

MAGNO 22+

Dual Source Single Phase BS
Smart Energy Meter



Powering the Future with
Precision and Control

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** and **IDIS** protocol, the **Magno 22+** ensures seamless integration and reliable operation in residential and commercial environments.



ELECTRICITY



STS
ASSOCIATION

DL
MS[®]

*id*is

IDIS
COMPLIANT



DUAL
WALLET



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

- 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

- 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

- 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

- 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

- 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

- 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 (Optional)

- Pulse Output
- Dual Source Signal (Tariff change)
- Meter enclosure opening/tamper detection (Active input)
- External Relay output

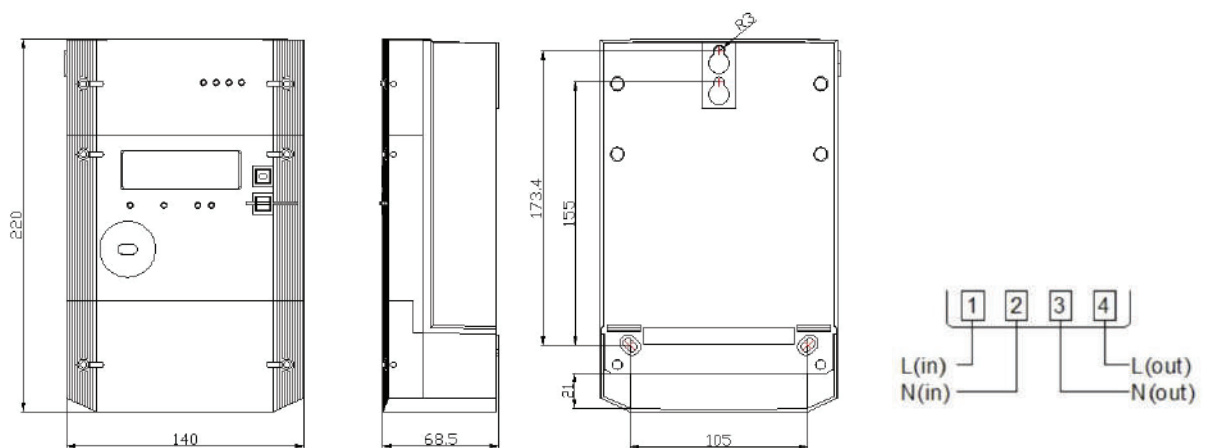
Additional Functionalities:

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	● 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	● Alarms with LED/Buzzer and LCD on CIU ● Alarm can be configurable
Tariff Expense (Optional)	● 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	● 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	● 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	● 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	50%Un~120% Un (When Un = 220V-240V) 80%Un~120% Un (When Un = 110V-120V)
Rated Current & Starting Current	5(100)A, 5(80)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.1 for Reactive
Power Consumption	Voltage circuit ≤ 2 W or 5VA, Current circuit ≤ 0.5 VA
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 > 10kV, AC voltage > 4kV, Short circuit - current > 3kA, Electrostatic Discharge contact: 8kV & air: 15kV
Protection Class	- IP54 compliant with IEC60529 - Insulation grade II
Housing Material	- Polycarbonate with non-conductive, high impact, - smooth finish, durable, non-flammable, UV stabilized,

Diagram



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