

MCS301

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



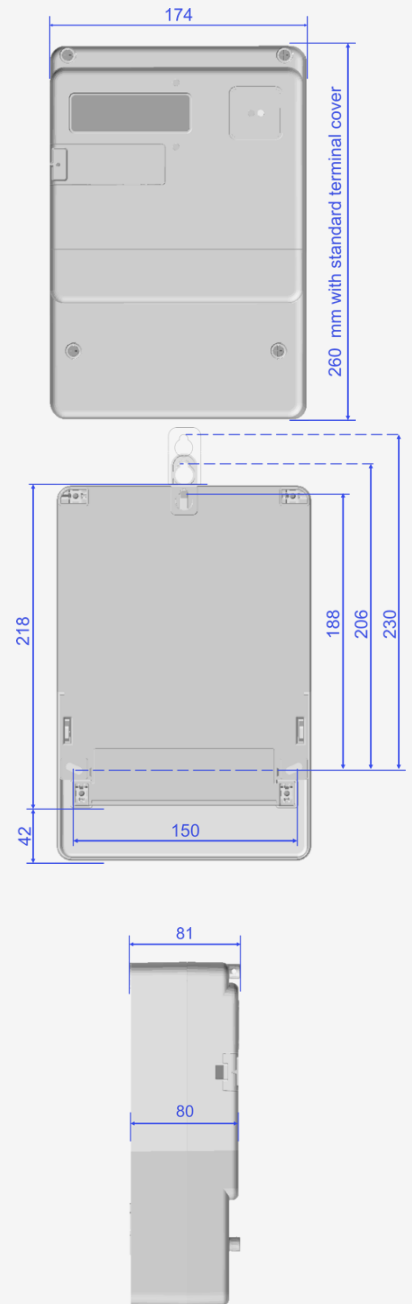
BLUE² METER

- ✓ Measurement of active (bidirectional), reactive (4-quadrants) and apparent energy
- ✓ Maximum demand measurement
- ✓ High accuracy and stability (class 1, 0.5S, 0.2S)
- ✓ Exchangeable communication modules
- ✓ Backlighted, large figure LCD display
- ✓ Up to 8 energy tariffs and 4 demand tariffs
- ✓ Integrated tariff clock
- ✓ 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
- ✓ Optical and Electrical interfaces RS485 and RS232 (option)
- ✓ DLMS/COSEM protocol with IDIS package 2
- ✓ Support of application Firmware download
- ✓ High-level security (encryption and authentication)
- ✓ 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
- ✓ Load limitation functionality
- ✓ Advanced Anti-Tampering features: Terminal cover, main cover and module removal detection, magnetic field, phase and power failure detection

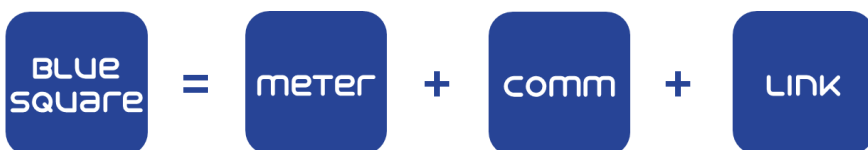
Technical Specification

	Direct Connection	Indirect Connection
4-wire, 3 systems	3 x 220/380 V; 3 x 230/400 V	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 220 V	3 x 100 V; 3 x 220 V
	5(60) A; 5(80) A; 5(100) A	1(2) A; 1(6) A; 5(6) A; 1(10) A; 5(10) A; 5(15) A; 5(20) A
	50 or 60 Hz ±5%	
Active	Class B or A (EN 50470-3); Class 1 or 2 (IEC 62053-21)	Class C or B (EN 50470-3); Class 1 (IEC 62053-21); Class 0.5S or Class 0.2S (IEC 62053-22)
Reactive	Class 2 (IEC 62053-23)	Class 2 (IEC 62053-23); Class 1 (IEC 62053-24); Class 0,5S (IEC 62053-24)
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	
Surge withstand	6 kV, R _{source} = 40Ω	
1.2/50 us (EN 50407-1)	Auxiliary circuits 6 kV	
Insulation strength	4 kV _{rms} , 50 Hz, 1 min.	
EMC Conditions	MID E2	
Accuracy	Crystal < 5 ppm = < 3 min./year (at Top= +25°C)	
Supercap	1 day; charging time 50 hours	
Internal /External battery	5 / 8 years (without main power)	
Acc. EN 62054	8 tariffs, 4 seasons, weekday dependent tariff scheme	
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)	
Type	Transformer based power supply – operating with failure of two phase or one phase and neutral	
self-consumption	< 1,1 W; < 2,3 VA per phase 50 or 60 Hz	
Auxiliary Power Supply	Not Available	48 ... 230 V AC/DC (Optional)
Control- or alarm-input	Max. 2: Control voltage Un +/- 20%	
Pulse-input	Max. 2: S0 Type	
Output (electronic)	Max. 6 : 12 V .. 230 V _{AC/DC} (+15%); 100 mA	
Bistable mech. relay	Max. 1: 230 V AC (+/- 15%); 10 A	
Type / Number	2 LEDs kWh / kvarh	
Meter constant	programmable	
Optical	Infrared, half-duplex; max. 9600 bps; DLMS / EN62056-21 Protocol	
Electrical (option)	RS485 and RS232 interfaces; max. 38 400 bps; DLMS / EN62056-21 Protocol	
Wired M-Bus (option)	Up to 4 M-Bus Slaves (16 Power Loads units)	
Modularity	Exchangeable communication module. Access under the terminal cover or sealable with special cover (without removing the terminal cover)	
Dimensions	DIN 43857 part 2; DIN 43859	
Material	Polycarbonate (Lexan), partly glass-fiber reinforced, flame-retardant, self-extinguishing plastic, recyclable	
Environmental conditions	M1	
	2 Screws type terminals with cages; Ø=9.5 mm Pozidrive Combi 2 M6	1 Screw type terminals with cages; Ø=5.0 mm Pozidrive Combi No. 2 M5
	Aprox. 1.4 kg	Aprox. 1.3 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.

**MADE
IN
GERMANY**