

Additional equipment features of the LZQJ-XC:

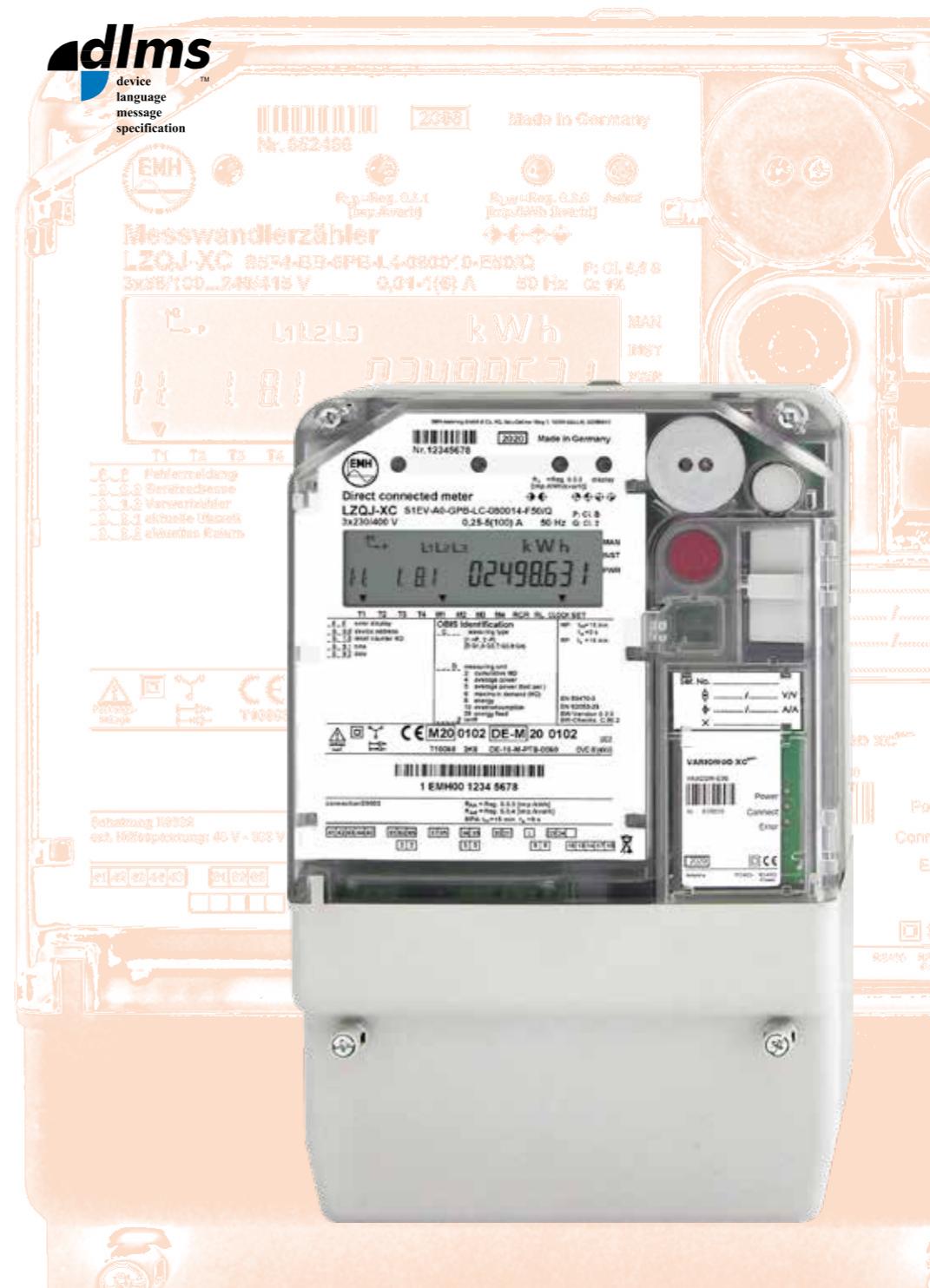
Recording of instantaneous values	P, Q, S (per phase and total), U, I, power factor, mains frequency, phase failures
Installation check	Possible via instantaneous values (service data)
Buffer battery	Replaceable battery for reading out the meter via the optical interface and reading the display in the absence of voltage
Manipulation detection	Opening of the terminal cover and the meter cover as well as interference from magnetic fields
Network analysis	Monitoring of U, I, THD, f, flicker, harmonic as per DIN EN 50160

The LZQJ-XC corresponds to the following standards among others:

DIN 43857-2	Watthour meters in moulded insulation case without instrument transformers, up to 60 A rated maximum current; principal dimensions for poly-phase meters
DIN 66348-1	Interfaces and basic data link control procedures for serial measurement data communication; start-stop-transmission, point-to-point connection
EN 50470-1	Electricity metering equipment (a.c.) - Part 1: General requirements, tests and test conditions - Metering equipment (class indexes A, B and C)
EN 50470-3	Electricity metering equipment (a.c.) - Part 3: Particular requirements - Static meters for active energy (class indexes A, B and C)
IEC 61000-...	Electromagnetic compatibility (EMC)
IEC 60529	Degrees of protection provided by enclosures (IP Code)
IEC 62052-11	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 11: Metering equipment
IEC 62052-21	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 21: Tariff and load control equipment
IEC 62052-31	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 31: Product safety requirements and tests
IEC 62053-21	Electricity metering equipment - Particular requirements - Part 21: Static meters for active energy (classes 1 and 2)
IEC 62053-22	Electricity metering equipment (a.c.) - Particular requirements - Part 22: Static meters for active energy (classes 0.2 S and 0.5 S)
IEC 62053-23	Electricity metering equipment (a.c.) - Particular requirements - Part 23: Static meters for reactive energy (classes 2 and 3)
IEC 62056-21	Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange
IEC 62056-46	Electricity metering - Data exchange for meter reading, tariff and load control - Part 46: Data link layer using HDLC-protocol
IEC 62056-53	Electricity metering - Data exchange for meter reading, tariff and load control - Part 53: COSEM application layer
IEC 62056-61	Electricity metering - Data exchange for meter reading, tariff and load control - Part 61: Object identification system (OBIS)
IEC 62056-62	Electricity metering - Data exchange for meter reading, tariff and load control - Part 62: Interface classes
ITU-T V.11	Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbit/s
TIA/EIA-485	Electrical Characteristics of Generators and Receivers for Use in Balanced Digital Multipoint Systems
ITU-T V.24	List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)
ITU-T V.28	Electrical characteristics for unbalanced double-current interchange circuits

LZQJ-XC

- ✓ Designed as per VDEW specifications 2.1
 - ✓ Plug-in communication modules
 - ✓ Replaceable read-out battery
 - ✓ Network analysis as per DIN EN 50160
 - ✓ DLMS and communication as per DIN EN 62056-21



EMH metering
GmbH & Co. KG

Neu-Galliner Weg 1
19258 Gallin

GERMANY
Tel. +49 38851 326-0
Fax +49 38851 326 1120

Fax +49 58851 326-1129

Email info@emh-metering.co
Web www.emh-metering.com

Issue date: 28/05/2021

	Direct metering version 5(60) A, 10(60) A, 5(100) A, 10(100) A	Transformer version Cl. B (Cl. 1)	High precision meter Cl. C (Cl. 0.5 S)	High precision meter Cl. 0.2 S
Voltage	4-conductor meter 3-conductor meter 2-conductor meter (for 16.7 Hz)	3 x 127/220 V...3 x 240/415 V ---	3 x 58/100 V...3 x 240/415 V (optionally 3 x 57.7/100...3 x 277/480 V) or up to 3 x 400/690 V 3 x 100 V...3 x 415 V or up to 3 x 690 V 100 V...240 V	3 x 58/100 V...3 x 240/415 V (optionally 3 x 57.7/100...3 x 277/480 V) or up to 3 x 400/690 V 3 x 100 V...3 x 415 V or up to 3 x 690 V 100 V...240 V
Current	5(60) A, 10(60) A	5(100) A, 10(100) A	1(6) A, 1(10) A, 5 A, 1 A, 5(20) A	1(6) A, 1(10) A, 5 A, 1 A, 5(20) A
Utilisation category	UC (utilisation category) as per EN 62052-31	UC1 UC2	50 Hz, 60 Hz	50 Hz, 60 Hz, 16.7 Hz
Frequency	50 Hz, 60 Hz	50 Hz, 60 Hz, 16.7 Hz		50 Hz, 60 Hz, 16.7 Hz
Accuracy	Active energy Reactive energy	Cl. A (Cl. 2), optionally Cl. B (Cl. 1) Cl. 3, optionally Cl. 2	Cl. B (Cl. 1) Cl. 2	Cl. C (Cl. 0.5 S) 1 % (Cl. 1S)
Measuring system	Designation	Compensated transformer		Compensated transformer
Measuring types	Active energy Reactive energy Additional	+A, -A +R, -R, R ₁ , R ₂ , R ₃ , R ₄ S, Ah, U ² h, I ² h		+A, -A +R, -R, R ₁ , R ₂ , R ₃ , R ₄ S, Ah, U ² h, I ² h
Pulse values	LED (pulse/kWh[kvarh]) Output (pulse/kWh[kvarh]) Configurability	500...1 000 (type-specific) 250...500 (type-specific) After calibration by means of log created during calibration	10 000...100 000 (type-specific) 5 000...50 000 (type-specific)	10 000...100 000 (type-specific) 5 000...50 000 (type-specific) After calibration by means of log created during calibration
Energy register	Maximum quantity	32 tariff tabs + 16 tabs without tariff, 15 pre-values each		32 tariff tabs + 16 tabs without tariff, 15 pre-values each
Maximum registers	Maximum quantity Measuring period	32 tariff tabs, 15 pre-values each 1, 5, 10, 15, 30, 60 min, adjustable		32 tariff tabs, 15 pre-values each 1, 5, 10, 15, 30, 60 min, adjustable
Load profile	Maximum number of channels Typ. memory depth for 1 channel Registration period Recording type	Up to 3 years for a registration period length of 15 min 1, 5, 10, 15, 30, 60 min, adjustable Power, energy, energy feed		Up to 3 years for a registration period length of 15 min 1, 5, 10, 15, 30, 60 min, adjustable Power, energy, energy feed
Real time clock	Running accuracy Synchronisation Power reserve of battery/capacitor	Within ± 5 ppm Via data interfaces, control input or DCF module > 20 years/approx. 6 days (150 hours)		Within ± 5 ppm Via data interfaces, control input or DCF module > 20 years/approx. 6 days (150 hours)
Ripple control receiver	Number of channels Telegrams	6 All common types		6 All common types
Control inputs	S0 input / system voltage	max. 1/max. 5 (max. 5 inputs possible in total)	max. 2/max. 9 (max. 10 inputs possible in total)	max. 2/max. 9 (max. 10 inputs possible in total)
Data preservation		Voltage-free in EEPROM, at least 10 years		Voltage-free in EEPROM, at least 10 years
Display	Version Height of digits Alternative display Read-out in the absence of voltage	VDEW display, 84 mm x 24 mm 8 mm alphanumeric display 4 x 20 characters; 70.4 mm x 20.8 mm; height of digits 4 mm By means of buffer battery (optional)		VDEW display, 84 mm x 24 mm 8 mm alphanumeric display 4 x 20 characters; 70.4 mm x 20.8 mm; height of digits 4 mm By means of buffer battery (optional)
Operation	Mechanical buttons Optical sensor	For calling and resetting the display (sealable under module flap) For calling the display		For calling and resetting the display (sealable under module flap) For calling the display
Data interfaces	Optical data interface Electrical data interface Data protocols Maximum transfer rate	Optical data interface D0 CL0, RS232 or RS485 IEC 62056-21 or DLMS 19200 baud (fixed or C/E mode)		Optical data interface D0 CL0, RS232 or RS485 IEC 62056-21 or DLMS 19200 baud (fixed or C/E mode)
Communication modules (plug-in)	Modem Interface module Data protocols Maximum transfer rate	LTE, GSM/GPRS, Ethernet RS232, RS485 IEC 62056-21 or DLMS 19200 baud (fixed or C/E mode)		LTE, GSM/GPRS, Ethernet RS232, RS485 IEC 62056-21 or DLMS 19200 baud (fixed or C/E mode)
Outputs	Maximum quantity Optocoupler MOSFET S0 output Relay High-performance relay	8 max. 250 V AC/DC, 100 mA (make contact or break contact) max. 27 V DC, 27 mA max. 250 V AC/DC, 100 mA (max. 2 make contacts) max. 250 V AC/DC, 10 A (max. 2 make contacts)		8 max. 250 V AC/DC, 100 mA (make contact or break contact) max. 27 V DC, 27 mA max. 250 V AC/DC, 100 mA (max. 2 make contacts) max. 250 V AC/DC, 10 mA (max. 2 make contacts)
Energy supply	Switched-mode power supply Mains failure buffering time	3-phase > 500 ms		3-phase > 500 ms
Auxiliary voltage supply	Far range	---	48...300 V AC/DC (optional)	48...300 V AC/DC (optional)
Power consumption per phase (base meter)	Voltage circuit With auxiliary voltage Without auxiliary voltage Current path Auxiliary voltage	--- < 1.2 VA/< 0.75 W < 0.01 VA ---	< 0.02 VA/< 0.01 W (3 x 58/100 V) < 1.2 VA/< 0.75 W < 0.004 VA < 4.2 VA...< 2.5 VA	< 0.02 VA/< 0.01 W (3 x 58/100 V) < 1.2 VA/< 0.75 W < 0.004 VA < 4.2 VA...< 2.5 VA
Safety characteristics	Oversupply category (OVC) Rated peak withstand voltage (U _{imp})	OVC III as per EN 62052-31 4kV as per EN 62052-31		OVC III as per EN 62052-31 4kV as per EN 62052-31/ measuring voltage inputs 3x500V, 3x400/690V, 3x690V: U _{imp} = 8kV
EMC characteristics	Insulation strength Surge voltage	4 kV AC, 50 Hz, 1 min 8 kV, pulse 1.2/50 µs, 2 Ω (measuring paths, auxiliary voltage) 6 kV, pulse 1.2/50 µs, 500 Ω (Outputs: optocoupler MOSFET, relay, system voltage inputs)		4 kV AC, 50 Hz, 1 min 8 kV, pulse 1.2/50 µs, 2 Ω (measuring paths, auxiliary voltage) 6 kV, pulse 1.2/50 µs, 500 Ω (Outputs: optocoupler MOSFET, relay, system voltage inputs)
Temperature range	Resistance to HF fields Defined operating range Limit range for operation, storage and transport	10 V/m (under load) -25 °C...+55 °C -40 °C...+70 °C		10 V/m (under load) -25 °C...+55 °C -40 °C...+70 °C
Humidity		max. 95 %, non-condensing, as per IEC 62052-11, EN 50470-1 and IEC 60068-2-30		max. 95 %, non-condensing, as per IEC 62052-11, EN 50470-1 and IEC 60068-2-30
Housing	Dimensions Protection class Degree of protection of housing / terminal block Housing material Fire properties	approx. 180 x 285 x 80 (W x H x D) mm II IP 51 (optionally IP 54) / IP 31		approx. 180 x 285 x 80 (W x H x D) mm II IP 51 (optionally IP 54) / IP 31
Environmental conditions	Mechanical Electromagnetic Intended operating location	Glass-fibre reinforced polycarbonate, halogen-free, recyclable as per IEC 62052-11		Glass-fibre reinforced polycarbonate, halogen-free, recyclable as per IEC 62052-11
Weight		1.4 kg	1.2 kg	1.2 kg

The meters in the LZQJ-XC series are designed for universal applications as per VDEW specifications 2.1.

Thanks to a tried-and-tested measuring system, the meters are highly reliable. The powerful processor system guarantees a solid foundation for future extensions.

The LZQJ-XC can be functionally enhanced with the following additional accessories:

Meter modem VARIOMOD-XC
(LTE, GSM/GPRS, Ethernet)
and interface module
(RS232, RS485)



Optical communication unit
(OKK RS232/USB)



Communication and parametrisation software

