

Electronic polyphase meter AS3500

Electronic three-phase meter for light commercial and industrial 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 AS3500 offers these advanced features required along with an optional disconnect Block.

The AS3500 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 remote meter reading.



Features

- High accuracy and stability
- Comprehensive large figure display
- 4-Quadrant measurement (+P,-P,+Q,-Q,Q1..Q4)
- 8 energy and 4 demand tariffs, independently controllable
- active, reactive and apparent energy measurement
- integrated tariff clock
- RTC time back-up with supercap + internal battery + external battery (option)
- Readout of meter data without mains power
- Optical interface acc. EN 62056-21
- OBIS identifier system (EN62056-61)
- optical display stepping
- 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
- Load profile for billing data
 - up to 8 channels
 - different modes of storage
- AMI prepared, hot swap communication modules
 - AM100 – GSM/GPRS + wired/wireless M-Bus
 - AM200 – wireless M-Bus (slave)
 - AM300 – Ethernet
 - AM500 – PLC using SFSK + wired M-Bus
 - AM540 – PLC using OFDM + wired/wireless M-Bus
- log file for event registration with time and date stamps
- Electrical interface RS485 / CL0 / RS232
- supported meter protocols
 - EN62056-21 or
 - DLMS/COSEM
- measuring of instantaneous values (U, I, f, ...)
- profile of instrumentation values (up to 8 channels)
- up to 3 electronic S0 outputs
- up to 2 control inputs (option)
- up to 4 electronic 230V, 100mA outputs or 2 mechanical relay outputs (8A) (option)
- user friendly reading, setting and programming tool *alphaSET*

Nominal voltage	4-wire, 3-systems	3x220/380V ... 3x240/415V, -20% ... 15%
	3-wire, 2-systems	3x58/100V ... 3x63/110V, -20% ... 15%
Nominal frequency		50 / 60Hz, +/-5%
Nominal / maximum current	Continuous current	5//1, 1(2)A, 5(6)A, 5(15)A, ...
	Short duration	300A for 0,5s
Starting current	CT	1mA
Accuracy	Class 1 or 0,5	acc. EN62053-21, EN62053-23,
	Class B or C (MID)	EN50470-3, MID-app. MI-003
Power supply	Nominal voltage	Still operates even with the failure of two phases or one phase and the neutral
2 control inputs (option)	Control voltage	Max. 265V AC
	Threshold	„OFF“ at <40V, „ON“ at >60V
3 electronic outputs	S0 standard	Acc. IEC 62053-31 Class A (max.27V DC)
electronic outputs (option)	Up to 4 electronic outputs or	27-265V, 100mA
	Up to 2 mechanical relay outputs	Up to 8A
Interfaces	Optical interface	Acc. IEC 62056-21, max 9600 Baud
	RS485 / CLO / RS232	max. 19200 Baud
	Interface for comms module	
Internal tariff source	4 tariffs, 4 seasons weekday dependent tariff scheme	Acc. EN 62052-21
Real Time Clock - Time backup	Accuracy	< 5ppm or <0,5s/day
	Supercap	1 day without power
	internal battery exchangeable battery (optional)	> 5 years continuous operation without power shelf life of 10+ years
Time backup for readout without mains power	Exchangeable battery	5 years
Temperature condition	Operating temperature	-40°...+70°
	Storage temperature	-40°...+80°
	Humidity	0 to 95% rel. humidity, non-condensing
	Temperature coefficient	<0,01% per °C (PF=1), <0,04% (PF=0,5)
EMC compatibility	Surge withstand (1,2/50µs)	6kV, R _{source} = 20ohm 12kV, R _{source} = 40ohm *)
	Dielectric test	4kV, 1min, 50Hz
	EMC environmental conditions	MID E2
Power consumption	Voltage circuit	< 0,7W, <0,8VA per phase
	Current circuit	< 0,01W, <0,01VA per phase
Connections	Main Terminals	Terminals: 6mm x 5mm
	Auxiliary connections	Terminals: 2,5mm ²
Housing	Dimensions	DIN 43857 part 2, DIN 43859
	Protection class	Housing: IP54, terminal block: IP31
	Material	Polycarbonate, non-inflammable, self-extinguishing synthetic material, recyclable
	Mechanical environmental conditions	MID M1
Weight		< 1,5 kg

*) only between main terminals

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