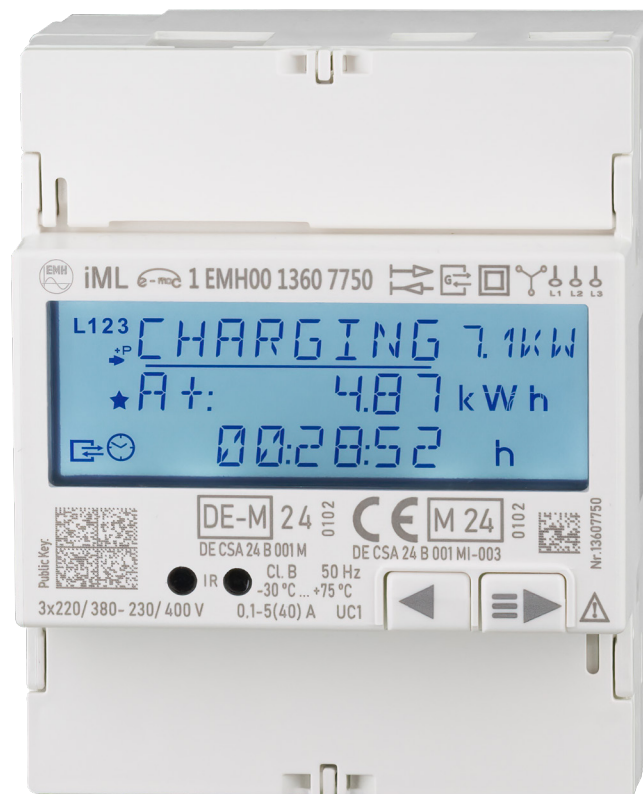


iML e-moc



Intelligent metering for the e-mobility charging process

- MEASURING CAPSULE WITH SIGNATURE IN THE CHARGING INFRASTRUCTURE
- BIDIRECTIONAL ENERGY METERING WITH COMPENSATION OF CABLE LOSS
- OCCUPATION DURATION WITH MEASUREMENT-SWITCHING COORDINATION
- OWN AND STANDBY POWER SUPPLY
- VISUALISATION OF THE CHARGING PROCESS
- PRICE AND BILLING DATA FOR AD-HOC CHARGING
- VERIFICATION SOFTWARE BY MEANS OF S.A.F.E. TOOL*





iML e-moc		Intelligent metering for the e-mobility charging process
Voltage	4-wire meter 2-wire meter	3 x 220/380 V – 3 x 230/400 V AC 1x 220 V – 1 x 230 V AC (standby power supply required for RS485 interface)
Current		0.1–5 (40) A
Utilisation category	UC (utilisation category)	UC 1 (as per EN 62052-31)
Frequency		50 Hz
Accuracy class	Active energy	Class B (as per EN 50470-3)
Measuring types	Active energy	+A/–A
Pulse values	LED (IR)	10 000 pulse/kWh
Registers	Type and quantity	1 energy register each for +A (import) / –A (export) 1 energy register with compensated line losses each for +A (import) / –A (export) Charging process: 1 resettable energy register with compensated line losses for +A (import) 1 resettable energy register with compensated line losses for –A (export) 1 resettable timer (duration of the charging process)
Data preservation		Voltage-free in EEPROM, at least 20 years
Outputs	Quantity, version	1 x Opto-MOSFET (potential-free), max. 250 V AC/DC, max. 0.1 A
Inputs	Quantity, version	1 x max. 265 V AC (potential-free)
Display	Version Digit size Number of digits	Illuminated LC display Value range: approx. 3 x 5 (W x H) mm Value range: 3 lines with 8 digits each, alphanumeric
Display control	Mechanical buttons Electrical interface	2 buttons for installation and checking Display call-up and configuration
Data interfaces	Optical data interface baud rate, protocol data identification Electrical data interface baud rate, protocol data identification Resolution of the register figure	Service, customer interface (can be switched: unidirectional or bidirectional) 9600 baud, SML OBIS codes RS485 (bidirectional) 9600 to 115,200 baud, Modbus or SML OCMF / OBIS 100 mWh
Energy supply	Measuring voltage supply Standby power supply	Capacitor power supply, 1 or 3 phases 12 V DC nom. (+8 V DC to +13.2 V DC), < 100 mA (for voltage-free operation without measuring function and RS485 function for single-phase operation)
Power consumption per phase	Voltage circuit Current path	Typically 0.8 W < 0.05 VA
Safety characteristics	Overvoltage category Rated peak withstand voltage	OVC III (as per EN 62052-31) 4 kV (as per EN 62052-31)
EMC characteristics	Surge voltage Resistance to HF fields Resistance to ripple current	EMC: 4 kV, pulse 1.2/50 µs, 2 Ω, ISO: 6 kV, pulse 1.2/50 µs, 500 Ω 10 V/m (under load) Symmetrical HF current: 2–150 kHz (as per DIN-EN 61000-4-19)
Temperature range	Defined operating range Limit range for operation Storage and transport	–30 °C...+75 °C –30 °C...+75 °C –30 °C...+80 °C
Altitude		Up to 3,000 m
Humidity		Maximum 95%, non-condensing (as per EN 62052-11 and EN 60068-2-30)
Environmental conditions	Mechanical Electromagnetic Intended operating location	M2 according to the Measuring Instruments Directive (2014/32/EU) E2 according to the Measuring Instruments Directive (2014/32/EU) In charging systems with a degree of protection of IP51 or higher
Connections	Conductor / neutral conductor terminals Additional terminals Electrical interface	Terminal dimensions 6.4 x 7.5 mm (W x H), for 1.5 to 16 mm ² max. 2.5 mm ² RJ12 socket with integrated auxiliary voltage supply
Housing	Dimensions Protection class, degree of protection Housing material Fire properties	For mounting on a cap rail (TH 35); 4 HP = 72 x 90 x 63 mm (W x H x D) II, IP30 (housing and terminal block with terminal protection) Non-transparent sections of housing: Glass-fibre reinforced polycarbonate, halogen-free, recyclable Transparent sections of housing: Polycarbonate, halogen-free, recyclable As per EN 62052-31
Weight		approx. 300 g
e-mobility function		Ad-hoc pricing (kWh/duration/session) on display and in signature Display of values relevant to billing along with costs and total Compensation for systemic losses Measurement-switching coordination for the synchronisation of measurements regarding the charging process Display control for a charging process compliant with calibration law Recording of external attributes (customer ID) Pagination of data sets; signature calculation for data sets Verification possible by means of transparency software
Additional equipment features	Recording of instantaneous values Installation check	Active, reactive and apparent power (total and individual phases), phase voltages, phase currents, phase angles, frequency Via service display (rotating field detection, instantaneous values)

Subject to technical changes.
* Planned