GB CE

28 380 316 - **1**

Eltako

Direct-measuring bidirectional three-phase energy meter
DSZ16DZ-3x100A MID

Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!

Temperature at mounting location: -40°C up to +70°C.
Storage temperature: -40°C up to +70°C.
Relative humidity: annual average value < 75%.

Direct-measuring bidirectional three-phase energy meter, 3×100 A, with Modbus and S0 interface.

- Modular DIN rail device for DIN EN 60715 TH35
- 3 module widths = 54 mm wide, 58 mm deep
- MID-compliant and approved for billing purposes.
- Terminal area sealable (tamper-proof)
- Active energy measurement:
  - Vector (algebraic) summation over phases L1–L3
- 4 tariff registers and total register for active energy
  - Measured values stored in non-volatile memory
- Direct measurement up to 100 A
- Neutral conductor (N) required
- Accuracy class B (±1 %)
- Standby power consumption: 0.8 W per phase (not measured)
- Integrated interfaces with pluggable communication terminals:
  - Modbus (RS485 / RTU)
    - Bus termination: 120 Ω terminating resistor required at first and last device
    - Modbus register table: https://eltako.com/redirect/DSZ16DZ-3*100A_MID
  - 2x S0 interfaces
    - Energy import
    - Energy export
- 7-segment LCD display
  - Readable without power supply (2× within 2 weeks)
- Status indication:
  - LED flashes 100 pulses per kWh (import and export)
- Operation via buttons on the display
  - Menu navigation according to flow diagram

Displayed Values

Measured value	**Display (LCD)**	**Modbus**
Voltages L–N and L–L	✓	✓
Currents L1–3 and N	✓	✓
Active power L1–3 and total (∑)	✓	✓
Frequency	✓	✓
Total imported and exported active energy	✓	✓
Resettable meter readings ← and → (total ∑ and tariff 1–4)	✓	✓
Apparent power L1–3 and total (∑)	×	✓
Reactive power L1–3 and total (∑)	×	✓
Total imported and exported reactive energy	×	✓
Power factor cos φ L1–3 and total (∑)	×	✓
Power factor L1–3 and total (∑)	×	✓

Operation in De-energized State

Function	**Operation**
Activate display	Press the OK button
Display meter readings	Scroll through total and tariff 1–4 using ▼
Display energy value per phase	Use ▶ to display the accumulated energy per phase

Technical data

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Operating voltage, extended range	3x230/400 V, 50 Hz -20%/+15%
Reference current I_{ref} (maximum current I_{max})	3x10(100) A
Power consumption (active power)	0.8 W per phase
Display	LCD, 8 digits, including 1 or 2 decimal places
Accuracy class for ±1%	B
Starting current (according to accuracy class B)	40 mA
Operating temperature	-40/+70°C
Interface	Modbus / RTU (RS485), S0 interface according to DIN EN 62053-31
Terminal cover sealable	Hinged terminal covers
Degree of protection	IP51
Maximum conductor cross-section [1]	L terminals 25 mm^2 N terminal 2.5 mm^2 S0 and tariff terminals 2.5 mm^2
Recommended tightening torque [2]	L terminals 4.0 Nm (max. 4.5 Nm) N terminal 1.5 Nm (max. 2.0 Nm) Modbus, S0 and tariff terminals 0.6 Nm (max. 1.0 Nm)
EC type examination certificate	0120/SGS0204
Mechanical environmental conditions	Class M1
Electromagnetic environmental conditions	Class E2
Rated impulse voltage U_{imp}	6 kV

[1] The current-carrying capacity of cables and conductors is specified in DIN VDE 0298-4.

[2] The tightening torques for screw terminals are specified in DIN EN 60999-1. **To avoid damage to the meter, the maximum permissible tightening torque for the connection terminals must not be exceeded!**

D · GB · F · I · E · NL · PL · B · S · FIN
– further languages

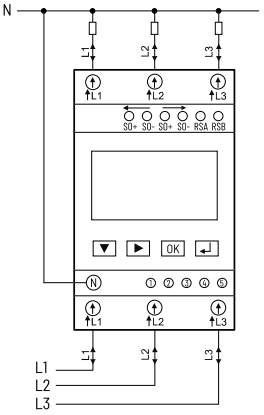
https://eltako.com/redirect/DSZ16DZ-3*100A_MID



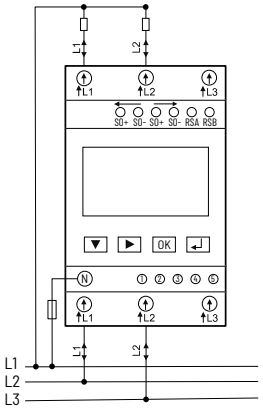
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[1] Anschlussbeispiele

3L+N-Netz 400/230 V:

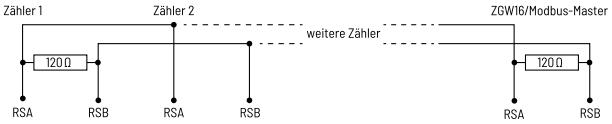


3L-Netz 230 V (L–L):

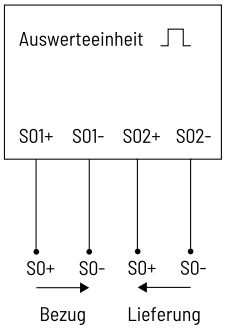


[2] ***Hinweis:*** *Der Zähler benötigt ein Bezugspotenzial. Diese Anschlussart ist nur in Netzen ohne Neutralleiter zulässig, in denen* ***230 V zwischen den Außenleitern (L–L) anliegen.***

[3] Modbusanschluss

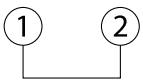


[4] S0-Anschluss

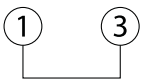


[5] Tarifumschaltung

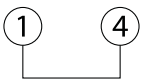
Auswahl Tarif 2



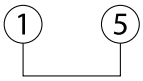
Auswahl Tarif 3



Auswahl Tarif 4



[6] PIN-Abfrage überspringen,
Freigabe Messrichtung umkehren



[7] Die Tarifklemme hat Vorrang vor dem Wert im Modbus-Register.
Die PIN-Eingabe kann durch Gedrückthalten der Tasten ▼ + ▶ übersprungen werden, sofern Klemme 1 und 5 miteinander verbunden sind.
Umkehrung der Messrichtung über Modbus oder Menü.

[8] Einstellbare Parameter

[9] Parameter	[10] Konfiguration über Display	[11] Konfiguration über Modbus	[12] Standardwert	[13] Einstellbare Werte
PIN	✓	✕	0000	0000 - 9999
S0-Impulsrate ← und →	✓	✓	1000 (imp/kWh)	0,01; 0,1; 1; 10; 100; 1000; 2000; 10000 (imp/kWh)
S0-Impulslänge ← und →	✓	✓	30 (ms)	2-99 (ms)
Modbusadresse	✓	✓	001	1 - 247
Übertragungsrate	✓	✓	9600 (Baud)	300; 600; 1200; 2400; 4800; 9600; 14400; 19200; 38400; 57600; 115200 (Baud)
Kommunikationsparität	✓	✓	Keine	Keine, Gerade, Ungerade
Kommunikations-Stoppbits	✓	✓	1	1 / 2
Kommunikations-Datenformat	✓	✓	Integer	Integer / Float
Messrichtung umkehren	✓	✓	Aus	Aus / Ein
Werkseinstellungen	✓	✓	–	Zurücksetzen von PIN-, S0- und Modbus-Einstellungen
Tarifauswahl	✕	✓	0	Tarif 1-4
Rücksetzbare Zählerstände ← und → (∑ und Tarif 1-4)	✓	✓	–	Zurücksetzen

GB

[1] **Connection examples**
3L+N system 400/230 V
3L system 230 V (L–L)

[2] ***Note:*** *The meter requires a reference potential. This type of connection is only permitted in systems without a neutral conductor* ***where 230 V is present between the phase conductors (L–L).***

[3] **Modbus connection**
Meter 1, meter 2, additional meters, ZGW16/Modbus master

[4] **S0 connection**
Evaluation unit
Import
Export

[5] **Tariff switching**
Selection of tariff 2, selection of tariff 3, selection of tariff 4

[6] Skip PIN query, enable reversal of measurement direction

[7] *The tariff terminal has priority over the value in the Modbus register.*
The PIN entry can be skipped by pressing and holding the ▼ + ▶ buttons, provided that terminals 1 and 5 are connected.
Reversal of measurement direction via Modbus or menu.

[8] **Adjustable parameters**

[9] **Parameters**
PIN
S0 pulse rate ← and →
S0 pulse length ← and →
Modbus address
Baud rate
Communication parity
Communication stop bits
Communication data format
Reverse direction of measurement
Factory settings
Tariff selection
Resettable meter readings ← and → (total ∑ and tariff 1–4)

[10] **Configuration via display**

[11] **Configuration via Modbus**

[12] **Default value**
None
Integer
Off

[13] **Adjustable values**
None, even, odd
Integer / Float
Off / On
Reset of PIN, S0 and Modbus settings
Tariff 1–4
Reset

EU-KONFORMITÄTSERKLÄRUNG
EC DECLARATION OF CONFORMITY

Produktbezeichnung Product	**Zweirichtungs-Drehstromzähler, MID** **Two-way three-phase energy meter, MID approval**
Typenbezeichnung Type designation	**DSZ16DZ-3x100A**
EG-Baumusterprüfbescheinigung EC Type Examination Certificate Number	0598/MID/B/25/126
Zertifikat Modul D Certificate Number Module D	0598/MID/D/24/140

Der Hersteller erklärt in alleiniger Verantwortung, dass die bezeichneten Produkte, auf die sich diese Erklärung bezieht, mit den folgenden harmonisierten Normen oder normativen Dokumenten sowie mit folgenden Richtlinien des Europäischen Parlaments und des Rates (in der gültigen Fassung) übereinstimmen:

The manufacturer herewith declares, on his own responsibility that the designated products which this certificate refers to, are in accordance with the following harmonized standards or normative documents as well as with the following Directives of the European Parliament and of the Council (relevant version):

EN IEC 62052-11: 2021 + A11: 2022 EN 50470-3: 2022 EN IEC 62052-31: 2024

Richtlinie / Directive 2014 / 32 / EU	Messgeräte measuring instruments
Richtlinie / Directive 2014 / 30 / EU	Elektromagnetische Verträglichkeit electromagnetic compatibility
Richtlinie / Directive 2011 / 65 / EU	Beschränkung der Verwendung bestimmter gefährlicher Stoffe (RoHS) restriction of the use of certain hazardous substances

Benannte Stelle Notified body	SGS Fimko OY, Nr. 0598 Takomotie 8, FI-00380 Helsinki, Finland
Hersteller Manufacturer	ELTAKO GmbH Hofener Straße 54, 70736 Fellbach, Germany
Produktionsstätte Factory Address	No. 201, Building 34, No.3 Industrial Zone, Mashantou, Matian Street, Guangming District, Shenzhen, Guangdong, 518106, China
Ort, Datum Place, Date	Fellbach, 02. April 2026
Unterschrift Signature	Ulrich Ziegler, Geschäftsführer / Managing Director

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, beinhaltet jedoch keine Zusicherung von Eigenschaften.
Sicherheitshinweise mitgelieferter Produktdokumentationen sind zu beachten.

This declaration proves the compliance with the above-mentioned EC Directives but it does not include any assurance of properties.
Security advices of the provided product information have to be noticed.

Must be kept for later use!

ELTAKO GmbH
D-70736 Fellbach
Technical Support English:
☎ +49 711 943 500 25
✉ technical-support@eltako.de
eltako.com

28/2026 Subject to change without notice.