

MCS301

Polyphase
Modular Smart
Electricity Meter
for Residential ,
Commercial &
Industrial and
Grid Metering



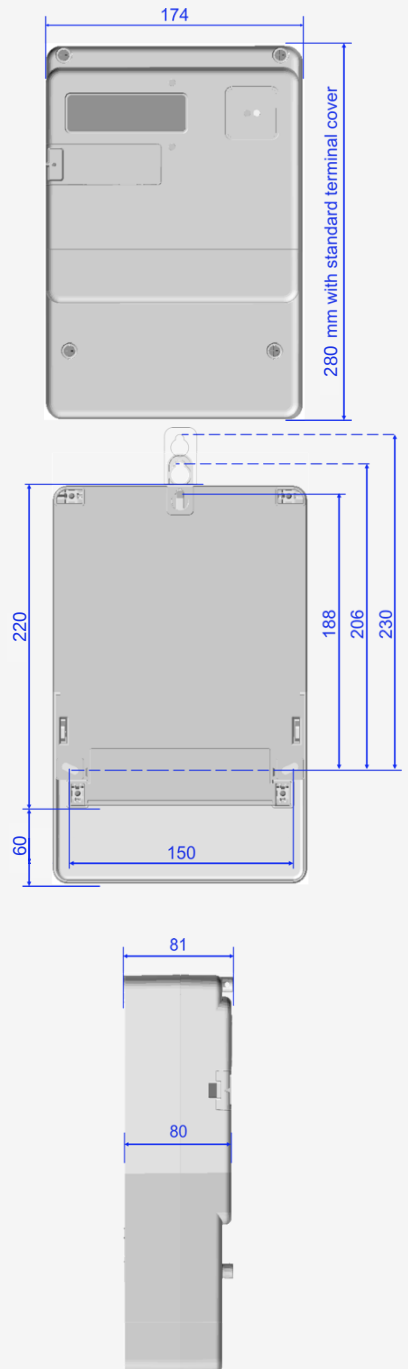
BLUE² meter

- ✓ Measurement of active (bidirectional), reactive (4-quadrants) and apparent energy and demand
- ✓ High accuracy and stability (class 1, 0.5 S, 0.2 S)
- ✓ Exchangeable communication modules
- ✓ Backlighted, large figure LCD display
- ✓ Up to 8 energy tariffs and 4 demand tariffs
- ✓ Up to 10 profile types (billing data, power quality data, M-Bus)
- ✓ Power quality monitoring (over-voltage, under-voltage, over-current, etc)
- ✓ Measuring of harmonics and THD
- ✓ Registration of line and transformer losses
- ✓ Support of application Firmware download
- ✓ High-level security (encryption and authentication)
- ✓ Multiple interfaces: Optical, RS485, RS232, etc
- ✓ Multiple communication protocols: DLMS/COSEM & EN62056-21 protocol as default and expandable to ModBus (Option with Module)
- ✓ Simultaneous communication on all channels
- ✓ Wired M-Bus interface (option)
- ✓ Real time clock (RTC) back-up with supercap and internal battery and external battery (option)
- ✓ Multiple log files for event registration
- ✓ Extensive I/O features
- ✓ Advanced Anti-Tampering features: Terminal & main cover detection, magnetic field, phase and power failure detection
- ✓ Auxiliary power supply in multiple AC/DC ranges (option)

Technical Specification

Nominal voltage	4-wire, 3 systems	3 x 58/100 V; 3 x 220/380 V; 3 x 230/400 V; 3 x 57,7/100 ... 240/415 V; 3 x 57,7/100 ... 277/480 V
	3-wire, 2 systems	3 x 100 V; 3 x 220 V; 3 x 230 V
Nominal / max. current	Indirect Connection	1(2) A; 1(6) A; 5(6) A; 1(10) A; 5(10) A; 5(15) A
	Direct Connection	5(60) A; 5(80) A; 5(100) A
Frequency		50 or 60 Hz ±5%
Accuracy class	Indirect Connection	Class C or B (EN 50470-3); Class 1 (IEC 62053-21); Class 0.5 S or Class 0.2 S (IEC 62053-22)
	Direct Connection	Class B or A (EN 50470-3); Class 1 or 2 (IEC 62053-21)
Temperature / Environmental influences	Temperature	Operation: - 40°C ... +70°C Storage: - 40°C ... +85°C
	Humidity	95% rel. humidity, non-condensing
	Ingress protection	IP54
	Protection class	Class II to IEC 62052-11
Electro-magnetic Compatibility	Surge withstand	6 kV, $R_{source} = 40\Omega$
	1.2/50 us (EN 50407-1)	Auxiliary circuits 6 kV
	Insulation strength	4 kV _{rms} , 50 Hz, 1 min.
	EMC Conditions	MID E2
Real time clock	Accuracy	Crystal < 5 ppm = < 3 min./year (at Top= +25°C)
	Supercap	2 days
	Internal /External battery	5 / 8 years (without main power)
Internal tariff source	Acc. EN 62054	8 tariffs, 4 seasons, weekday dependent tariff scheme
Display	Characteristics	Type: LCD liquid crystal display backlighted
	number of digits	Value field: up to 8; index field: up to 7
	digit size	Value field: 4 x 8 mm; index field: 3 x 6 mm
	Read-out without power	With external battery (option)
Power supply	Type	Transformer or switched based power supply – operating with failure of two phase or one phase and neutral
	voltage circuit	< 1,1 W; < 2,3 VA per phase
	current circuit	< 0,01 W; < 0,02 VA per phase
	Auxiliary Power Supply	Multiple AC/DC ranges (Optional)
Inputs and Outputs (option)	Control- or alarm-input	Max. 3: Control voltage Un +/- 20%
	S0 inputs	Max. 2: Acc. IEC 62053-31; Class A (max. 27 V DC)
	Output (electronic)	Max. 7: 12 to 230 V _{AC/DC} (+15%); 100 mA
	Bistable mech. relay	Max. 1: 230 V AC (+/- 15%); 10 A
Customer interface	acc. DSMR	Accessible by customer, max. 115,2 kbps
	acc. IDIS	RJ12 connector, pushing max. once per second
LED output	Type / Number	2 LEDs kWh / kvarh
	Meter constant	Programmable
Communication Interfaces	Optical	Infrared, half-duplex; max. 9,6 kbps; DLMS / EN62056-21
	Electrical	RS485/RS232,max. 19,2 kbps; DLMS / EN62056-21
	Communication module	Exchangeable, under power
Housing	Dimensions	DIN 43857 part 2; DIN 43859
	Material	Polycarbonate (Lexan), partly glass-fiber reinforced, flame-retardant, self-extinguishing plastic, recyclable
	Environmental condition	MID M1
Connections	Indirect Connection	1 x Screw type terminals, cages; Ø=5.0 mm Pozidrive Combi No. 2
	Direct Connection	2 x Screw type terminals, cages; Ø=9.5 mm Pozidrive Combi No. 2
Weight	Indirect Connection	Aprox. 1,3 kg
	Direct Connection	Aprox. 1,5 kg

Dimensions



BLUE SQUARE CONCEPT



About Us

MetCom Solutions GmbH was founded with the aim to Develop, Manufacture and Deliver innovative Metering solutions and support Utilities to master their Digital Transformation journey.

