

— MODULAR SINGLE-PHASE SMART METER

Magno 12m



The Magno 12m is a compact DIN-rail smart meter designed for residential and light-commercial applications. It combines accurate four-quadrant energy measurement with prepaid and postpaid operation, remote load control and flexible communications including G3-PLC, Wi-SUN and cellular. Built-in anti-tamper features and secure DLMS/COSEM communications make it a reliable solution for connected AMI deployments.

Single-phase

5(100)A

Class 1 accuracy

STS/CTS prepayment

DLMS/COSEM & IDIS

Remote disconnect/reconnect

Plug-and-play communications

Technical specification

/ ELECTRICAL CHARACTERISTICS

Rated nominal voltage	220 V – 240 V · 110 V – 120 V
Operating voltage range	40–130% Un (Un 220–240 V) · 80–130% Un (Un 110–120 V)
Rated & starting current	5(100) A · 5(80) A · 5(60) A · starting current 0.4% Ib
Rated frequency	50 Hz or 60 Hz ±5%
Accuracy class	Class 1 for active energy · Class 2 for reactive energy
Pulse constant (configurable)	1000 imp/kWh · 1000 imp/kvarh (default)
Power consumption	Voltage circuit 2 W or 5 VA · current circuit 0.5 VA

/ MEASUREMENT & DATA

Measurement	1-element 4-quadrant import/export · Wh, varh, VAh (absolute / Q1–Q4) · per-phase & total W, var, VA · Vrms, Irms · power factor, frequency · V–I phase angle
Multi-TOU tariff	Up to 8 tariffs · multiple seasons, days, weeks and special days · up to 12 import/export registers · 12 seasons · at least 12 periods
Load profile	Multiple channels and load curves · 24-hr daily survey · programmable 1–60 min intervals · 8 channels (15 min) stored for a year
Billing records	Up to 12-month billing data and 31-day daily data, with monthly and daily net-consumption calculation
Event logs	Fraud detection (covers, current reverse, magnetic, neutral mismatch) · failure · power quality (sag/swell, over-current) · security & standard logs

/ PREPAYMENT & LOAD CONTROL

Prepayment	Configurable prepayment / post-payment · STS/CTS token & SMS vending · three-level credit alarm · emergency credit, friendly time & days
Load control	2-pole internal relay (80A) or 1-pole relay (100A) · over-current and power-limit control · reconnect / disconnect locally or remotely

/ COMMUNICATIONS & SECURITY

WAN	Plug-and-play module · G3-PLC, RF Wi-SUN, G3 hybrid (PLC + Wi-SUN) or Cellular (CAT1, 4G, 3G, 2G)
HAN / CIU & local ports	RF or PLC link to CIU / UIU (STS-compliant tokens) · optical port (IEC 62056-21 mode E, DLMS) · RS485, VTC interface
I/O ports (optional)	Dual-source (tariff-change) signal · meter enclosure detection
Protocols & firmware	HDLC DLMS and TCP/IP DLMS (suites 0 & 1) · IEC 62056-21 mode E · STS/CTS token & SMS · IDIS compliant · upgradeable via local & WAN
Security & anti-tamper	LLS with 3-level passwords · HLS authentication and encryption · terminal, meter and module cover sealing · self-protection controls

/ MECHANICAL & ENVIRONMENTAL

Operating temperature	Normal –25 to +70 °C · limit –40 to +80 °C · humidity up to 95%
EMC performance	Impulse voltage >6 kV · AC voltage >4 kV · short-circuit current >3 kA · ESD 8 kV contact / 15 kV air
Protection & battery	IP54 compliant with IEC 60529 · insulation grade II · replaceable lithium battery, life >15 years · optional supercap (5 yr)
Housing & dimensions	Polycarbonate · non-conductive, high-impact, smooth-finish, durable, non-flammable, UV-stabilised and weather-resistant · L70 × W80 × H170 mm

/ STANDARDS & COMPLIANCE

Standards	IEC 62052-11 / -21 / -31 · IEC 62053-23 / -24 · IEC 62059-31-1 / -32-1 · EN 62053-23 · EN 50470-3
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