

# 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 direct connected 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
  - 8 energy tariffs
  - active, reactive and apparent energy measurement
  - integrated tariff clock
  - RTC time back-up with supercap + internal battery + external battery (option)
  - supported meter protocol
    - EN62056-21 or
    - DLMS/COSEM
  - 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
  - Readout without power
- AMI prepared, hot swap communication modules
    - AM100 – GSM/GPRS
    - AM200 – wireless M-Bus (slave)
    - AM300 – Ethernet
    - AM500 – PLC using SFSK
    - AM530 – PLC using OFDM
  - Optical interface acc. EN 62056-21
  - Electrical interface (CL0, RS232, RS485)
  - OBIS identifier system (EN62056-61)
  - 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
  - up to 4 electronic 230V, 100mA outputs or 2 mechanical relay outputs (8A)



<b>Nominal voltage</b>	4-wire, 3-systems	3x220/380V ... 3x240/415V, -20% ... 15%
	3-wire, 2-systems	3x58/100V ... 3x63/110V, -20% ... 15% 3x100V ... 3x127V, 3x230V, -20% ... 15%
<b>Nominal frequency</b>		50 / 60Hz, +/-5%
<b>Nominal / maximum current</b>	Continuous current	DC: 5(60)A, 5(80)A, 5(100)A, 5(120)A CT: 5//1, 1(2)A, 5(6)A, 5(15)A, ...
	Short duration	DC: 7000A for 2 cycles, CT: 300A for 0,5s
<b>Starting current</b>	DC / CT	20mA / 1mA
<b>Accuracy</b>	Class 2 or 1 or 0,5 Class A or B or C (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 input</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 outputs, 230V</b>	Up to 4 electronic outputs or Up to 2 mechanical relay outputs	27-265V, 100mA Up to 8A
<b>Interfaces</b>	Optical interface CLO or RS232 or RS485 interface or Interface for comms module	Acc. IEC 62056-21, max 9600 Baud max. 19200 Baud
<b>Internal tariff source</b>	4 tariffs, 4 seasons weekday dependent tariff scheme	Acc. EN 62052-21
<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 100A
<b>Time backup for RTC</b>	Supercap internal battery exchangeable battery (optional) Accuracy	1 day without power > 5 years continuous operation without power shelf life of 10+ years < 5ppm or <0,5s/day
<b>Time backup for readout without main power</b>	Exchangeable battery	5 years
<b>Temperature condition</b>	Operating temperature	-40°...+70°
	Storage temperature	-40°...+80°
	Humidity	0 to 95% rel. humidity, non-condensing
	Temperature coefficient	<0,04% per °C (PF=1), <0,04% (PF=0,5)
<b>EMC compatibility</b>	Surge withstand (1,2/50µs)	6kV, R <sub>source</sub> = 20Ohm 12kV, R <sub>source</sub> = 40Ohm *)
	Dielectric test	4kV, 1min, 50Hz
	EMC environmental conditions	MID E2
<b>Power consumption</b>	DC:	< 0,7W, <0,8VA per phase
	CT: Voltage circuit Current circuit	< 0,7W, <0,8VA per phase < 0,01W, <0,01VA per phase
<b>Connections</b>	CT connected meter	Terminals: 6mm x 5mm
	Direct connected meter	Terminals: 9,3mm x 9,3mm
	Auxiliary connections	Terminals: 2,5mm <sup>2</sup>
<b>Housing</b>	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
<b>Weight</b>	Without disconnect	< 1,5 kg
	Including disconnect	< 1,9 kg

\*) only between main terminals

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