APATOR

Three-phase electricity meter

smartESOX P

Application

Multi tariff, four-quadrant electricity meter in three-phase, 3- or 4-wire network for HV-, MV- or LV-powered consumers of all tariff groups. Extended measuring and registering functionality is complemented by multiple communication options. It is an optimal solution for advanced power management systems (EMS). Typical use: commercial/industrial meter; balancing meter.

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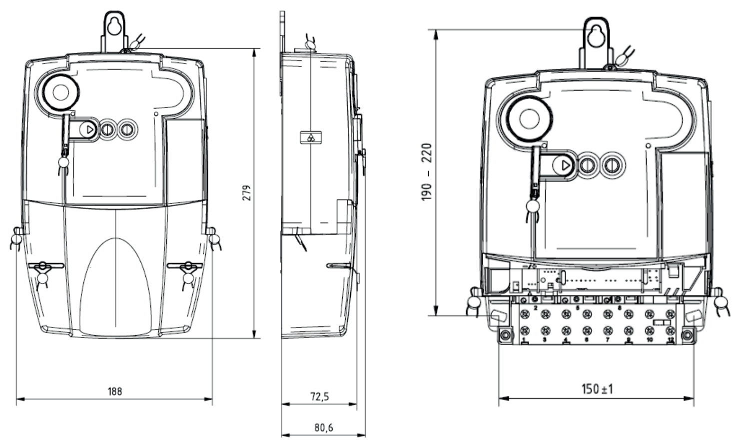
Functionality

- Measurement of active, reactive and apparent energy
- Measurement of instantaneous, maximum, redundant and cumulative power
- Measurement of transformer losses: OLA, NLA, OLR, NLR, I^2t, U^2t
- Measurement of network parameters, including: voltages, currents, voltage and current harmonics, frequencies, THD, assymetry factor and neutral wire current
- Monitoring of power grid parameters: voltage dips and swells; long power outages; current and voltage asymmetry; current flow with no applied voltage; no current flow; exceeded current limit
- Direct, semi-direct and indirect connection through current transformers, optionally also through voltage transformers
- Recording of energy in six tariff zones, switched by a built-in real time clock
- Wide range of recording capabilities for measured parameters:
  - independently configurable profiles with different recording intervals
  - ability to configure a different set of recorded data for each profile
- Enhanced event logging
  - 7 groups of events, recorded in independent logs
  - Sending immediate event notifications to the host device/system
- Wide range of recording capabilities for measured parameters in reference periods
  - Up to 50 parameters recorded in reference periods
- DLMS/COSEM communication protocol, possibility to read measurement data through the PN-EN 62056-21 (IEC1107) protocol
- Three built-in communication ports: one optical, two serial
- Interchangeable communication module: 3G/GPRS or Ethernet
- Built-in emergency power supply connected to an external power source
- Ability to read energy registers on the display in case of power outage - powered by a replaceable AA battery.
- Ability to read profiles and reference periods on the LCD

electricity

Basic technical parameters

Model		smartESOX P
Connection method		CT or CT/VT connected
Rated voltage U_n	[V]	3 x 58/100...3x230/400
Reference current I_{ref}	[A]	1 or 5
Maximum current I_{max}	[A]	6
Measurement accuracy of active energy		B or C
Measurement accuracy of reactive energy		3 or 2
Electric strength	[kV]	4 (AC 50 Hz), 6 or 8 - optional (surges 1,2/50 μs)
Pulse frequency	[imp/kWh] [imp/kvarh]	20 000
Clock		Built-in, accuracy not worse than 0.5 s/24 h at 23˚C, synchronised by external signal or by communication port.
Communication		Protocol support DLMS/COSEM (EN 62056-5-3, EN 62056-6-2) optional reading out the data from serial ports with protocol EN 62056-21 (IEC1107) Ports: • Optical connector (EN 62056-21), up to 19200 Bd. • Two independent serial ports (2x RS485 or 1x RS-485 and 1xRS-232), 300 Bd to 57,600 Bd. • Interchangeable communication module - 3G/GPRS, PLC, Ethernet
Inputs		Two optically isolated inputs (features: control of: registration, tariffs, synchronised real-time clock; alarm input, pulse counting).
Outputs		Up to six pulse outputs (for energy counting). Two programmable relay outputs.
Event logging		Dips and swells of phase voltages, long power outages, opening and closing cover of terminal box and case, magnetic field influence, exceedance of I_{max}, P_{max}, non-voltage current, configuration, deleting events, critical error, change of RTC settings, events on digital inputs. Events are registered with date and time.
Display		Segment display compliant with VDEW requirements
Operating temperature		from −40˚C to 70˚C
Housing		IP 54, II protection class
Standards		EN 50470-1 EN 50470-3 EN 62053-23 EN 62053-11



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