

# MAGNO 31

Advance Three Phase  
Standalone Energy Meter



Powering the Future with  
Precision and Control

The **Magno 31** is a standalone energy meter designed to offer both efficiency and convenience for energy management. Its user-friendly interface and robust design make it ideal for large residential and commercial users.

Built with a focus on security and durability, the **Magno 31** features high-level data protection, optional **built-in battery** or **supercapacitor** for power resilience, and ultrasonic welding for a tamper-resistant enclosure.



ELECTRICITY



## Main Functionalities

<b>Standards &amp; Compliance</b>	<ul style="list-style-type: none"><li>• IEC 62052-11</li><li>• IEC 62053-11</li><li>• IEC 62053-21</li><li>• IEC 62053-23</li><li>• IEC 62056-21</li><li>• IEC 62056-61</li></ul>
<b>Connection Type</b>	<ul style="list-style-type: none"><li>• 3 Phase, 4 Wire</li></ul>
<b>Measurement</b>	<ul style="list-style-type: none"><li>• KWH as principal unit of measurement</li><li>• Active and Reactive energy measurement</li><li>• Instantaneous VRMS, IRMA, Frequency</li><li>• Time of Use, Load Profile, Maximum Demand, Event Logs, etc.</li></ul>
<b>Load Profile</b>	<ul style="list-style-type: none"><li>• Data recorded for 60 days (15min intervals)</li><li>• Data recorded: KW, KVAR, KWH, Voltage, Current</li></ul>
<b>Demand</b>	<ul style="list-style-type: none"><li>• Demand cycle configurable, the default is 15 minutes</li></ul>
<b>Tariff</b>	<ul style="list-style-type: none"><li>• Up to 4 tariff rates</li><li>• Easy configuration</li><li>• Accumulated energy of different tariffs</li></ul>
<b>Billing</b>	<ul style="list-style-type: none"><li>• Billing data including energy and maximum demand</li><li>• Monthly settlement of max 12 months</li></ul>
<b>Real Time Clock</b>	<ul style="list-style-type: none"><li>• Clock accuracy (daily deviation): <math>\leq 0.5s/day</math></li></ul>
<b>Communication</b>	<ul style="list-style-type: none"><li>• Optical Port</li><li>• Protocol: IEC62056-21 mode C</li><li>• Built in RF module (for meter data reading)</li></ul>
<b>Security</b>	<ul style="list-style-type: none"><li>• Communication is password protected</li></ul>
<b>Protocol</b>	<ul style="list-style-type: none"><li>• Open standard protocol: IEC62056-21</li></ul>

## Technical Specification:

<b>Rated Nominal Voltage</b>	<ul style="list-style-type: none"><li>• 3x120V/208V</li><li>• 3x127/220 V (-20% to +20%)</li></ul>
<b>Operating Voltage Range</b>	<ul style="list-style-type: none"><li>• 80%Un~115% Un</li></ul>
<b>Rated Current &amp; Starting Current</b>	<ul style="list-style-type: none"><li>• 5(100)A 0.4% Ib</li></ul>
<b>Rated Frequency</b>	<ul style="list-style-type: none"><li>• 50Hz, 60Hz <math>\pm 2\%</math></li></ul>
<b>Pulse Constant (Configurable)</b>	<ul style="list-style-type: none"><li>• 3200imp/kWh, 3200imp/kvarh (Configurable)</li></ul>

## Technical Specification:

<b>Accuracy Class</b>	<ul style="list-style-type: none"><li>● Cl.1 for Active, Cl.2 for Reactive</li></ul>
<b>Power Consumption</b>	<ul style="list-style-type: none"><li>● Voltage circuit <math>\leq 2</math> W or 10VA (for each phase) Voltage circuit</li><li>● Current circuit <math>\leq 4</math> VA @1b</li></ul>
<b>Temperature Ranges</b>	<ul style="list-style-type: none"><li>● Normal Operation Range: -25 to +55 , Humidity is up to 95%</li><li>● Limit Operation Range: -25 to +60 Humidity is up to 95%</li><li>● Limit range for Storage: -40 to +70 Humidity is up to 95%</li></ul>
<b>EMC Performance</b>	<ul style="list-style-type: none"><li>● Voltage &gt; 6KV, AC Voltage &gt; 4KV, Short circuit, Current &gt; 3KA,</li><li>● Electrostatic Discharge contact: 8KV &amp; air: 15KV, Immunity (IEC61000-2-2),</li><li>● High frequency electromagnetic field immunity, (IEC61000-4-3)</li><li>● Electric fast transient pulse group immunity (IEC61000-4-4)</li><li>● Surge immunity (IEC61000-4-5); 6KV</li></ul>

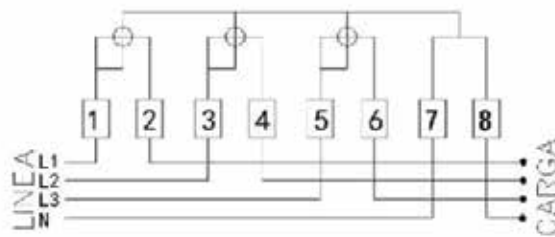
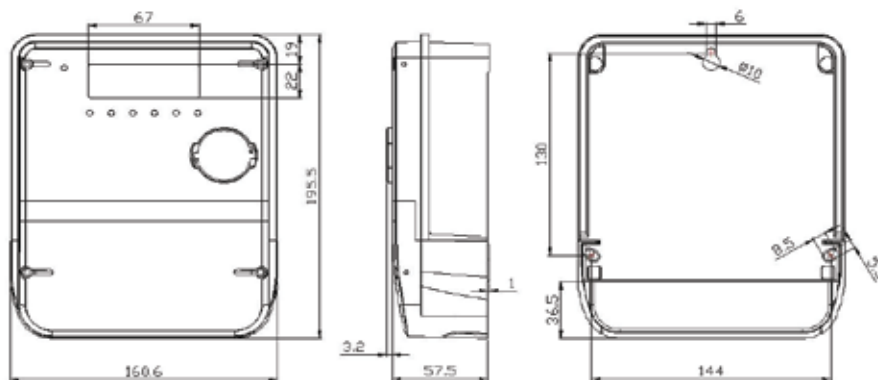
## Additional Functionalities:

<b>Event Records</b>	<ul style="list-style-type: none"><li>● Overvoltage, low voltage, power failure</li><li>● External magnetic tamper, Record 25 events</li><li>● Meter Cover Open, Record 25 events</li><li>● Terminal Cover Open, Record 25 events</li><li>● Current reverse, Record 25 events</li><li>● Phase Absence</li><li>● Reverse Current</li><li>● Password error detection</li><li>● Time Calibration</li><li>● Memory Error</li><li>● Demand reset</li></ul>
<b>LCD</b>	<ul style="list-style-type: none"><li>● Large digit LCD display for easy reading</li><li>● Display available during power off</li><li>● LCD Backlight</li><li>● Wide viewing angle</li></ul>
<b>LED</b>	<ul style="list-style-type: none"><li>● Phase Absence indication</li><li>● Reverse current indication</li></ul>
<b>Memory</b>	<ul style="list-style-type: none"><li>● Non-volatile memory which can support over 10 years</li></ul>
<b>Battery</b>	<ul style="list-style-type: none"><li>● Support power off display</li><li>● Support RTC clock</li></ul>
<b>Terminals</b>	<ul style="list-style-type: none"><li>● Two screws for fixing the terminal conductor</li><li>● The terminals are made of copper</li><li>● Connection cross-sectional area over 25mm<sup>2</sup></li></ul>

## Additional Functionalities:

<b>Protection Class</b>	<ul style="list-style-type: none"><li>• IP54 compliant with IEC60529</li><li>• Insulation grade II</li></ul>
<b>Housing Material</b>	<ul style="list-style-type: none"><li>• PC+10%GF material, Fire retardant, flame resistant, Anti-UV, thermal deformation engineering plastic, Transparent meter cover and terminal cover</li><li>• Option for ultrasonic welding</li></ul>
<b>Design Life</b>	<ul style="list-style-type: none"><li>• <math>\geq 10</math> years</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>• 195.5 x 160.6 x 57.5 mm</li></ul>
<b>Weight</b>	<ul style="list-style-type: none"><li>• 800g</li></ul>

## Diagrams



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