

ELECTRONIC POLYPHASE METER AS3000

Electronic polyphase meter for residential and smart metering applications

With the deregulation of the energy market, in combination with a changing cost situation, new flexible tariff structures and modern energy management are required. Remote metering and the standardization process become more and more important. The direct connected AS3000 offers these advanced features required along with an optional disconnect block.

The direct connected meter AS3000 is approved according to MID and PTB (Germany). A variety of communications modules can be added to ensure that it can be adapted to meet the market requirements for smart meter applications.



AS3000 front view

FEATURES AND BENEFITS

- High accuracy and stability.
- 4 quadrant measurement (+P, -P, +Q, -Q, Q1 ... Q4).
- 8 energy tariffs and 4 demand tariffs, independently controllable.
- Active, reactive and apparent energy measurement.
- Integrated tariff clock.
- RTC time back-up with an internal battery and an external exchangeable battery (optional).
- Local readout without mains power.
- Optical interface acc. to EN 62056-21.
- OBIS identifier system acc. to EN 62056-61.
- Integrated disconnect relay up to 100A (optional)
 - remote disconnect/reconnect;
 - load limitation;
- Advanced anti-tampering features:
 - terminal and main cover removal detection;
 - rotation field detection;
 - magnetic field detection;
 - phase failure detection;
 - power failure detection;
 - hardware lock against reprogramming;
 - no voltage links;
- AMI prepared, hot swap communication modules:
 - AM122 – GSM/GPRS or LTE;
 - AM322 – Ethernet (coming soon);
 - AM540 – PLC/OFDM and wired M-Bus;
- Electrical interface RS485.
- Supported meter protocols:
 - EN 62056-21;
 - DLMS/COSEM;
- Log file for event registration with time and date stamps.
- Load profile for billing data.
- Measuring instantaneous values (U, I, f...).
- Profile of instrumentation values.
- Up to 3 electronic SO outputs (optional).
- Up to 2 control inputs (optional).
- Up to 4 electronic 230V, 100mA outputs (optional) or 2 mechanical relay outputs, 4A (optional).
- User-friendly reading, setting and programming tool *alphaSET*.

AS3000 TECHNICAL SPECIFICATIONS

Nominal voltage	4-wires, 3-systems	3x220/380V ... 3x240/415V (-20% ... +15%)
Nominal frequency		50/60Hz, ±5%
Nominal (maximum) current	Continuous current Short duration	10(60)A, 10(80)A, 10(100)A, 10(120)A 7000A for 2 cycles
Starting current		20mA
Accuracy	Active energy: class 1, 2 or A, B (MID) Reactive energy: class 1	EN 62053-21, EN 50470-3, MID-app. MI-003 EN 62053-23
Power supply	Nominal voltage	Still operates even with the failure of two phases or one phase and the neutral
2 control inputs (optional)	Control voltage Threshold	maximum 265V AC OFF: <40V ON: >60V
3 electronic outputs	S0 standard	Acc. to IEC 62053-31 Class A (maximum 27V DC)
Electronic/mechanical outputs (optional)	Up to 4 electronic outputs or Up to 2 mechanical relay outputs	27V ... 265V, 100mA 230V, 4A
Interfaces	Optical interface RS485 interface for communication module	maximum 9.600 Baud (acc. to EN 62056-21) maximum 19.200 Baud (acc. to EN 62056-21)
Internal tariff source	4 tariffs, 4 seasons weekday dependent tariff scheme	Acc. to EN 62052-54
Real-Time Clock time backup for RTC	Accuracy Internal battery or exchangeable battery (optional)	< 5ppm or <0,5s/day > 5 years continuous operation without power, with a shelf-life of 10+ years
Time backup for readout without mains power	Exchangeable battery (optional)	4-5 years
Integrated connect/disconnect relay (optional)	Mechanical life Electrical endurance according to IEC 62055-31, Annex C	100.000 switching cycles 10.000 switching cycles with maximum 100A
Temperature condition	Operating temperature Storage temperature Humidity Temperature coefficient	-40°C ... +70°C -40°C ... +80°C 0 to 95% rel. humidity, non-condensing <0,04% per °C (PF=1), <0,04% (PF=0,5)
EMC compatibility	Surge withstand (1,2/50 μs) Dielectric test EMC environmental conditions	6kV, R _{source} =2Ω, 12kV, R _{source} =40Ω* 4kV, 1minute/50Hz MID E2
Power consumption		< 0,7W, <0,8VA per phase
Connections	Direct connected meter Auxiliary connections	Terminals: 9,3mm x 9,3mm Terminals: 2,5mm ²
Housing	Dimensions Protection class Material Mechanical environmental conditions	Acc. to DIN 43857 part 2, DIN 43859 Housing: IP54 Terminal block: IP31 Polycarbonate, non-inflammable, self-extinguishing synthetic material, recyclable MID M1
Weight	Without disconnecter Including disconnecter	< 1,5 kg < 1,9 kg

* - only between main terminals

For more information

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FUTURE
IS
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WE
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