

# Electronic polyphase meter AS3000

## Electronic three-phase 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 a 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 AS3000V is approved according 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.



## Features

- 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 supercap + internal battery + external exchangeable battery (option)
- Local readout without mains power
- Optical interface acc. EN 62056-21
- OBIS identifier system (EN62056-61)
- Integrated disconnect relay up to 100A ( option )
  - Remote disconnect/reconnect
  - Load limitation
- Advanced Anti-Tampering features, like
  - 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 swop communication modules
  - AM100 – GSM/GPRS + wired or wireless M-Bus
  - AM200 – wireless M-Bus (slave)
  - AM300 – Ethernet
  - AM500 – PLC / IDIS + wired M-Bus
  - AM540 – PLC / OFDM + wired or wireless M-Bus
- Electrical interface RS485 / CLO / RS232
- supported meter protocols
  - EN62056-21 or
  - DLMS/COSEM
- log file for event registration with time and date stamps
- load profile for billing data
- measuring of instantaneous values
- profile of instrumentation values
- up to 3 electronic S0 outputs
- up to 2 control inputs (option)
- up to 4 electronic 230V, 100mA outputs (option) or 2 mechanical relay outputs, 8A (option)
- user friendly reading, setting and programming tool *alphaSET*

<b>Nominal voltage</b>	4-wire, 3-systems 3-wire, 2-systems	3x220/380V .. 3x240/415V, -20% ... 15% 3x230 ... 3x240V, -20% ... 15%
<b>Nominal frequency</b>		50 / 60Hz, +/-5%
<b>Nominal / maximum current</b>	Continuous current Short duration	5(60)A, 5(80)A, 5(100)A, 5(120)A 7000A for 2 cycles, CT: 300A for 0,5s
<b>Starting current</b>		20mA
<b>Accuracy</b>	Class 2 or 1 Class A or B (MID)	acc. EN62053-21, EN62053-23, EN50470-3, MID-app. MI-003
<b>Power supply</b>	Nominal voltage	Still operates even with the failure of two phases or one phase and the neutral
<b>2 control inputs (option)</b>	Control voltage Threshold	Max. 265V AC „OFF“ at <40V, „ON“ at >60V
<b>3 electronic outputs</b>	S0 standard	Acc. IEC 62053-31 Class A (max.27V DC)
<b>electronic / mechanical outputs (option)</b>	Up to 4 electronic outputs or Up to 2 mechanical relay outputs	27-265V, 100mA 230V, 8A
<b>Interfaces</b>	Optical interface RS485 / CLO / RS232 Interface for comms module	EN 62056-21, max 9600 Baud max. 19200 Baud
<b>Internal tariff source</b>	4 tariffs, 4 seasons weekday dependent tariff scheme	EN 62052-54
<b>Real Time Clock - Time backup for RTC</b>	Accuracy internal battery exchangeable battery (optional)	< 5ppm or <0,5s/day > 5 years continuous operation without power shelf life of 10+ years
<b>Time backup for readout without mains power</b>	Supercap Exchangeable battery	4-5 hrs. (within 2 days) 4-5 years
<b>Integrated connect/disconnect relay (option)</b>	Mechanical life Electrical endurance according IES 62055-31, Annex C	100.000 switching cycles 10.000 switching cycles with max. 100A
<b>Temperature condition</b>	Operating temperature Storage temperature Humidity Temperature coefficient	-40°...+70° -40°...+80° 0 to 95% rel. humidity, non-condensing <0,04% per °C (PF=1), <0,04% (PF=0,5)
<b>EMC compatibility</b>	Surge withstand (1,2/50µs) Dielectric test EMC environmental conditions	6kV, R <sub>source</sub> =2 Ohm, 12kV, R <sub>source</sub> =40 Ohm *) 4kV, 1min, 50Hz MID E2
<b>Power consumption</b>		< 0,7W, <0,8VA per phase
<b>Connections</b>	Direct connected meter Auxiliary connections	Terminals: 9,3mm x 9,3mm Terminals: 2,5mm <sup>2</sup>
<b>Housing</b>	Dimensions Protection class Material  Mechanical environmental conditions	Acc. DIN 43857 part 2, DIN 43859 Housing: IP54, terminal block: IP31 Polycarbonate, non-inflammable, self-extinguishing synthetic material, recyclable MID M1
<b>Weight</b>	Without disconnecter Including disconnecter	< 1,5 kg < 1,9 kg

\*) only between main terminals

**Elster Solutions GmbH**

Steinern Straße 19-21

55252 Mainz-Kastel

Germany

Phone +49 (0) 6134 / 605-777

Fax +49 (0) 6134 / 605-750

e-info@elster.com

www.elstersolutions.com