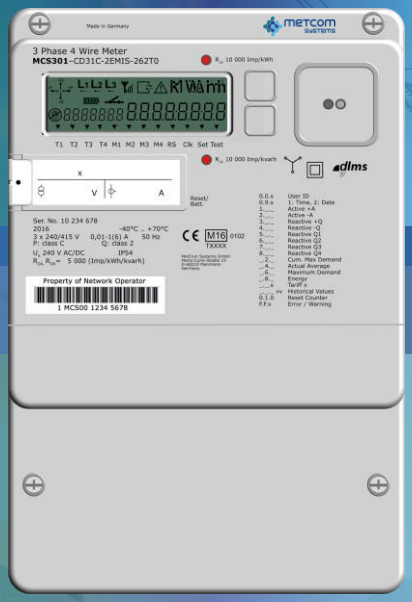
MCS301

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



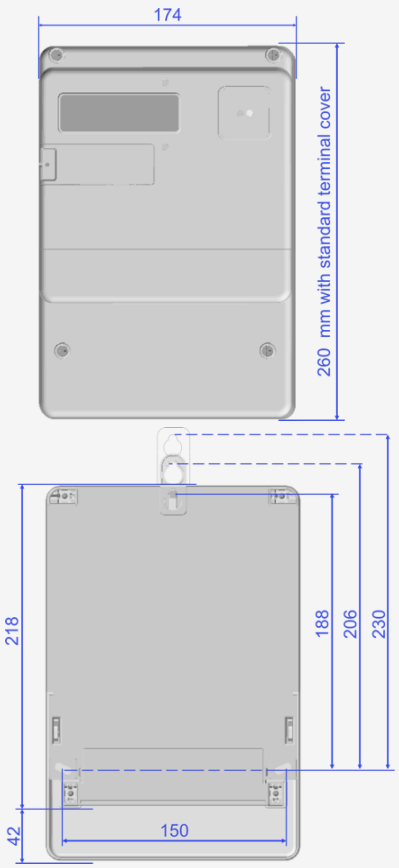
Main Features

- ✓ 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 interface and Electrical interface RS485
- ✓ 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

Nominal voltage	4-wire, 3 systems	3 x 58/100 V; 3 x 230/400 V; 3 x 57,7/100 … 230/400 V
	3-wire, 2 systems	3 x 100 V; 3 x 220 V
Nominal / maximum 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 0.5S or Class 0.2S (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} = 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
Real time clock	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)
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 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	48 … 230 V AC/DC (Optional)
Inputs and Outputs (option)	Control- or alarm-input	Max. 2: Control voltage Un +/- 20%
	Output (S0 standard)	Max. 2: Acc. IEC 62053-31; Class A (max. 27 V DC)
	Output (electronic)	Max. 4: 12 to 230 $V_{AC/DC}$ (+15%); 100 mA
	Bistable mech. relay	Max. 2: 230 V AC (+/- 15%); 10 A
LED output	Type / Number	2 LEDs kWh / kvarh
	Meter constant	programmable
Communication Interfaces	Optical	Infrared, half-duplex; max. 9600 bps; DLMS / EN62056-21 Protocol
	Electrical (option)	RS485, asynchronous, half-duplex 2 wires; max. 38 400 bps; DLMS / EN62056-21 Protocol
	Exchangeable communication module	Exchangeable communication module. Access under the terminal cover or sealable with special cover (without removing the terminal cover)
Housing	Dimensions	DIN 43857 part 2; DIN 43859
	Material	Polycarbonate (Lexan), partly glass-fiber reinforced, flame-retardant, self-extinguishing plastic, recyclable
	Environmental conditions	MID M1
Connections	Indirect Connection	Screw type terminals with cages; Ø=5.0 mm Pozidrive Combi No. 2
	Direct Connection	Screw type terminals with cages; Ø=9.5 mm Pozidrive Combi No. 2
Weight	Indirect Connection	Aprox. 1.3 kg
	Direct Connection	Aprox. 1.4 kg

Dimensions



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.

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