Electronic single phase meter AS220

Electronic single phase meter for Smart Metering Applications

New requirements dependant from legislation and EU energy saving directives are dominating the European meter market. Smart Metering stands not only for the reading of electricity meters. With this approach the frequently reading of gas and water meters is included.

With the remote metering the standardization process becomes more and more important. With the adaptation of the well proven AS220 meter to the specific Smart Metering requirements, like modular communication, remote connection/disconnection, etc. the new AS220 meter match these new requirements respectively.

The meter is in accordance with the relevant DIN / IEC and MID standards.

Features

- High accuracy and stability
- Efficient certification mode ➔ reduction of the test and certification time
- DIN- or British-Standard version available
- 4-Quadrant measurement (+P,-P,+Q,-Q,Q1..Q4)
- 4 energy and 4 demand tariffs, independently controllable
- Measurement of active, reactive and apparent demand
- Integrated tariff clock (RTC)
- Time back-up with internal battery and supercap
- Readout of meter data without mains power
- Use of OBIS identifier system (EN62056-61)
- Integrated connect / disconnect relay up to 100A
- Anti-Tampering features, like
  - main and terminal cover removal detection
  - reverse run detection
  - absolute value measurement
- Not influencable by magnet field
- Installation support features
- Pluggable communication modules (option)
  - AM100 – GSM/GPRS + wired/ wireless M-Bus
  - AM200 – Wireless M-Bus (Slave)
  - AM300 – Ethernet
  - AM500 – PLC / IDIS + wired M-Bus
  - AM540 – PLC / OFDM + wired/ wireless M-Bus
  - AM700 – RS485 and DLMS protocol
- Load profile for billing data (option)
  - up to 8 channels
  - different modes of storage
- Log file for registration of all events with time and date stamps
- Measuring of instantaneous values U, I, f,…, (option)
- Instrumentation profile up to 8 channels (option)
- Optical interface - according to VDEW specification by use of the EN 62056-21 protocol
- User friendly reading, setting and programming tool *alphaSET*

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Technical Data

Modifications or deviations are reserved R 1.3

Nominal voltage	2-wire, 1 system	220 .. 240V (-20% .. 15%)
Nominal frequency		50 / 60Hz, +/-5%
Nominal / maximum current	Continuous current Short duration	5(60)A, 5(80)A, 5(100)A 7000A for 2 cycles
Starting current		< 16mA
Accuracy	Class 2 or 1 Class A or B acc. MID	EN 62053-21 EN 50470-1 and 3
Power supply	Transformer unit	220 … 240V (-20%..+15%)
1 electronic output (option)	S0 standard	Acc. EN 62053-21
Interfaces	Optical interface Communication module	max. 9600 Baud, EN62056-21 max. 9600 Baud, EN62056-21
Internal tariff source	4 tariffs, 4 seasons weekday dependent tariff scheme	Acc. EN 62054-21
Real Time Clock **- Time backup for RTC**	Accuracy Battery	< 5ppm (<0,5sec/day) > 10 years continuous operation at 25°C, shelf life of 5 years
Integrated connect/disconnect relay	Mechanical life Electrical endurance according IES 62055-31, Annex C	100.000 switching cycles 10.000 switching cycles with max. 100A
Time backup for readout without mains power	Supercap Internal battery	0,5 days 5 years, depending on number of readouts
Temperature condition	Operating temperature Storage temperature Humidity Temperature coefficient	-40°C…+70°C -40°C...+80°C 0 to 100% rel. humidity, non-condensing 0,01% per °C (PF=1 and PF=0,5)
EMC compatibility	Surge withstand (1,2/50µs) Dielectric test	6kV, R_{source} = 2 Ohm *) 12kV, R_{source} = 40 Ohm *) 4kV, 1min, 50Hz, MID E2
Power consumption		< 0,7W, < 8VA
Connections	Direct connected meter Auxiliary connections	Terminals: Ø=9,0mm Terminals: Ø=4,0mm
Housing	Dimensions Protection class Material Mechanical environmental conditions	DIN 43857 part 1, BS 7856 Housing: IP54, terminal block: IP31 Polycarbonate, non-inflammable, selfextinguishing synthetic material, recyclable MID M1
Weight		<0,6 kg

*) only between main terminals

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