

— THREE-PHASE CT/CT-VT SMART METER

Magno 33 CT/CTVT



The Magno 33 CT/CTVT is a high-accuracy three-phase smart meter developed for commercial, industrial and network applications. Designed for CT and CT/VT installations, it delivers four-quadrant energy measurement, detailed power-quality monitoring and flexible prepaid or postpaid billing. Multiple communication interfaces allow straightforward integration into modern AMI infrastructures. With Class 0.5S active and reactive energy accuracy, the meter also supports extensive tariff, billing and load-profile capabilities as well as secure DLMS/COSEM and IDIS communications.

- Three-phase
- CT/CT-VT operated
- 5(20)A
- Class 0.5S
- STS/CTS
- DLMS/COSEM & IDIS
- G3-PLC / Wi-SUN / Cellular / Ethernet
- Power-quality monitoring

Technical specification

/ ELECTRICAL CHARACTERISTICS

Rated nominal voltage	3 × 100/57.7 V to 480/277 V
Operating voltage range	80-120% Un
Rated & starting current	5(20) A · starting current 0.1% Ib
Rated frequency	50 Hz or 60 Hz ±5%
Accuracy class	Class 0.5S for active energy (kWh) · Class 0.5S for reactive energy (kvarh)
Pulse constant (configurable)	1000 imp/kWh · 1000 imp/kvarh (default)
Power consumption	Voltage circuit ≤2 W or 10 VA · current circuit ≤1 VA

/ MEASUREMENT & DATA

Measurement	3-element 4-quadrant import/export - Wh, varh, VAh (absolute / Q1-Q4) · per-phase and total W, var, VA · Vrms, Irms · power factor, frequency · V-V and V-I phase angles · voltage and current THD
Multi-TOU tariff	Up to 8 tariffs · 200 programmable special days (daily/weekly/monthly/yearly) · 12 seasons · up to 32 import/export registers · 100 previous periods plus totals
Load profile	At least 50 channels · 3 independent surveys · 24-hr daily survey · intervals programmable 1-60 min · 8 channels (15 min) stored for a year
Billing records	Up to 13-month billing data with monthly net consumption · up to 31 days daily data with daily net consumption
Event logs	Fraud detection (covers, module cover, reverse current, magnetic, neutral mismatch) · failure · power quality (sag/swell, over-current/imbalance) · security and standard logs

/ PREPAYMENT & LOAD CONTROL

Prepayment	Configurable prepaid / postpaid · STS/CTS token and SMS vending · dual wallet · emergency credit, friendly time and days · 3-level credit alarm
Load control	Not applicable - CT/CT-VT-operated instrument meter, no internal relay; self-protection via overload, arrearage and tamper control

/ COMMUNICATIONS & SECURITY

WAN	Plug-and-play module - G3-PLC, Wi-SUN, Cellular (GPRS, 3G, 4G/LTE, NB-IoT) or Ethernet
HAN / CIU & local ports	RF or PLC link to Customer Interface Unit (STS tokens) · optical port (IEC 62056-21 mode E, DLMS) · 2× RS485 with power supply, RS232, VTC interface
I/O ports (optional)	Pulse output · dual-resource (tariff-change) signal · enclosure-opening / tamper input · external relay output · pulse input
Protocols & firmware	HDLCLDLMS and TCP/IP DLMS (suites 0 and 1) · IEC 62056-21 mode E · STS/CTS token and SMS · IDIS compliant · upgradeable via local and WAN
Security & anti-tamper	LLS with 3-level passwords · HLS authentication and encryption · more than 4 sealing points across terminal, meter and module covers · self-protection controls

/ MECHANICAL & ENVIRONMENTAL

Operating temperature	Normal -25 to +60 °C · limit -40 to +70 °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, non-flammable, UV-stabilised and weather-resistant

/ 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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