**Additional features of the LZQJ-XC:**

| | |
|---|---|
| Measuring of instantaneous | P, Q, S (per phase and sum), U, I, power factor, line frequency, values phase failures |
| Installation check | via instantaneous values (service data) possible |
| Optical fibre interface | for connection of up to 4 optical fibre separation boxes |
| Buffer battery | exchangeable buffer battery for reading out the meter via the optical interface and reading the display without power |
| Tamper detection | opening of meter and terminal cover and magnetic fields |
| Network analysis | monitoring of U, I, THD, f, flicker, harmonics acc. to DIN EN 50160 |

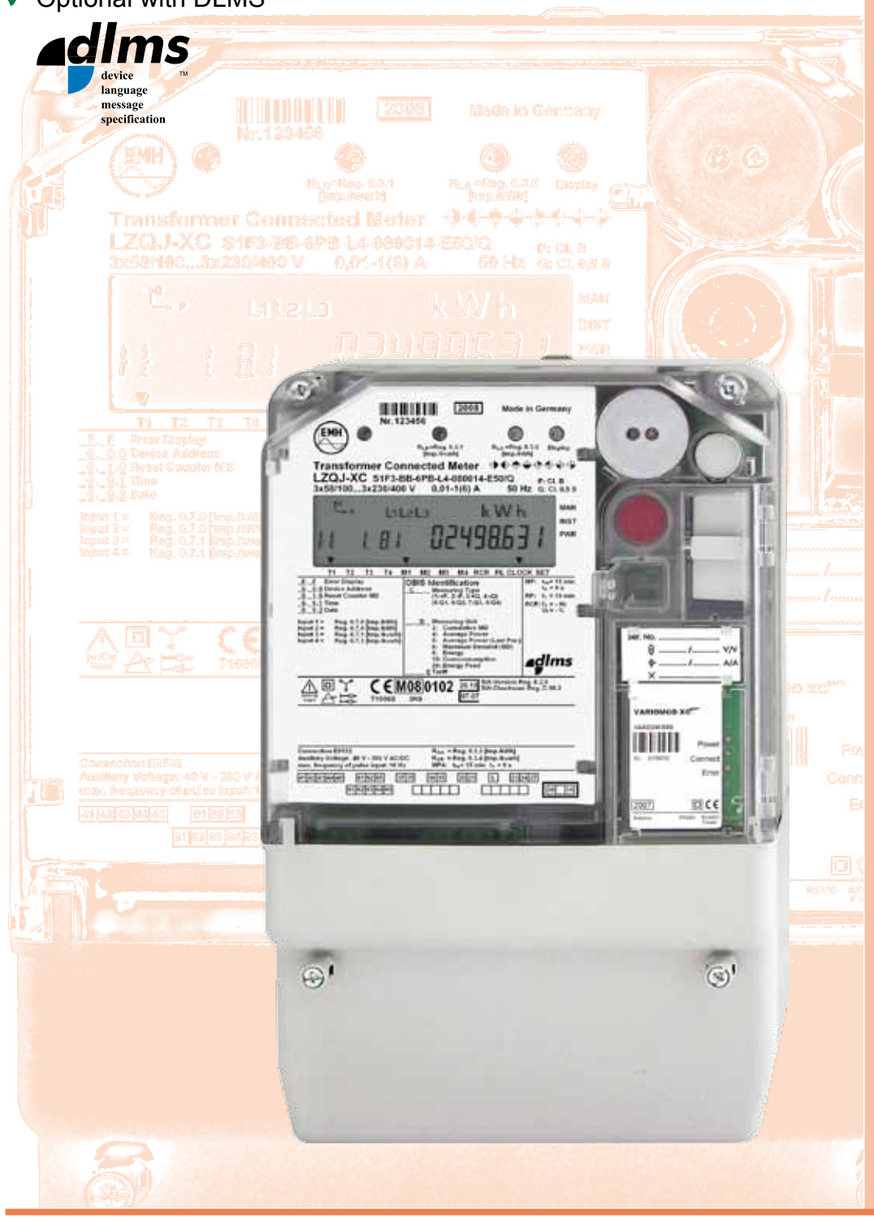
**The LZQJ-XC fulfils the following standards:**

| | |
|---|---|
| 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 |
| EN 50470-1 | Electricity metering equipment (a.c.) - Part 1: General requirements, ests 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 61038 | Time switches for tariff and load control |
| IEC 62052-11 | Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 11: Metering equipment |
| IEC 62053-21 | Electricity metering equipment (a.c.) - 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 |
| DIN 66348-1 | Interfaces and basic data link control procedures for serial measurement data communication; start-stop-transmission, point-to-point connection |
| 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 & 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

- ✓ Design acc. to VDEW-Specifications 2.1
- ✓ Plugable communication module
- ✓ Exchangeable buffer battery
- ✓ Network analysis
- ✓ Optional with DLMS

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EN Edition: 07.05.2012
LZQJXC-DAB-E-3.10

| | | Direct connection version 5(60) A, 10(60) A, 5(100) A, 10(100) A | Transformer connection version Cl. B (Cl. 1) | Precision Meter Cl. C (Cl. 0,5 S) | Precision Meter Cl. 0,2 S |
|---|---|---|---|---|---|
| **Voltage** | 4-wire meter | 3 x 127/220 V... 3 x 240/415 V | 3 x 58/100 V...3 x 240/415 V (optional 3 x 57,7/100...3 x 277/480 V) or up to 3 x 400/690 V | 3 x 58/100 V...3 x 240/415 V (optional 3 x 57,7/100...3 x 277/480 V) or up to 3 x 400/690 V | |
| | 3-wire meter | --- | 3 x 100 V...3 x 415 V or up to 3 x 690 V | 3 x 100 V...3 x 415 V or up to 3 x 690 V | |
| | 2-wire meter (for 16,7 Hz) | --- | 100 V...240 V | 100 V...240 V | |
| **Current** | | 5(60) A, 10(60) A, 5(100) A, 10(100) A | 5\|\|1 A, 1(6) A, 1(10) A, 5 A, 1 A, 5(20) A | 5\|\|1 A, 1(6) A, 1(10) A, 5 A, 1 A, 5(20) A | |
| **Frequency** | | 50 Hz, 60 Hz | 50 Hz, 60 Hz, 16,7 Hz | 50 Hz, 60 Hz, 16,7 Hz | |
| **Accuracy** | active energy | Cl. A (Cl. 2), optional Cl. B (Cl. 1) | Cl. B (Cl. 1) | Cl. C (Cl. 0,5 S) | Cl. 0,2 S |
| | reactive energy | Cl. 3, optional Cl. 2 | Cl. 2 | 1 % (Cl. 2) | 0,5 % (Cl. 2) |
| **Measuring system** | designation | compensated current transformer | | compensated current transformer | |
| **Measuring types** | active energy | +A, -A | | +A, -A | |
| | reactive energy | +R, -R, $R_1$, $R_2$, $R_3$, $R_4$ | | +R, -R, $R_1$, $R_2$, $R_3$, $R_4$ | |
| | others | S, Ah, $U^2h$, $I^2h$ | | S, Ah, $U^2h$, $I^2h$ | |
| **Meter constants** | LED (Imp./kWh[kvarh]) | 500...1 000 (depending on meter type) | 10 000...100 000 (depending on meter type) | 10 000...100 000 (depending on meter type) 5 000...50 000 (depending on meter type) | |
| | output (Imp./kWh[kvarh]) | 250...500 (depending on meter type) | 5 000...50 000 (depending on meter type) | after certification by means of the certification relevant logbook | |
| | configuration ability | after certification by means of the certification relevant logbook | | | |
| **Energy registers** | maximum number | 32 tariff registers + 16 tariffless registers, each with 15 historical values | | 32 tariff registers + 16 tariffless registers, each with 15 historical values | |
| **Maximum registers** | maximum number | 32 tariff registers , each with 15 historical values | | 32 tariff registers , each with 15 historical values | |
| | measuring period | 1, 5, 10, 15, 30, 60 min, adjustable | | 1, 5, 10, 15, 30, 60 min, adjustable | |
| **Load profile** | maximum number of channels | 32 | | 32 | |
| | typical memory depth at 1 channel | up to 3 years with a registering period length of 15 min | | up to 3 years with a registering period length of 15 min | |
| | registering period | 1, 5, 10, 15, 30, 60 min, adjustable | | 1, 5, 10, 15, 30, 60 min, adjustable | |
| | registering type | power, energy, energy feed | | power, energy, energy feed | |
| **Real Time Clock** | accuracy | within ± 5 ppm | | within ± 5 ppm | |
| | synchronisation | via data interfaces, control input or DCF-module | | via data interfaces, control input or DCF-module | |
| | running reserve battery/capacitor | > 20 years/approx. 6 days (150 hours) | | > 20 years/approx. 6 days (150 hours) | |
| **Ripple control receiver** | number of channels | 6 | | 6 | |
| | telegrams | all common telegrams | | all common telegrams | |
| **Control inputs** | S0-input/system voltage | max. 1/max. 5 (in total max. 5 inputs possible) | max. 2/max. 9 (in total max. 10 inputs possible) | max. 2/max. 9 (in total max. 10 inputs possible) | |
| **Data retention time** | | without voltage in the EEPROM, at least 10 years | | without voltage in the EEPROM, at least 10 years | |
| **Display** | display version | VDEW-display, 84 mm x 24 mm | | VDEW-display, 84 mm x 24 mm | |
| | height of digits | 8 mm | | 8 mm | |
| | alternative display | alphanumerical display 4 x 20 characters; 70,4 mm x 20,8 mm; height of digits 4 mm | | alphanumerical display 4 x 20 characters; 70,4 mm x 20,8 mm; height of digits 4 mm | |
| | reading without power supply | by buffer battery (optional) | | by buffer battery (optional) | |
| **Operation** | mechanical buttons | for operation of display and reset (sealable under hinged module cover) | | for operation of display and reset (sealable under hinged module cover) | |
| | optical sensor | for operation of display | | for operation of display | |
| **Data interfaces** | optical data interface | optical data interface D0 | | optical data interface D0 | |
| | electrical data interface | RS485, RS232 or CL0 | | RS485, RS232 or CL0 | |
| | data protocols | IEC 62056-21 or DLMS | | IEC 62056-21 or DLMS | |
| | maximum transmission rate | up to 19200 baud (fixed or Mode C/E) | | up to 19200 baud (fixed or Mode C/E) | |
| **Communication module (plugable)** | modem | GSM/GPRS, Ethernet, PSTN (analog) | | GSM/GPRS, Ethernet, PSTN (analog) | |
| | interface module | RS485, RS232 | | RS485, RS232 | |
| | data protocols | IEC 62056-21 or DLMS | | IEC 62056-21 or DLMS | |
| | maximum transmission rate | up to 19200 baud (fixed or Mode C/E) | | up to 19200 baud (fixed or Mode C/E) | |
| **Outputs** | maximum number | 8 | | 8 | |
| | Opto-MOSFET | max. 250 V AC/DC, 100 mA (make contact [NO] or break contact [NC]) | | max. 250 V AC/DC, 100 mA (make contact [NO] or break contact [NC]) | |
| | S0-output | max. 27 V DC, 27 mA | | max. 27 V DC, 27 mA | |
| | relays | max. 250 V AC/DC, 100 mA (max. 2 make contacts [NO]) | | max. 250 V AC/DC, 100 mA (max. 2 make contacts [NO]) | |
| | high load relay | max. 250 V AC/DC, 10 A (max. 2 make contacts [NO]) | | max. 250 V AC/DC, 10A (max. 2 make contacts [NO]) | |
| **Energy supply** | switched-mode power supply | 3-phase | | 3-phase | |
| | mains buffering time | > 500 ms | | > 500 ms | |
| **Auxiliary voltage supply** | long-range | --- | 48...300 V AC/DC (optional) | 48...300 V AC/DC (optional) | 48...300 V AC/DC |
| **Power consumption per phase (Basic meter)** | voltage path | | | | |
| | with auxiliary voltage | --- | < 0,02 VA/< 0,01 W (3 x 58/100 V) | < 0,02 VA/< 0,01 W (3 x 58/100 V) | |
| | without auxiliary voltage | < 1,2 VA/< 0,75 W | < 1,2 VA/< 0,75 W | < 1,2 VA/< 0,75 W | |
| | current path | < 0,01 VA | < 0,004 VA | < 0,004 VA | |
| | auxiliary voltage | --- | < 4,2 VA...< 2,5 VA | < 4,2 VA...< 2,5 VA | |
| **EMC-characteristics** | isolation resistance | 4 kV AC, 50 Hz, 1 min | | 4 kV AC, 50 Hz, 1 min | |
| | surge voltage | 8 kV, impulse 1,2/50 µs, 2 Ω (measuring paths, auxiliary voltage) 6 kV, impulse 1,2/50 µs, 500 Ω (outputs: Opto-MOSFET, relays; inputs: system voltage) | | 8 kV, impulse 1,2/50 µs, 2 Ω (measuring paths, auxiliary voltage) 6 kV, impulse 1,2/50 µs, 500 Ω (outputs: Opto-MOSFET, relays; inputs: system voltage) | |
| | resistance against HF-fields | 10 V/m (under load) | | 10 V/m (under load) | |
| **Temperature range** | specified operating range | -25 °C...+55 °C | | -25 °C...+55 °C | |
| | limit range for operation, storage and transport | -40 °C...+70 °C | | -40 °C...+70 °C | |
| **Relative humidity** | | max. 95 %, non-condensing acc. to IEC 62052-11, EN 50470-1 and IEC 60068-2-30 | | max. 95 %, non-condensing acc. to IEC 62052-11, EN 50470-1 and IEC 60068-2-30 | |
| **Housing** | dimensions | approx. 180 x 285 x 80 (W x H x D) mm, acc. to DIN 43857 | | approx. 180 x 285 x 80 (W x H x D) mm, acc. to DIN 43857 | |
| | class of protection | II | | II | |
| | degree of protection: housing | IP 51 (optional IP 54) | | IP 51 (optional IP 54) | |
| | degree of protection: terminal block | IP 31 | | IP 31 | |
| | housing material | polycarbonate glass-fibre reinforced, without halogen, recyclable | | polycarbonate glass-fibre reinforced, without halogen, recyclable | |
| | fire characteristics | acc. to IEC 62052-11 | | acc. to IEC 62052-11 | |
| **Environmental conditions** | mechanical | M1 acc. to Measuring Instruments Directive (2004/22/EC) | | M1 acc. to Measuring Instruments Directive (2004/22/EC) | |
| | electromagnetic | E2 acc. to Measuring Instruments Directive (2004/22/EC) | | E2 acc. to Measuring Instruments Directive (2004/22/EC) | |
| | intended location | indoor acc. to EN 50470-1 | | indoor acc. to EN 50470-1 | |
| **Weight** | | 1,4 kg | 1,2 kg | 1,2 kg | |

Product specifications are subject to change without notice!

Meters from the series LZQJ-XC are designed for universal applications according to VDEW-specifications 2.1. Due to the the application of a tried and tested measuring procedure the meter is distinguished by its high reliability. The high performing processor system guarantees a solid basis for further extensions.

The LZQJ-XC functions can be extented with the following accessories:

Meter modem VARIOMOD-XC (GSM/GPRS, Ethernet, PSTN)

Interface module (RS232, RS485)

DCF-Aerial DCF77-TH2

Optical fibre separation box LTR

Communication and parameterisation software