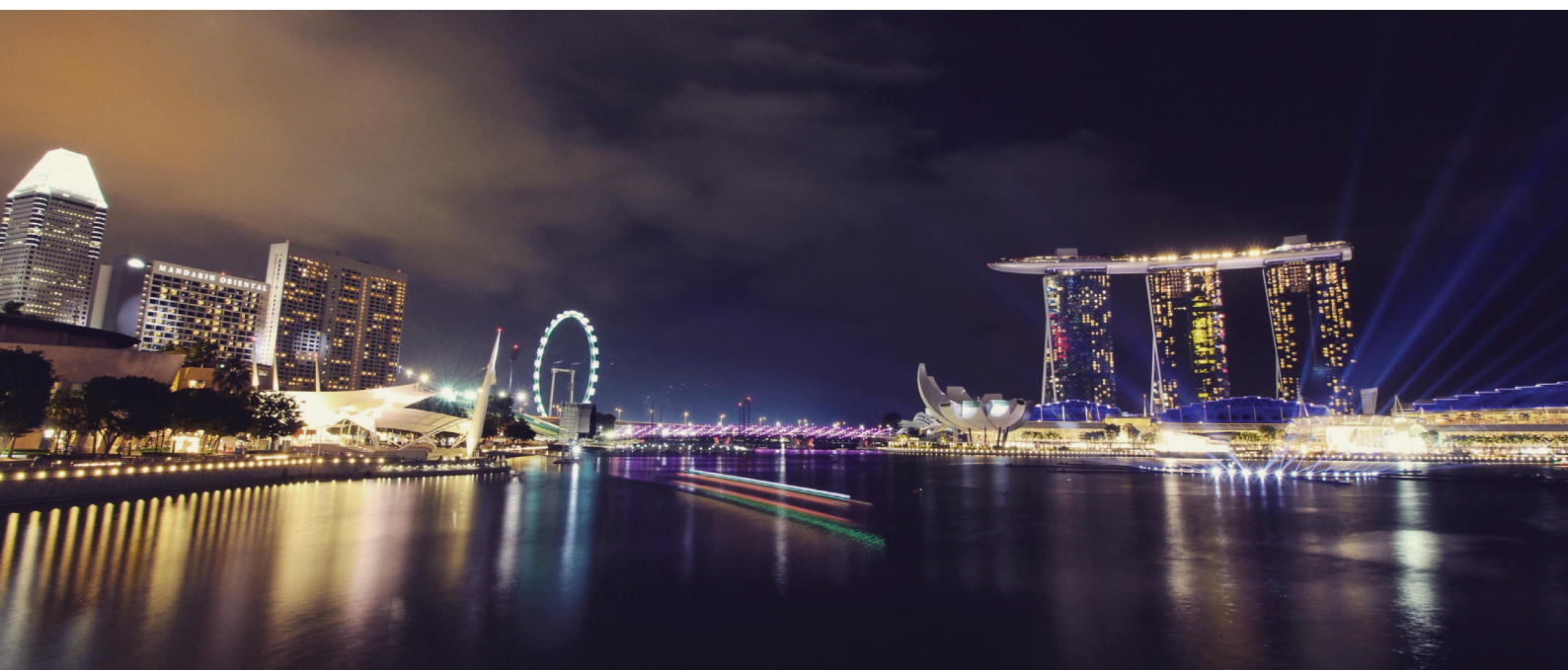


STS  
ASSOCIATION

**DL  
MS<sup>®</sup>**



DUAL  
WALLET



# 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><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>• 3 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-V and V-I phase angles</li><li>• Voltage THD, Current THD</li><li>• Harmonics up to 50th</li></ul>
<b>Multi TOU Tariff</b>	<ul style="list-style-type: none"><li>• Up to 8 tariff</li><li>• Up to 200 programmable special days Daily, Weekly, Monthly, Yearly &amp; Special</li><li>• Up to 32 separate import and export registers</li><li>• Up to 12 seasons</li><li>• Up to 100 Previous period plus Period totals</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><li>• Dual wallet</li></ul>
<b>Auxiliary Power</b>	<ul style="list-style-type: none"><li>• 100 to 240 VAC / 140 to 340 VDC</li></ul>
<b>Load Profile</b>	<ul style="list-style-type: none"><li>• At least 50 channels</li><li>• Support 3 independent surveys</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</b>	<ul style="list-style-type: none"><li>• WAN: Plug and play module to support various communication technology</li><li>• WAN: G3-PLC, WiSUN, Cellular (GPRS, 3G, 4G/LTE, NB-IoT), or Ethernet</li><li>• RF or PLC module – For communication with CIU (Customer Interface Unit)</li><li>• Optical: Comply with IEC 62056-21 standard, DLMS (IEC 62056-21 mode E)</li><li>• Additional: 2x RS485 (with Power Supply), RS232 Port, VTC interface</li></ul>
<b>Input/Output Ports (Optional)</b>	<ul style="list-style-type: none"><li>• Pulse Output</li><li>• Dual Source Signal (Tariff change)</li><li>• Meter enclosure opening/tamper detection (Active input)</li><li>• External Relay output</li><li>• Pulse Input</li></ul>



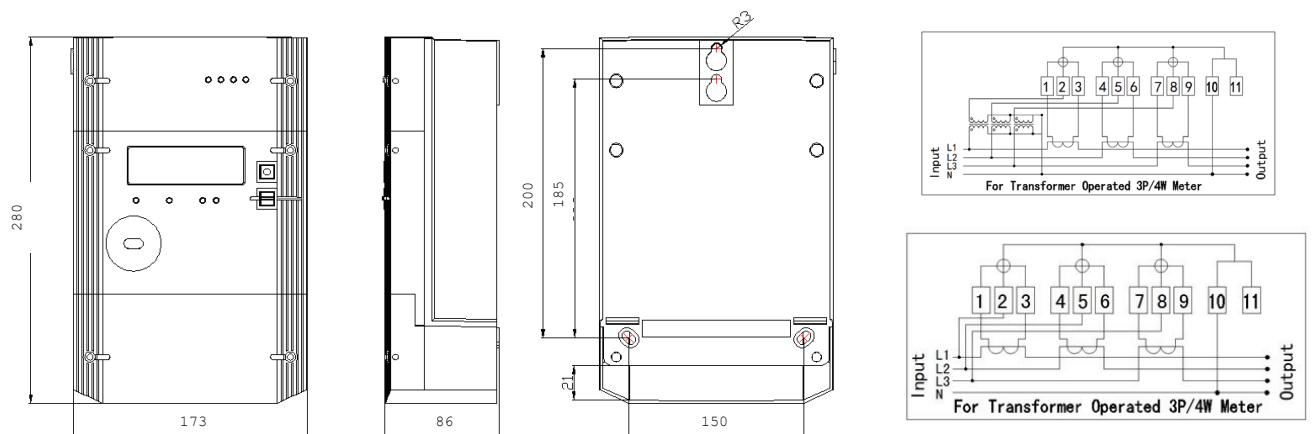
## Additional Functionalities:

<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>● More than 4 sealing positions</li><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 13-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>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:

Rated Nominal Voltage	<ul style="list-style-type: none"><li>3x 57.7/100V~277/480V</li></ul>
Operating Voltage Range	<ul style="list-style-type: none"><li>80%Un~120%Un</li></ul>
Rated Current & Starting Current	<ul style="list-style-type: none"><li>5(100)A, 5(80)A and 0.4% Ib</li></ul>
Rated Frequency	<ul style="list-style-type: none"><li>50Hz or 60Hz <math>\pm 5\%</math></li></ul>
Pulse Constant (Configurable)	<ul style="list-style-type: none"><li>1000imp/kWh</li><li>1000imp/kvarh (Default)</li></ul>
Accuracy Class	<ul style="list-style-type: none"><li>Cl.0.5s for Active kWh</li><li>Cl.0.5s for Reactive kvarh</li></ul>
Power Consumption	<ul style="list-style-type: none"><li>Voltage circuit <math>\leq 2</math> W or 10VA, Current circuit <math>\leq 1</math> VA</li></ul>
Battery and Life	<ul style="list-style-type: none"><li>Replaceable Lithium battery, life more than 15 years</li><li>Supercap (Optional) – 5 yr lifetime with power off</li></ul>
Normal Operation Range	<ul style="list-style-type: none"><li>-25°C to +60°C, Humidity is up to 95%</li></ul>
Limit Operation Range	<ul style="list-style-type: none"><li>-40°C to +70°C, Humidity is up to 95%</li></ul>
EMC Performance	<ul style="list-style-type: none"><li>Impulse voltage &gt; 6KV, AC voltage &gt; 4KV, Short circuit</li><li>current &gt; 3KA, Electrostatic Discharge contact: 8KV &amp; air: 15KV</li></ul>
Protection Class	<ul style="list-style-type: none"><li>IP54 comply with IEC60529</li><li>Insulation grade II</li></ul>
Housing Material	<ul style="list-style-type: none"><li>Polycarbonate with non-conductive, high impact,</li><li>Smooth finish, durable, non-flammable, UV stabilized,</li><li>UV resistant and high resistance to weathering</li></ul>

## Diagram



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