

MAGNO 22+

Dual Source Single Phase BS Smart Energy Meter



The **Magno 22+** is a single-phase **dual-source** meter designed for residential use, featuring integrated 100A UC3-compliant relays for remote disconnection and reconnection of electrical services. It enables measurement of power consumption from multiple sources with flexible payment modes, including **dual-wallet** functionality for prepayment systems. Compliant with **STS/CTS** standards and using the **DLMS/COSEM** protocol, the **Magno 22+** ensures seamless integration and reliable operation in residential and commercial environments.



DLMS COMPLIANT



IDIS CERTIFIED



STS/CTS COMPLIANT



DUAL WALLET



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Main Functionalities:

Standards & Compliance	<ul style="list-style-type: none">▪ IEC 62052-11, 21, 31▪ IEC 62053-23, 24▪ IEC 62059-31-1▪ IEC 62059-32-1▪ EN62053-23▪ EN50470-3
Measurement	<ul style="list-style-type: none">▪ 4 quadrants▪ Import/Export Absolute/Q1/Q2/Q3/Q4: Wh, varh and VAh▪ Vrms, Irms▪ Power factor, frequency▪ V-I Phase angle▪ Absolute value $Ai = +A + -A$ $Ae = -A$▪ Neutral Current Measurement
Multi TOU Tariff	<ul style="list-style-type: none">▪ Up to 8 tariff▪ Up to 200 programmable special days Daily, Weekly, Monthly, Yearly & Special▪ Up to 8 separate import and export registers▪ Up to 12 seasons▪ Up to 24 periods
Prepayment	<ul style="list-style-type: none">▪ Configurable prepayment and post-payment mode▪ Three levels for remaining credit alarm▪ Emergency credit, friendly time and friendly days support▪ Dual wallet▪ Meter Keypad (Optional)
Load control	<ul style="list-style-type: none">▪ Remote control command support▪ Over current control support▪ Power limit support▪ 1 poles internal relay (for 100A meter)▪ 2 poles internal relay (for 80A meter)▪ Disconnect/Reconnect by locally or remotely
Load Profile	<ul style="list-style-type: none">▪ Up to 60 channels▪ Support 3 independent surveys▪ 24hrs daily survey▪ Intervals programmable from 1 to 60 minutes▪ Storage 8 channels (15 min) for a year
Communication Ports	<ul style="list-style-type: none">▪ WAN: Plug and play module to support various communication technology▪ WAN: G3-PLC, WiSUN, LoRaWAN, Cellular (GPRS, 3G, 4G/LTE, NB-IoT), or Ethernet▪ RF or PLC module – For communication with CIU (Customer Interface Unit)▪ Optical: Comply with IEC62056-21 standard, DLMS(IEC62056-21 mode E)▪ Additional: RS485 (2 wire), VTC interface
Input/Output Ports	<ul style="list-style-type: none">▪ Pulse Output▪ Dual Source Signal (Tariff change)▪ Meter enclosure opening/tamper detection (Active input)▪ External Relay output

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Additional Functionalities:

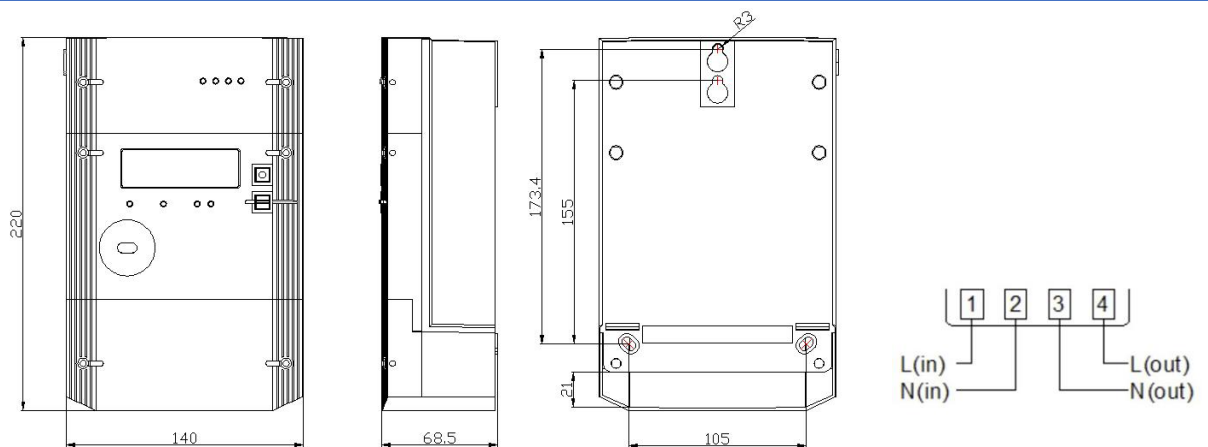
Event	<ul style="list-style-type: none">▪ Fraud detection log (Meter cover & terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.)▪ Failure detection log (Memory error, relay error, battery low voltage, clock invalid 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">▪ More than 4 sealing positions▪ 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
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

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Technical Specification:

Rated Nominal Voltage	<ul style="list-style-type: none">220V~240V, 110V~120V
Operating Voltage Range	<ul style="list-style-type: none">50%Un~120% Un (When Un = 220V-240V)80%Un~120% Un (When Un = 110V-120V)
Rated Current & Starting Current	<ul style="list-style-type: none">5(100)A, 5(80)A and 0.4% Ib
Rated Frequency	<ul style="list-style-type: none">50Hz or 60Hz ±5%
Pulse Constant (Configurable)	<ul style="list-style-type: none">1000imp/kWh1000imp/kvarh (Default)
Accuracy Class	<ul style="list-style-type: none">Cl.1 for ActiveCl.2 for Reactive
Power Consumption	<ul style="list-style-type: none">Voltage circuit ≤2 W or 5VA, Current circuit ≤0.5 VA
Battery and Life	<ul style="list-style-type: none">Replaceable Lithium battery, life more than 15 yearsSupercap (Optional) – 5 yr lifetime with power off
Normal Operation Range	<ul style="list-style-type: none">-25°C to +70°C, Humidity is up to 95%
Limit Operation Range	<ul style="list-style-type: none">-40°C to +80°C Humidity is up to 95%
EMC Performance	<ul style="list-style-type: none">Impulse voltage > 10kV, AC voltage > 4kV, Short circuitcurrent > 3kA, Electrostatic Discharge contact: 8kV & air: 15kV
Protection Class	<ul style="list-style-type: none">IP54 compliant with IEC60529Insulation grade II
Housing Material	<ul style="list-style-type: none">Polycarbonate with non-conductive, high impact,smooth finish, durable, non-flammable, UV stabilized,

Diagram:



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