EMH metering

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MIZ

Mini industrial meter

EN Instructions for use

Scope of delivery

Please check that the contents of the packing box are complete before starting the installation and start-up procedure.

1 MIZ device

• 1 Instructions for use If the contents are incomplete or damaged, please contact your

supplier. Store, use and transport the device in such a way that it is protected

against moisture, dirt and damage.

Important information

These instructions list all the different device versions. Some of the features described herein may not be applicable to your particular device.

Document approved by notified body 1948 Issue date: 02 January 2025; subject to technical changes

Housing, display and control elements Front view





MIZ-BIA-E-1 84

Target audience

These instructions are intended for technicians who are responsible for the installation, connection and servicing of the devices. The device may only be installed and started up by qualified electricians in accordance with the generally accepted technology standards and, where applicable, the definitive regulations governing the erection of communication equipment and terminal devices.

Intended use

The meter is intended to be used solely for the measurement of electrical energy indoors, and it must not be operated outside the specified technical data (see meter labelling).

Maintenance and warranty instructions

The device requires zero maintenance. It is not permitted to make any repairs in the event of any damage (e.g. due to transport or storage).

If the device is opened, the warranty and the Declaration of Conformity will be rendered null and void. The same applies where a defect is caused by external factors (e.g. lightning, water, fire, extreme temperatures and weather conditions), or by improper or careless use or handling.

Care and disposal information

Risk of fatal injury in case of contact with live parts!

Before the housing of the meter is cleaned, all conductors that the meter is connected to must be de-energised.

Use a dry cloth to clean the device housing. Do not use any chemical cleaning agents!

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Side view



1 - Manufacturer's address

- 2 Type designation and type code
- 3 Voltage, current, frequency, circuit number
- 4 Connection diagram
- 5 Accuracy class, temperature class as per EN 60721-3-3
- 6 Product standard, overvoltage category (rated peak withstand voltage), utilisation category
- 7 Year of construction
- 8 Conformity and certification marking
- 9 Hardware version
- 10 Safety and application information

The following table names the components and how they are to be treated at the end of their life cycle.

Components	Waste collection and disposal		
Printed circuit	Electronic waste: Dispose of such waste in		
boards	accordance with the local regulations.		
LEDs, LC display	Hazardous waste: Dispose of such waste in		
	accordance with the local regulations.		
Metal parts	Recyclable material: Sort such material and		
	send it for recycling.		
Plastic parts	Send sorted plastic parts to a recycling plant (regranulation) or, where applicable, to a waste incineration plant (thermal energy generation).		

Basic safety instructions

Adhere to the following basic safety instructions:

- Observe the customary local occupational health and safety regulations for electrical installations.
- Choose a conductor cross-section according to the maximum current load.
- · Attach ferrules to flexible wires.

The following equipment features are possible:

	"Gold"	"Premium"
Current	0.25 - 5(32) A	0.25 - 5(32) A
Type code	MIZ-W1TG-K00-10-F50/K	MIZ-W1TG-LMM-10-F50/K
Instantaneous values	Yes	Yes
M-Bus interface	No	Yes
Call-up button	No	Yes
Display lighting	No	Yes

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Display

The display is a liquid crystal display (LCD).



- 1 Star symbol: Flashes with the exclamation mark in test mode
- 2 Circle symbol: Flashes if communication takes place via the M-Bus interface
- 3 Exclamation mark: Flashes if energy direction is negative (return lock, installation monitoring)
- 4 Units: Unit of the value displayed in the value area
- 5 Value range: Display of tab contents

Display elements

888888	Display test	All display elements flash for 6 s after start-up
UE -: 100	Firmware version	Appears for 5 s
[50000	Firmware checksum	Appears for 5 s

Technical data

/oltage; current	230 V; 0.25 - 5(32) A		
ccuracy class	В		
Itilisation category	UC 1		
Overvoltage category	y OVC III (as per EN 62052-31)		
Rated peak withstand oltage	4 kV (as per EN 62052-31)		
Product standard	EN 50470-3		
requency	50 Hz		
Outputs S0 output	Max. 27 V DC, 27 mA (passive), pulse length 50 ms		
/l-Bus interface optional)	As per DIN EN 13757-2, -3 (3009600 Baud)		
uxiliary power	< 0.4 W		
emperature range	Defined operating range: -25 °C+55 °C		
	Limit range for storage and transport: -40 °C+70 °C		
lumidity	Maximum 95%, non-condensing, as per EN 62052-11,		
	EN 50470-1 and EN 60068-2-30		
Protection class	Ш		
Degree of protection	Housing, connections: IP20		
nstallation nvironment	The device may only be used in installation envi- ronments with a degree of protection of IP51 (or higher). This ensures protection against penetration by dust and water as specified by the relevant standards (EN 50470-1, EN 62052-31).		
ire properties	As per EN 62052-11		
invironmental onditions	Mechanical: M1 according to the Measuring Instruments Directive (2014/32/EU)		
	Electromagnetic: E2 according to the Measuring Instruments Directive (2014/32/EU) Intended operating location:		
	Interior as per EN 50470-1		
Veight	Approx. 65 g		
	4		



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Error display

If an error is displayed, the meter data must no longer ľ be used for billing, and operation of the device can be affected.

> The error code can only be reset at the manufacturer's plant

If the device is to be used for billing again, it must be put back into service by the manufacturer in accordance with the law on weights and measurements after it has been repaired.

0001 Checksum of firmware is incorrect

- 0002 Checksum of parametrisation data is incorrect 0003 Checksum of parametrisation data and firmware is
- incorrect
- 0004 Checksum of modifiable data is incorrect
- 0005 Checksum of modifiable data and firmware is incorrect
- 0006 Checksum of modifiable data and parametrisation data is incorrect

0007 Checksum of modifiable data, parametrisation data and firmware is incorrect

Installation and start-up

Primary M-Bus address

The meter can be mounted on TH 35-7.5 cap rails as per IEC 60715. When connecting the meter, always observe the corresponding connection diagram, which you will find on the housing side of the meter. If there is no connection diagram, please contact your supplier.

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Anger!

Risk of fatal injury in case of contact with live parts! During installation or when replacing the meter, all conductors connected to the meter must be de-energised.

- · Remove the corresponding pre-fuses, on the mains side and on the creation side in case of a two-sided feed.
- Store them in a secure location to ensure that no one else can insert them again without being noticed.
- If you use selective automatic circuit breakers for system disconnection, secure them to prevent them from being switched on again without being noticed.
- Use the specified screw-type terminals only for installation and connection of the meter.

Terminal block

M-Bus baud rate

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ATTENTION!

Application of excessive torgue will damage the connection terminals!

The appropriate torque is dependent on the type of connection line involved and its maximum current.

· Tighten the connection terminals to the corresponding torque as per EN 60999-1.

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/!\ DANGER!

Improper installation endangers life and health, and can lead to malfunctions and material damage!

- · Use an overcurrent protection device rated for a maximum of 32 A upstream of a meter with direct connection.
- The connecting paths must be fuse-protected as per the applicable technical regulations and in accordance with the current specification on the meter's name plate.
- The installer bears responsibility for coordinating the rated values and parameters of the supply-side overcurrent protection devices with the maximum rated currents as well as the rated consumption category of the meter system for directly connected meters.

The connection cables used to connect a meter must be selected to match the maximum load of the meter and the installation environment in terms of type, cross-section, voltage and temperature.

	Current terminals/ N terminals	Auxiliary terminals
Terminal dimensions d (mm)	4.0	2.5
Minimum connection cross sections (mm ²)	0.5	0.5
Maximum connection cross sections (mm ²)*	6.0	2.5
Maximum torques (Nm)	1.3	0.5
Screw type	Cross slot combina- tion screw PZ1	Slotted screw
Thread size	M4	M3

* Rated connection capacity based on EN 60999-1

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M-Bus

The following parameters can be transferred via the M-Bus:

- · Manufacturer identification
- Medium 2 (electricity)
- · Primary and secondary address of the M-Bus
- Instantaneous values (P. U. I), frequency, power factor. operating time
- · Baud rate

Seal

The housing of the MIZ-... is secured with a manufacturer-specific securing sticker on the underside. The seal cannot be removed without destroying it, so it is possible to tell if the device is opened without authorisation.

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Abbreviations

- Deutsches Institut für Normung e.V. (German Standardisation Institute)
- ΕN European Norm
- ΗP Unit of division according to DIN 43880
- IEC International Electrotechnical Commission
- IP Ingress Protection
- LC Liquid Crystal
- LED Light emitting diode
- S0 Interface as per IEC 62053-31
- Operation time t

standard display of the standard menu 5 mins after the last time the button was pressed.

means of the call-up button:

ATTENTION!

Display control

screws

Test mode (only for testing and checking purposes)

The register and the test LED are actuated faster by a factor of 10. Test mode can be activated via the "GotESt" menu item in the call list. Test mode is exited as follows:

Damage to connection terminals and connection screws can

When screws are tightened with an electric screwdriver, higher

Meter operation (only for "Premium" version)

torque peaks can occur than are set by the torque limitation. This

If the call-up button is pressed while the call list is alternating, the

meter automatically switches to the display of the energy value, and

The display lighting is activated in the process. If 15 s pass without

The following rules apply for the further operation of the meter by

Press button for a long time (2 s < t ≤ 5 s): Activate a menu item

During normal operation, the meter is in the standard menu. If the

• Press button for a longer time (t > 5 s): Return to standard display

display is in a different state, the display automatically returns to the

Press button for a short time (t ≤ 2 s): Switch to next value

can cause damage to the connection terminals and the connection

occur if electric screwdrivers are used!

to the error display if an error has occurred.

operation, the lighting switches to half the intensity.

- · Using the "ESCAPE" menu item in the call list or
- Automatically after 10 s of undervoltage (70% U _ _) or
- · Automatically after 12 h of operation.

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EU Declaration of Conformity

					EMH
	EU-Konforr EU Declaratio	nitätserklär n of Conformit	ung V		metering
	Der Hersteller The manufacturer				
	EMH metering G Neu-Galliner We 19258 Gallin GERMANY	mbH & Co. KG g 1			
	erklärt hiermit in all declares under his so	einiger Verantwortu sie responsibility that I	ng, dass folgendes Produkt he following product		
	Produktbezeichn Product designel	ung: lon:	Elekvizitatszahler Elektricity meter		
	Typenbezeichnu Type designation	ng: 1'	MIZ (Generation F)		
	übereinstimmt mit o conforms to the esse	ion grundlegenden å ntial requirements of i	Anforderungen folgender EU-Richtlinie he following EU directives:	en:	
_	2014/32/EU 2014/32/EU	Messgeräte (MID) Measuring instrum	ents (MID)		EU Antablatt L 96 Official Journal of the EU L96
	2014/30/EU 2014/30/EU	Elektromagnetisch Electromagnetic o	e Verträglichkeit (EMV) ompatibility (EMC)		EU Antablatt L 96 Official Journal of the EU L96
	2011/65/EU 2011/65/EU	Beschränkung der Restriction of the o	Verwendung bestimmter gefährlicher Sto se of certain hazardous substances (Rof	offe (RoHS) HSJ	EU Amtsblatt L 174 Official Journal of the EU L174
	Im Rahmen der MID Within the MID the o die Konformitätsbe the conformity asses	wurde die Konform onformity of the type (wertung wurde nach sment was performed	Ität des Baumusters (Modul B) festges annex B) was attested and Modul D durch den Hensteller vorgens by manufacturer according to annex D:	tellt und ommen:	
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	MID:		EMV (EMC):	RoHS:	
	EN IEC 62052-1 EN 50470-3:202	1:2021+A11:2022 2	EN IEC 62052-11:2021+A11:2022 EN IEC 62053-21:2021+A11:2021	EN IEC 63	1000-2018
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You will find the current EU Declaration of Conformity on the internet site www.emh-metering.com in the "Products 1 & Solutions" area in the product description for the meter. As Declarations of Conformity can differ in terms of the applicable standards, we advise you to save the Declaration of Conformity available at the time of delivery.

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If the call-up button is not operated for 5 min after the primary address has been entered, this address is rejected and the display returns automatically to the standard display

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- · Energy value
- · Error status

DIN