OPERATING INSTRUCTIONS

ZIRKOR302
Evaluation Unit

Evaluation Unit for the
ZIRKOR302 Oxygen Analyzes

SICK
Sensor Intelligence.

Introduction

Purpose of this Manual

These operating instructions describe the Evalution Unit for the ZIRKOR302 oxygen analyzers of the types ZIRKOR302 P Pump version and ZIRKOR302 E Ejector version. The scope of delivery of these devices contain their specific Operating Instructions, see 2.2 Versions of the ZIRKOR302 Oxygen Analayzer, page 9).

These operating instructions describe the standard scope of delivery of the ZIRKOR302 Evaluation Unit. For accessories and special applications, consult the relevant documentation supplied. If necessary, contact the sales office responsible for the required information!

System components from suppliers normally have separate operating instructions. These must also be observed. If this documentation is not provided, it is essential that the customer request it from the supplier.

These operating instructions describe how the device functions and explains the procedures for mounting, installing, maintaining, and operating the ZIRKOR302.

Although other documents, such as the Product Information, may provide additional information, they must not be regarded as a substitute for these operating instructions.

For certain activities (electrical installation, for example), specialist knowledge is required. Such activities must only be carried out by suitably qualified personnel.

User Groups

Three user groups have been defined for handling the ZIRKOR302:

A Experts at the SICK factory: responsible for quality assurance and in-factory repairs

B SICK service technicians and trained customer personnel: qualified technicians/ engineers: comprehensive knowledge of the device

C Operators, in-house installation engineers, technicians for instrumentation and control technology, electrical engineering, and electronics, who have a basic knowledge of the device.

Information Content

These operating instructions describe how the device functions and explains the procedures for mounting, installing, maintaining, and operating. Although additional documents (such as the product information) contain further information, they are not intended to replace these operating instructions.

Note **Read the operating instructions carefully.**

Always read the operating instructions before starting work. Warnings must be observed at all times.

1 Safety Instructions

The following instructions and guidelines apply to ZIRKOR302 Evaluation Unit described in these "Operating Instructions" and are valid for all user groups.

1.1 Safety Instructions in this Document

In addition to the general instructions in this chapter, which apply to the entire document and all procedures for handling the measuring system, certain sections within this document provide further safety instructions specific to the task at hand. These are usually marked with the following symbols:

Symbols used in this document

For quick access and reasons of clarity, important safety information is specially highlighted in these operating instructions. They are provided at the relevant points in the chapters.

- Always follow the safety instructions and warnings, in particular.

Note Contains information on the features of the system or system components and provides additional tips.

Important!

Indicates a risk of damage to the device or system components and potential functional impairments.

- Always read warnings carefully and follow them at all times!

Warning!

Identifies potential danger for personnel, particularly due to electrical equipment or as a result of incorrect handling of the device or system components.

- Always read warnings carefully and follow them at all times!

1.2 Permissible users

All planning, mounting, installation, commissioning, maintenance, and repair work must be carried out by adequately trained personnel only, and checked by technical experts.

Those responsible for personal safety must ensure that:

- All safety-relevant work is carried out by qualified personnel only.
- These persons must be qualified by virtue of their expertise (training, education, experience) or understanding of the relevant standards, specifications, accident prevention regulations, and properties of the system. It is crucial that these persons be able to identify and avoid potential hazards in good time.
- The documentation supplied with the system and the relevant technical documentation is available to these persons for all work carried out, and these persons adhere to the instructions in this documentation in order to prevent danger or damage.

1.3 Correct handling

To ensure that the relevant safety precautions are observed and the ZIRKOR302 operates correctly, it is imperative that:

- The system be used in accordance with the technical data and specifications regarding usage, assembly, connection, ambient, and operating conditions. These conditions are governed by the order documents, user information (rating plates etc.), and the documentation supplied with the system, which includes these Operating Instructions.
- Users act in accordance with the local, system-specific conditions and with due consideration paid to the operating dangers and specifications
- All of the measures required to maintain the device, for example, transportation and storage, as well as maintenance and inspection requirements, are provided.

1.4 Safety precautions

Basic safety precautions to prevent damage and injury

Handling or using the the Multi-Component Analyzer ZIRKOR302 incorrectly can lead to personal injury or damage to property.

In order to prevent damage, therefore,

▶ Always follow the applicable safety instructions and safety precautions.

Safety precautions for electrical equipment

Since the ZIRKOR302 system components are items of electrical equipment designed for use in industrial power installations, the relevant standards and regulations must be observed at all times. These include the following basic rules:

When working on power connections or live components, make sure that the power supply is switched off.

Troubleshooting precautions

The operator must ensure that

- The maintenance personnel can be alerted immediately and at any time.
- The maintenance personnel is qualified to respond to malfunctions on the ZIRKOR302 and associated system malfunctions correctly.
- Malfunctions are analyzed by qualified personnel, faults corrected, and operation optimized to prevent similar malfunctions in the future.

2 Product Overview

2.1 Evaluation Unit for the ZIRKOR302 Oxygen Analyzer

The evaluation unit serves to extend the ZIRKOR302 systems up to three O_2 analyzers and can be used for remote control functions (e. g. in a control room) over a maximum distance of 1,200 m (3,940 ft). The ZIRKOR 302 Oxygen Analyzer is designed as a modular measuring system and is available in the following configurations

- ZIRKOR302 P with measuring gas pump – standard model
- ZIRKOR302 E with Ejector
- ZIRKOR302 (type P or E) with optional evaluation unit

This evaluation unit is described in this Operating Instructions.

2.1.1 Functions of the Evaluation Unit

The Evaluation unit acts as a user interface and performs the following tasks, for example:

- Parameter setting
- Output of measurement values on the integrated display and via analog interfaces
- Communication via data interfaces (CAN bus) with peripheral equipment
- Communication to a superior host computer via PROFIBUS (option)

Refer to Section 2.2.3 Evaluation Unit (Option), page 10.

The evaluation unit is available in the housing types steelplate housing (IP65 protection class) and cast aluminium (IP65 protection class).

2.1.2 Indication and control elements

The front panel provides information on measurement values and statuses as well as easy access to information and system settings. The indicators are still visible when the cover on the housing is closed. To operate the control elements, however, you must open the cover.

Fig. 1 Indication and control elements (cast aluminium housing shown)

2.2 Versions of the ZIRKOR302 Oxygen Analayzer

2.2.1 ZIRKOR302 with Measuring gas Pump – Standard Version

- **Standalone version**

  with measuring gas pump and integrated control unit.

- **Optional Sample gas extraction device and filter heating**

  As an option electrically regulated heatings of the sample gas extraction device (MEV) are available as well as of the pre-filter (use at under-running water or acid dew points) and a filter for sintered metal pre-filter.

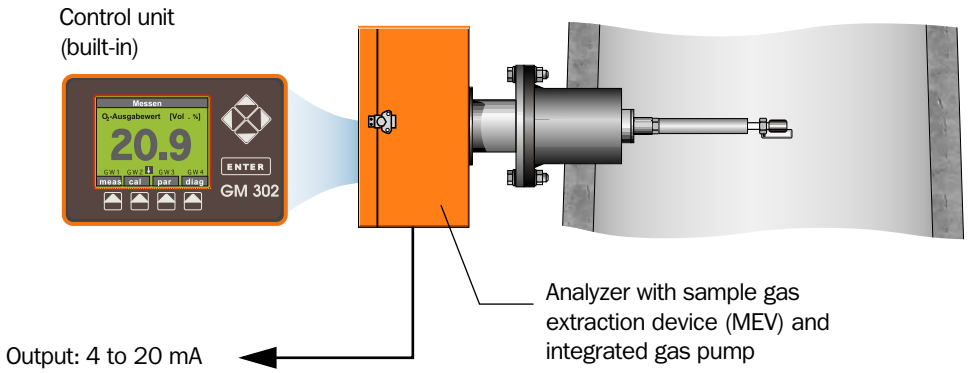


Fig. 2 ZIRKOR302 with measuring gas pump

Note Refer to the separate Operating Instructions, order no. 8010926!

2.2.2 ZIRKOR302 E with Ejector

- **Standalone version**

  with ejector for operation with compressed air onsite and with built-in control unit.

- **Optional sample gas extraction device and filter heating**

  See description above.

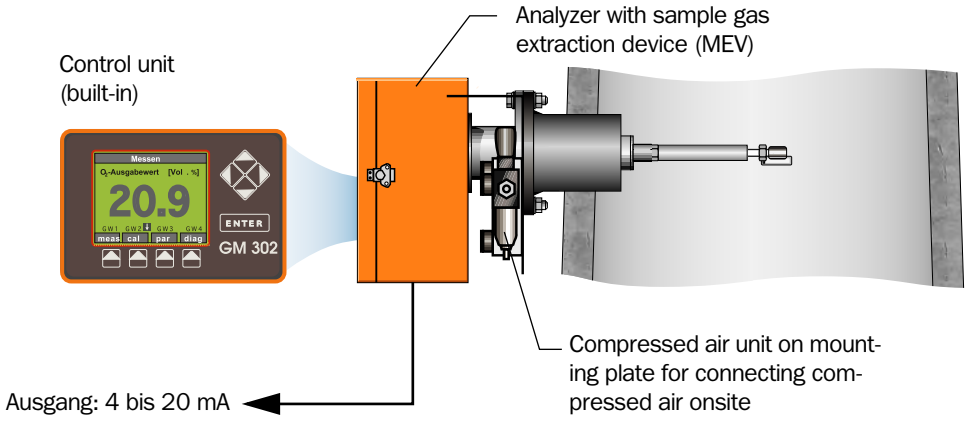
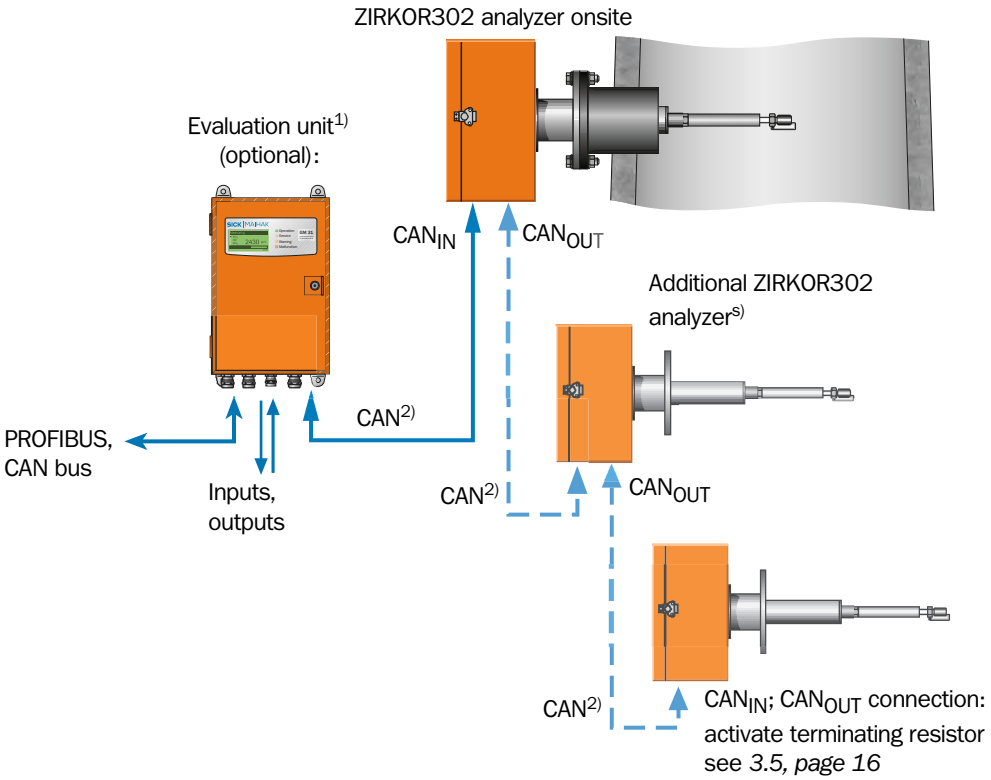


Fig. 3 ZIRKOR302 with ejector

Note Refer to the separate Operating Instructions, order no. 8010927!

2.2.3 Evaluation Unit (Option)

This unit is available for extending the ZIRKOR302 system up to three O_2 analyzers as well as for the use of remote control functions (e. g. in a control room) over a maximum distance of 1,200 m (3,940 ft).



[1)] Due to remote control the evaluation unit can be installed up to 1,200 m (3,949 ft) from measurement location

[2)] 4 m (13 in) CAN cable (in the scope of delivery included); optional 5, 10, 15 m (16.4, 33, 49 in) available

[3)] with up to 3 ZIRKOR302 analyzers extendable

Fig. 4 Configuration evaluation unit with one (up to 3) ZIRKOR302 analyzer

2.2.4 Configuration ZIRKOR302 with GM31 Gas Analyzer

Using a RS422 data interface the ZIRKOR302 can be connected to the GM31 gas analyzer with help of the TCU-MS control unit, in order to make the O_2 measuring values available as reference value.

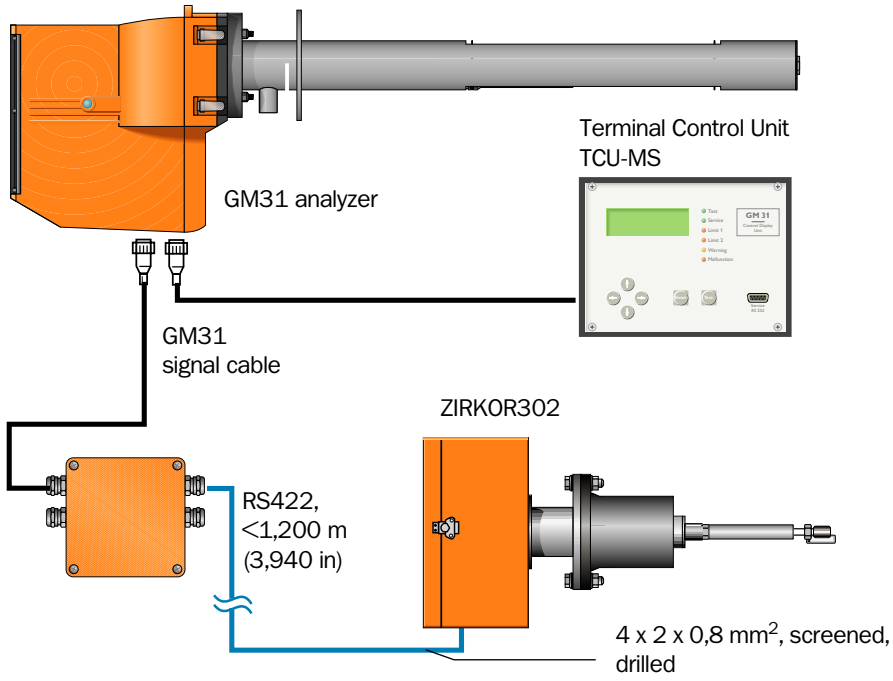


Fig. 5 Connection of the ZIRKOR302 onto the GM31 gas analyzer

3 Installation

3.1 Preparations

Checking the Delivered Components

- Compare the components delivered with the associated delivery note or your order confirmation.
- Check if the specifications of voltage and frequency (power supply) on the device name plate of the ZIRKOR components comply with the plant conditions, the dellivery note and the order.

ATTENTION

Power Supply OFF!

Please refer to the safety instructions provided in *Kapitel 1, Seite 6* and the relevant safety guidelines. When working on electrical equipment, always disconnect the power supply, check that it is isolated, and make sure that it cannot be reconnected inadvertently. The power supply to the following devices must be switched off.

3.2 Mounting the Evaluation Unit – Steelplate Housing

- Ensure that adequate access is provided. The pivoted door of the Evaluation Unit, in particular, should open easily after the unit has been installed.
- Make mounting holes ∅7.2 mm/∅o.2 in (for M8) in accordance with the bore hole plan at the mounting location.
- Mount the Evaluation Unit on the 3 mounting holes at the mounting location using suitable screws (M8 x 20).

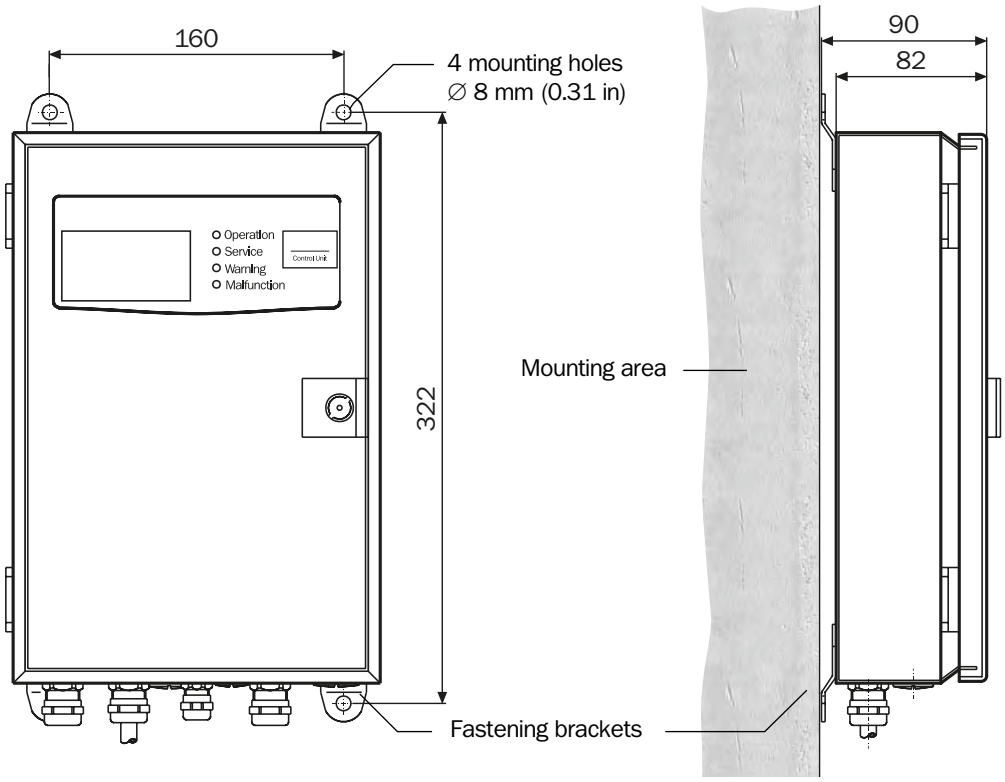


Fig. 6 Mounting of the evaluation unit (steelplate housing)

3.3 Mounting the Evaluation Unit – Cast Aluminium Housing

- Ensure that adequate access is provided. The pivoted door of the Evaluation Unit, in particular, should open easily after the unit has been installed.
- Make mounting holes ∅7.2 mm/∅0.2 in (for M8) in accordance with the bore hole plan at the mounting location.

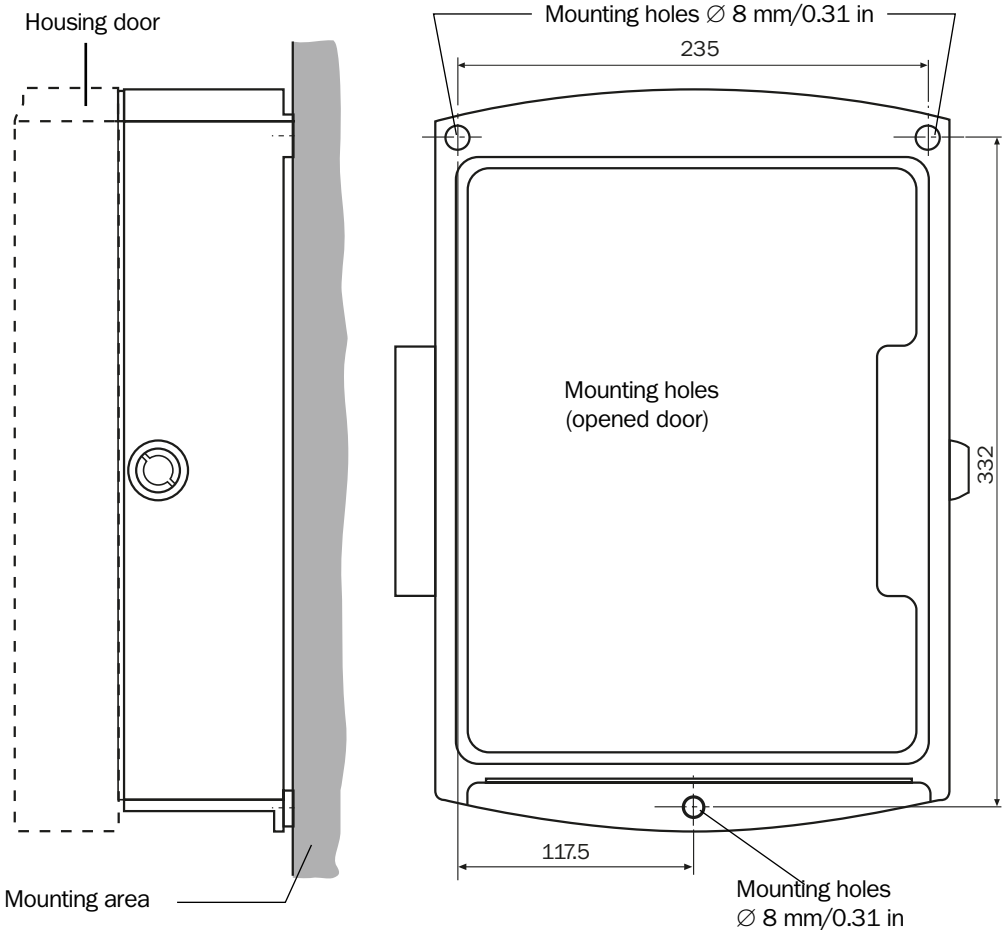


Fig. 7 Hole layout (bore hole plan) for mounting the evaluation unit (cast aluminium)

- Open and swing out the housing cover using a control cabinet key.
- Mount the evaluation unit on the 3 mounting holes at the mounting location using suitable screws (M8 x 20).

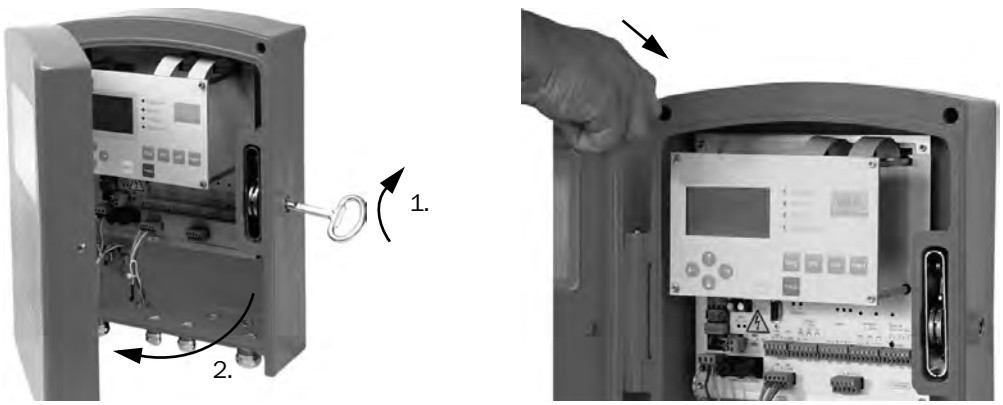


Fig. 8 Mounting of the evaluation unit (cast aluminium)

- Close and lock the cover.

3.4 Electrical Connections on the Evaluation Unit

Sicherheitshinweise sowie einschlägigen Sicherheitsbestimmungen beachten!

When working on electrical equipment, always disconnect the power supply, check that it is isolated, and make sure that it cannot be reconnected inadvertently. The power supply to the following devices must be switched off.

Notice the specifications for Power Supply Connection!

The Evaluation Unit is configured for 230 V AC operation on delivery.

- For 115 or 120 V AC supply the jumper supplied in the housing cover should be wired for 115 V AC operation as shown on the connection board of the unit.

Steps

- Ensure that the power supply has been installed in accordance with the specifications and is disconnected.
- Route the signal cable for the inputs and outputs through the screwed connections at the bottom of the housing to the Evaluation Unit and connect it as shown in *Section , page 17*.
- Close and lock the housing cover.

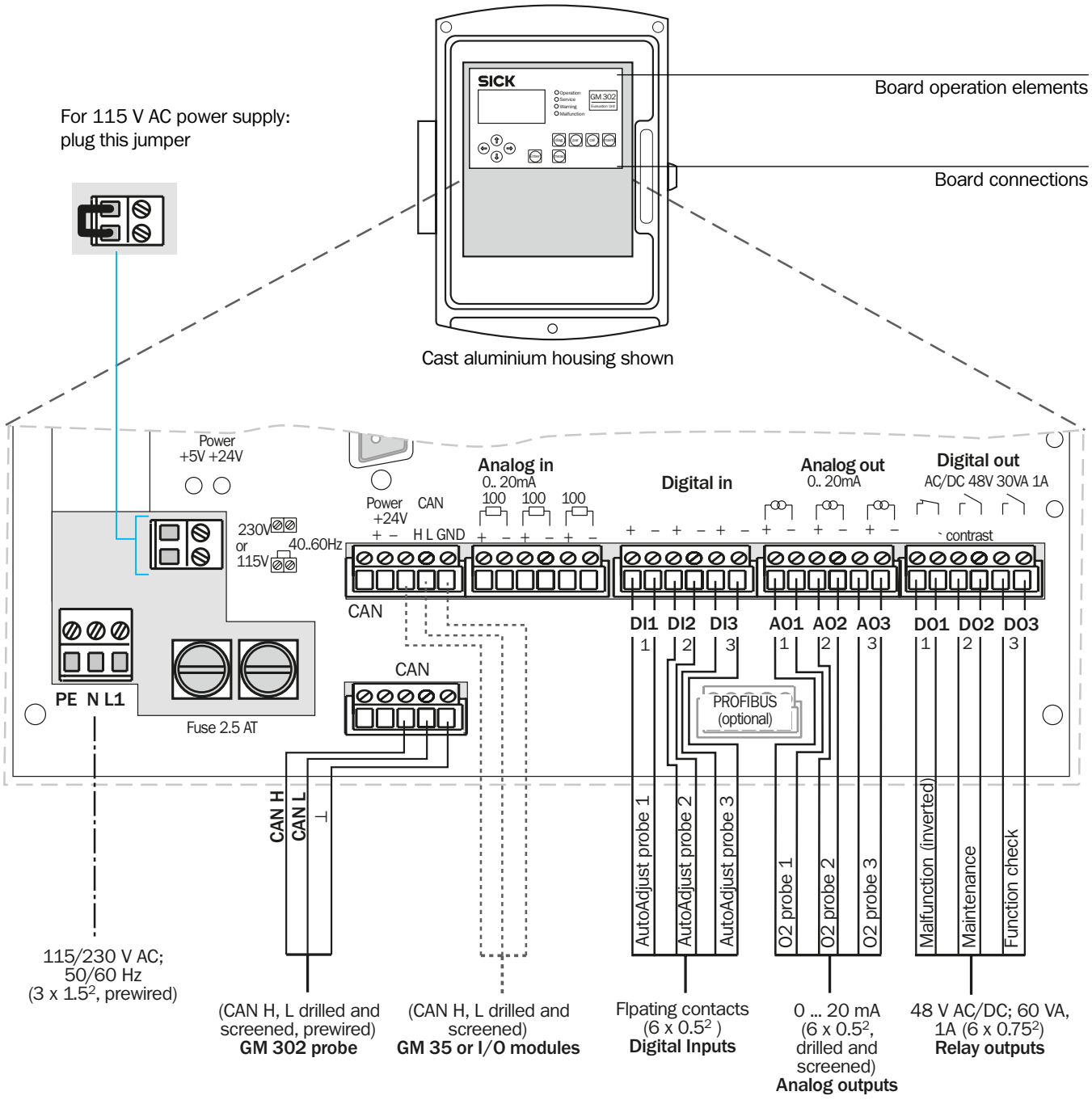
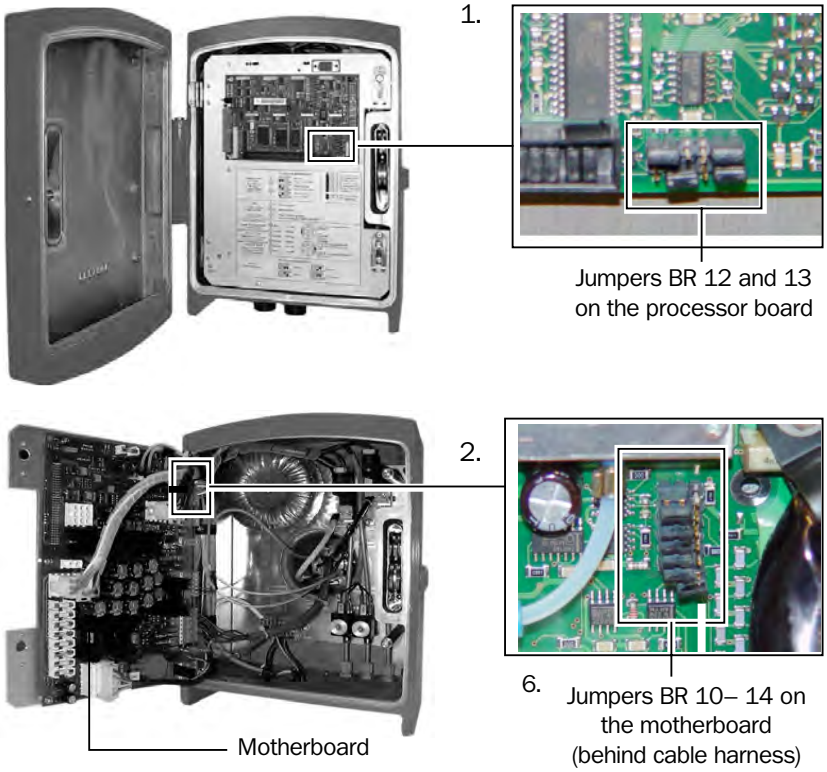
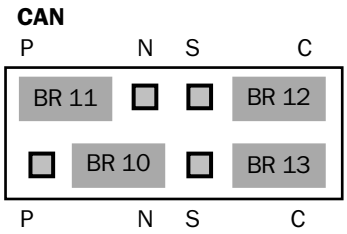
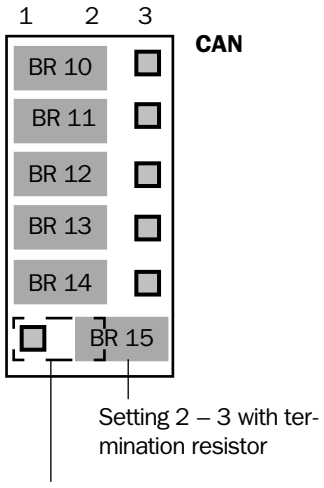
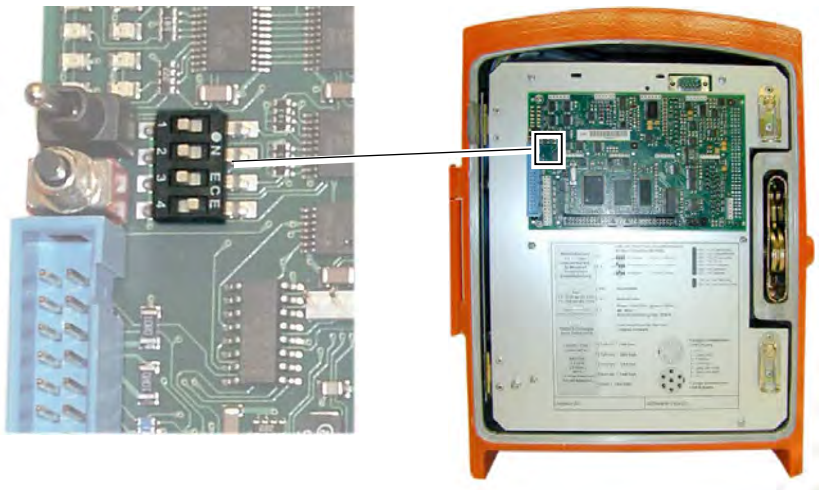
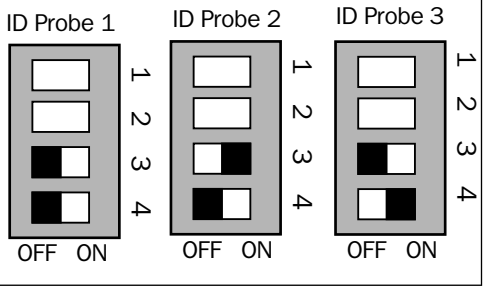


Fig. 9 Connections of the evaluation unit

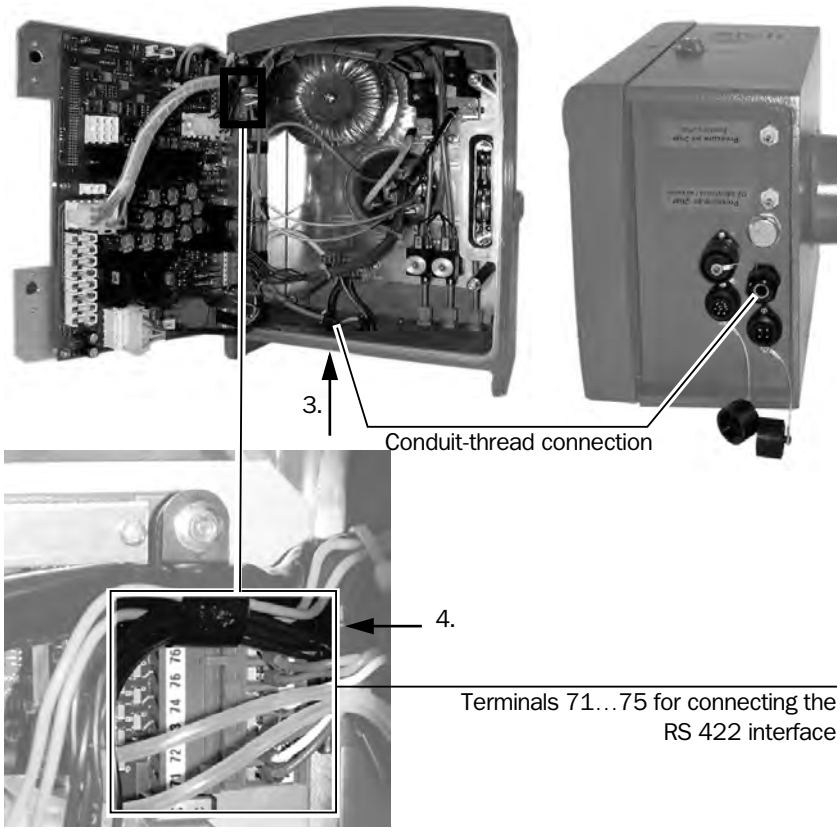
3.5 CAN Inerface Connection

Note Applies for both, the ZIRKOR302 P pump version and the ZIRKOR302 E ejector version.

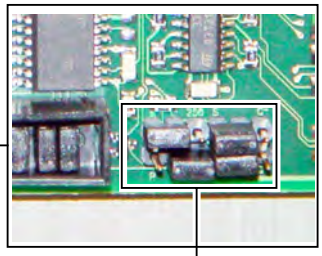
Startup Step	Procedure
ZIRKOR302: jumper position for CAN operation  	**Jumper for CAN setting** 1. Set jumpers BR 12 and BR 13 on the processor board to "S".  2. Set jumpers BR 10…14 on the motherboard to 1–2. 
 	**Adressing of the probe(s)** ▶ Set DIP switches according to the settings on the EVU (parameter setting, **par**; menu configuration). DIP switches for device selection as probe 1…3 

3.6 RS422 Interface Connection for GM31 configuration

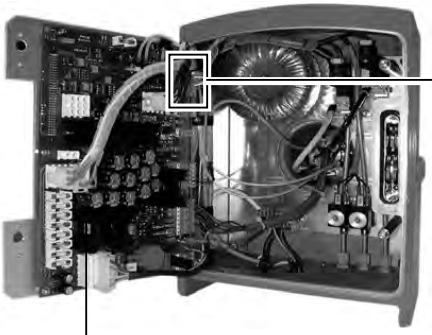
Note Applies for both, the ZIRKOR302 P pump version and the ZIRKOR302 E ejector version. See *Section 2.2.1, page 9* .

Startup Step	Procedure
Connecting the RS422 interface for GM31 	▶ Establishing the RS 422 connection: 1. Open the housing cover of the probe. 2. Loosen the swivel frame lock (pull down) and swing the frame out.
 Terminals 71…75 for connecting the RS 422 interface	3. Route the cable with the open connector sleeves through the conduit thread connection. 4. Wire the connector sleeves as shown in the diagram. ■ Terminal 71 – GND ■ Terminal 72 – RxD-B ■ Terminal 73 – RxD-A ■ Terminal 74 – TxD-A ■ Terminal 75 – TxD-B

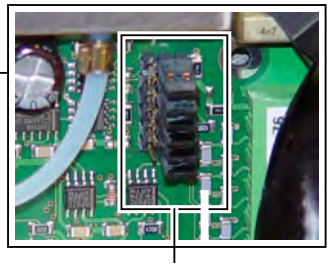
5.



Jumpers BR 12 and 13
on the processor board



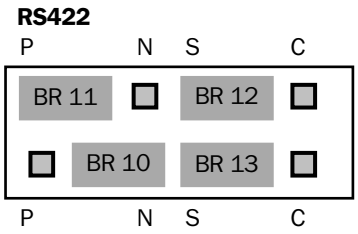
6.



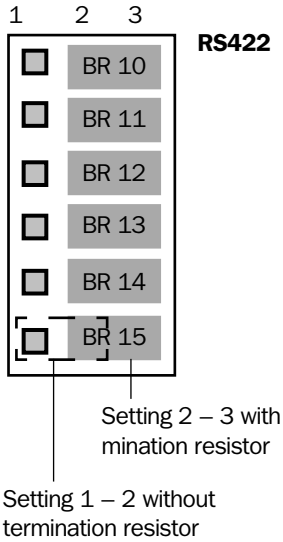
Jumpers BR 10– 14 on
the motherboard
(behind cable harness)

Motherboard

5. Set jumpers BR 12 and BR 13 on the processor board to "S".



6. Set jumpers BR 10…14 on the motherboard to 2–3.



4 Commisioning of the Evaluation Unit

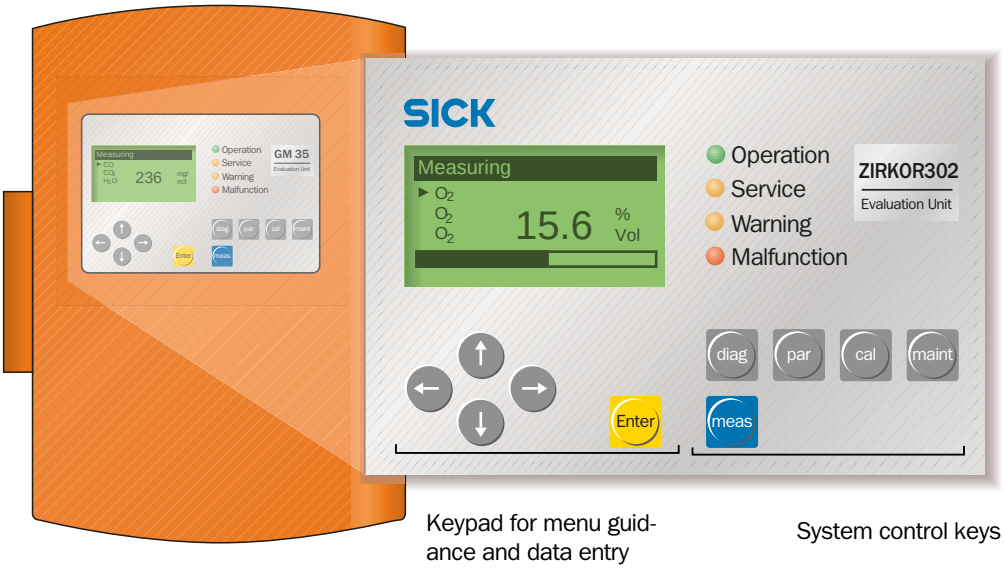
4.1 Handling of the Evaluation Unit (EVU)

4.1.1 Controls

The Evaluation Unit of the analysis system is designed for displaying, entering, and configuring system parameters and control functions. The control panel, with display, status LEDs, and keypad, is accessed by opening the door on the housing.

Graphic display for measured values and menu guidance

Status LEDs for indicating operating and malfunction status



Keypad for menu guidance and data entry

System control keys

Fig. 10 Indicators and controls on the Evaluation Unit(cast aluminium shown here)

Arrow keys	Navigate, choose, scroll through, or edit menu options, values, units, or digits.
Enter	Execute the selected menu entries or commands.
Display in Measuring mode	Display of the current O_2 value of the selected O_2 probe; Shows the measured value (bar chart), specifying the upper and lower output.
LEDs • Operation • Service • Warning • Malfunction	 Measuring mode Maintenance or Service mode Warning message, see Diagnosis mode **(diag)** Malfunction, error message, see Diagnosis mode **(diag)**

4.1.2 Function Keys and Menu Overview

Measuring mode

▸ **O2** **11.2 %/Vol**	Current oxygen value of the selected O_2 probe
	Displays the measured value (bar chart)
0 **25**	Upper and lower measuring range limit of measurand

Diagnosis

• Error	Current error messages (plain text)
• Warning	Current warnings (plain text)
• Sensor data	Displays diagnosis values (CO Monitor)

Parameters

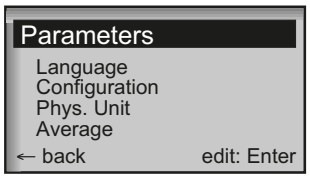
• Parameterization	Sets/displays the system component parameters
• Identification	Displays the serial number (Evaluation Unit) and software version (system components)
• Service data	Calls up data from the probe

Calibration/adjustment

• Auto. adjust	Automatic adjustment with ambient air
• Manual adjustment:	Manual adjustment with ambient air or test gas
• Test:	Linearity check using ambient air or test gases

Maintenance

• Maintenance mode	Activates maintenance mode
• Tests	Tests analog outputs, relay outputs, and digital inputs
	System cold start
• Reset system	Resets the parameters to the factory settings
• Reset parameters	



Display

- The operating mode (e.g. Parameter mode) or menu option that is currently selected is indicated in the heading.
- Four rows for submenus, plain-text messages, or specific settings (values)
- Function row:

← back	Use ← arrow to return to higher menu level
edit: Enter	You activate the menu options or confirm entries with the **Enter** key
select	You select a value with the **Enter** key
1234	To select a value for numeric inputs, use the **arrows** ↑ (↓) to select the value for each digit; choose → to go to the next input area
Password	When prompted to specify the password, enter **1 2 3 4** with ↑ (↓).

4.1.3 Menu Structure

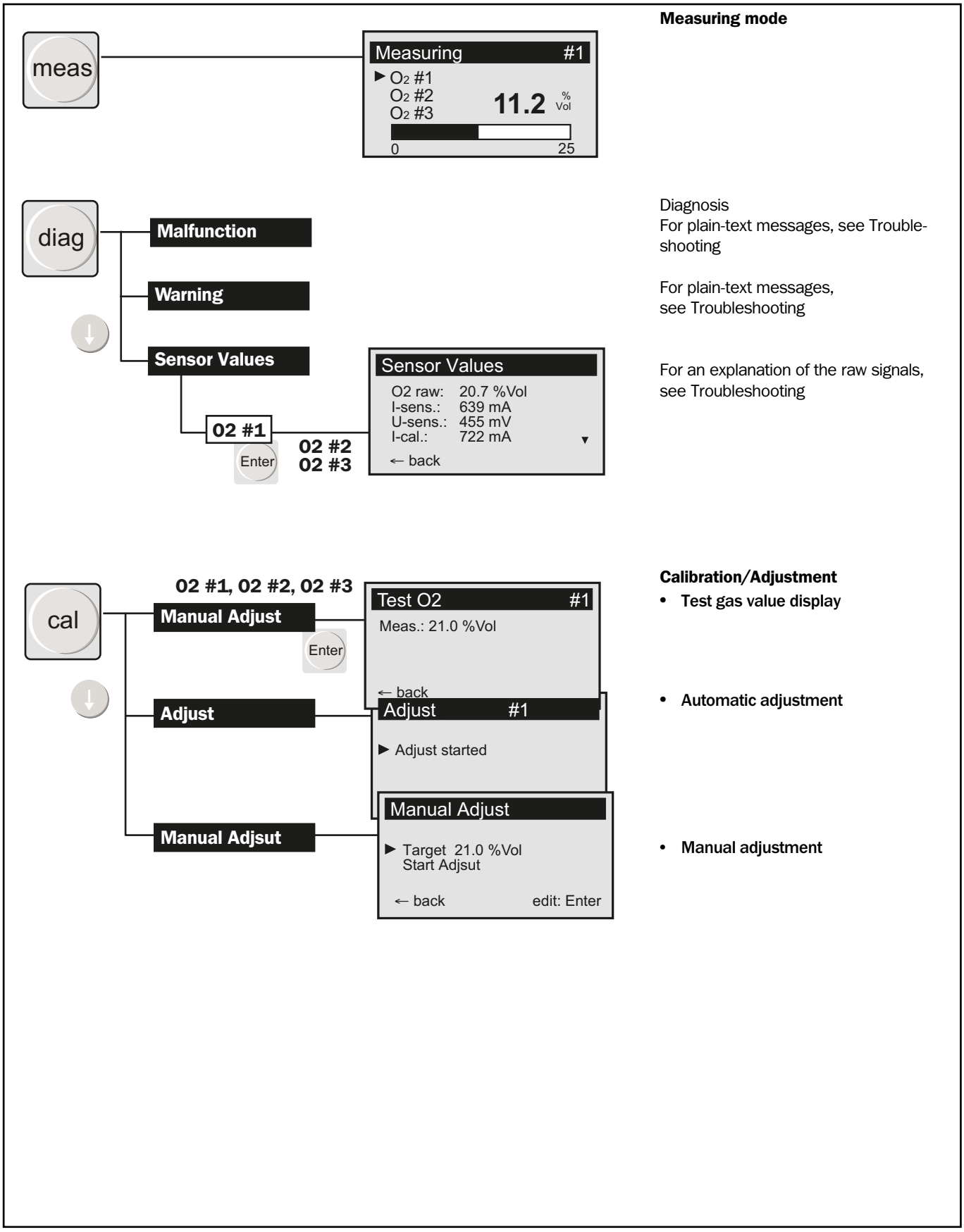
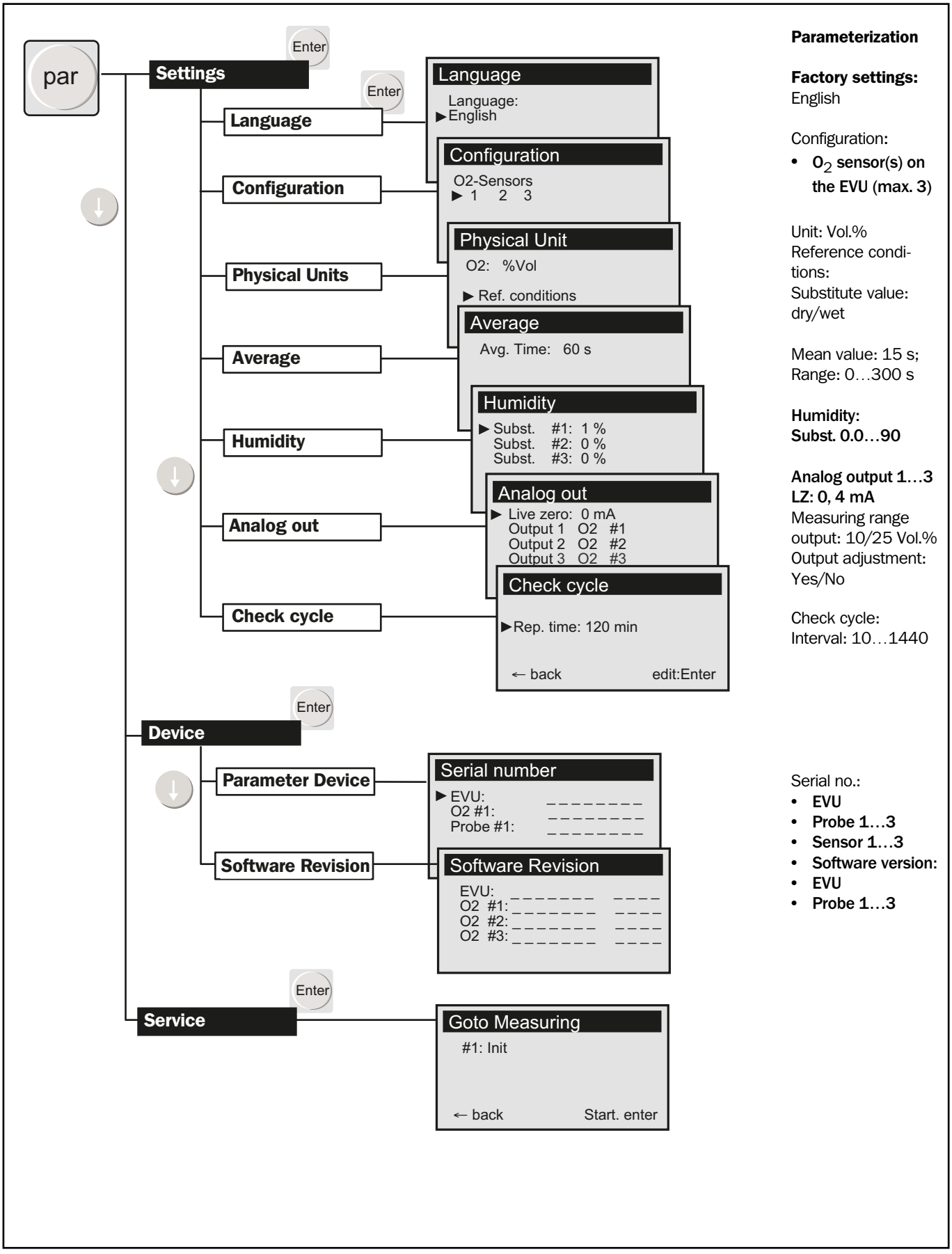


Fig. 11 Menu structure of the ZIRKOR302/part 1



Parameterization

Factory settings:
English

Configuration:
- **O_2 sensor(s) on the EVU (max. 3)**

Unit: Vol.%
Reference conditions:
Substitute value: dry/wet

Mean value: 15 s;
Range: 0…300 s

Humidity:
Subst. 0.0…90

Analog output 1…3
LZ: 0, 4 mA
Measuring range output: 10/25 Vol.%
Output adjustment: Yes/No

Check cycle:
Interval: 10…1440

Serial no.:
- **EVU**
- **Probe 1…3**
- **Sensor 1…3**
- **Software version:**
- **EVU**
- **Probe 1…3**

Fig. 12 Menu structure of the ZIRKOR302/part 2

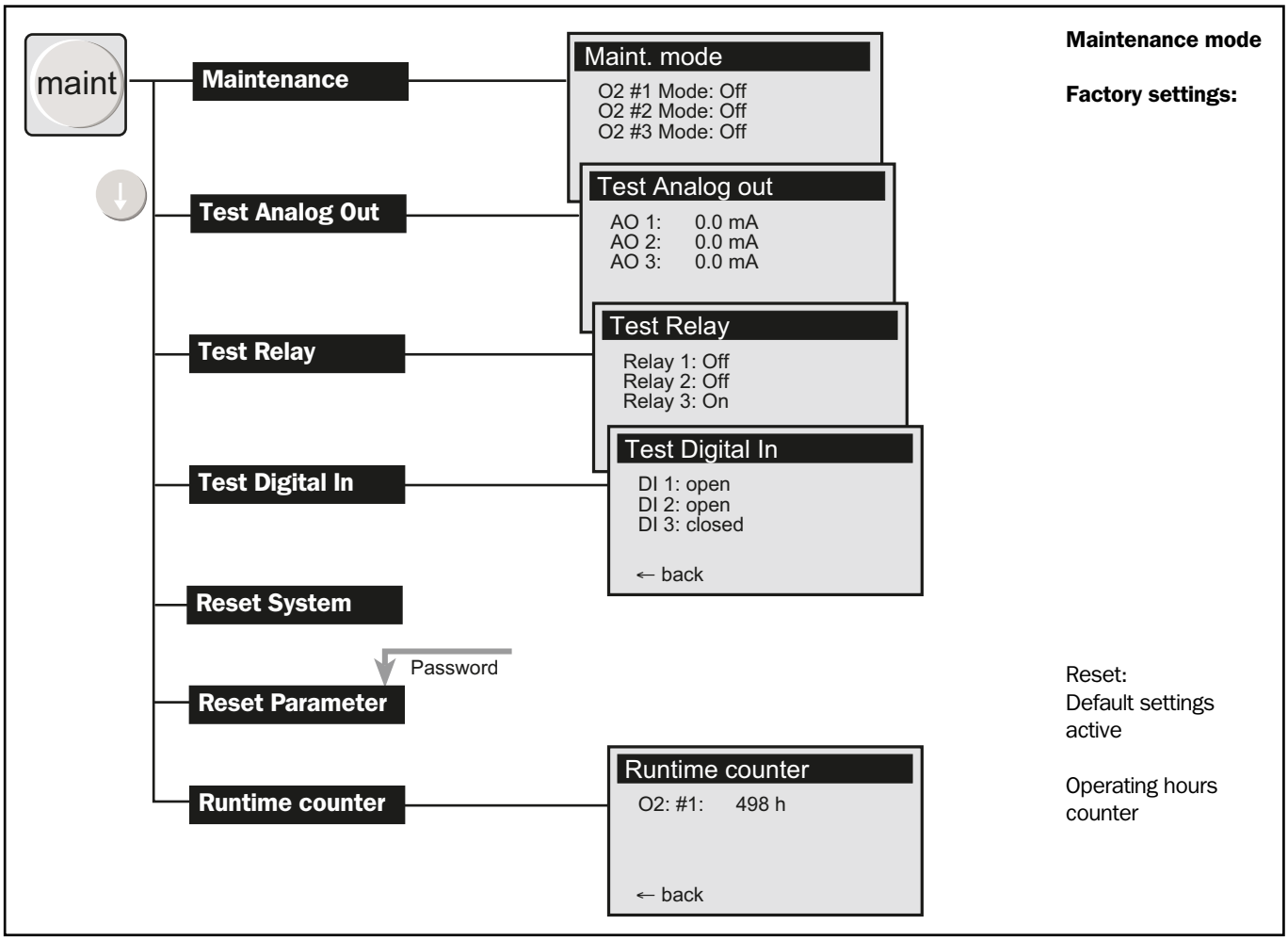


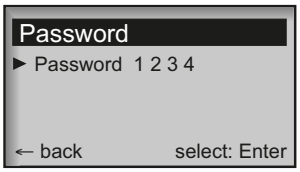
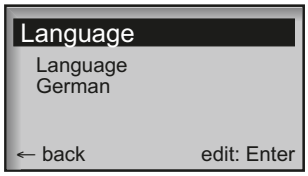
Fig. 13 Menu structure of the ZIRKOR302/part 3

4.1.4 Operation at the Evaluation Unit: Example

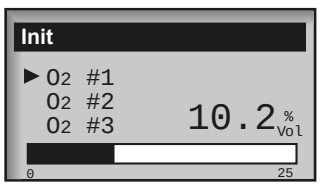
The ZIRKOR302 default settings are active when the system is delivered from the factory or when you choose the "Reset Parameter" command . When the system is put into operation, check whether these default settings are suitable for the relevant ZIRKOR302 measuring task .

Example The following example shows you how to set the display language and illustrates how the controls on the Evaluation Unit are used. Detailed procedures will not be provided in the sections that follow, except in the case of settings where an explanation of the display contents is expedient.

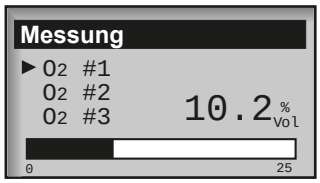
Action	Procedure
	**Setting the display language** The texts displayed on the Evaluation Unit can be output in English or German. ▶ Activate **Parameter mode**

Enter	▶ Choose **Parameters**
Enter	▶ Choose the **Language** menu option ▶ Choose the **Language** menu option
 ↑ → Enter	Acknowledge the password prompt as follows: Use the arrow keys to enter and confirm the code **1 2 3 4**. You can now make the settings.
 ↑ Enter ←	The display shows the active language, in this case **English**. ▶ Choose **German** and confirm. The new language is displayed when you return to Measuring mode. ▶ Return to the main menu.

4.2 Commissioning Steps for the Evaluation Unit

Startup Step	Procedure
Power supply ON 	Power supply: (on site), e.g. control cabinet ▶ Switch on the power supply for the ZIRKOR302. The system components start up. The **Warning** LED on the Evaluation Unit is lit during the warm-up phase. The display then switches to the measuring values (Measuring mode).
 	▶ Wait 10 minutes for the EVU to initialize with the connected ZIRKOR302 probe.

EVU display	Measurement carried out without error message. If a problem arises, the Malfunction LED on the EVU flashes; the EVU cannect to the GM 302 probe. ▶ Call up Diagnosis mode **(diag)** – Choose the Error menu – The message **"Sensor Communication"** is displayed ▶ Rectify the error, see *page 27*



5 Maintenance and Troubleshooting

5.1 Maintaining the ZIRKOR302

5.1.1 Maintenance Planning

The ZIRKOR302 system components must be checked at regular intervals to ensure that they are free of external damage. General recommendations for maintenance intervals cannot be provided, since this depends on the flue gas in the duct.

Note Always inform the SICK Service department or qualified personnel in good time of any malfunctions or potential repairs. In this way, the service engineer can procure any necessary spare or consumable parts by the maintenance date, and thus avoid unnecessary and costly round trips.

Routine Maintenance Activities

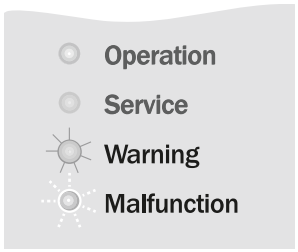
System component	Interval	Activity
ZIRKOR302	4 months	▶ Contamination inspection: – Check all system components for: – External contamination; clean if necessary – Cable damage – Any loose-fitting system components – Water separator for compressed air

Maintenance recommendation Initially, after the system components have been installed, we recommend that they be inspected at regular intervals. The maintenance cycles can then be extended over time, and planned in the long term. Cleaning is usually required twice a year.

5.2 Troubleshooting the ZIRKOR302

Troubleshooting Strategy

The Evaluation Unit registers all the functional impairments or malfunctions on the ZIRKOR302 components. These impairments/malfunctions are displayed and processed as follows:



Diagnosis Mode

Component/Tool	Signal	Note
Front Panel Evaluation Unit	**Warning LED** lights up	Functional impairment on system that will not directly lead to corrupt measured values.
	Malfunction LED blinks	System malfunction that can lead to a system failure or functional impairment. *See Error memory, Logbook.*
Error memory	▶ Choose the **Error** menu	Use the plain-text message(s) to localize and correct the problem. See "Troubleshooting Table".
Warning memory	▶ Choose the **Warning** menu	Plain-text message(s) of existing warnings
Output for serious problems (malfunctions, error messages)	Relay 1 inactive*	Group malfunction

* The relay is active during normal operation (no malfunctions), i.e. the contact is closed.

Procedure

Troubleshooting table

If a warning or malfunction is signaled, first call up the error messages in the Error menu. Then localize the possible cause and correct the malfunction; see Troubleshooting Table.

Error Indication	Possible Cause	Remedy
• **Malfunction LED** blinks; (**Warning LED** may light up) • Relay 1: **centralized malfunction**	Possible causes are indicated by the plain-text error messages	▶ **Start Diagnosis (diag)** mode: – Choose **Error** (or **Warning**) menu – Check and correct the specified malfunction.

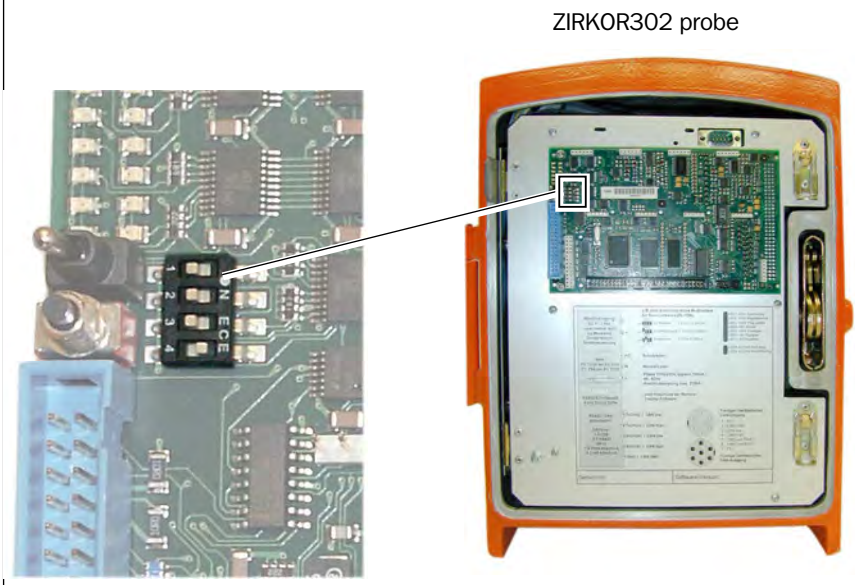
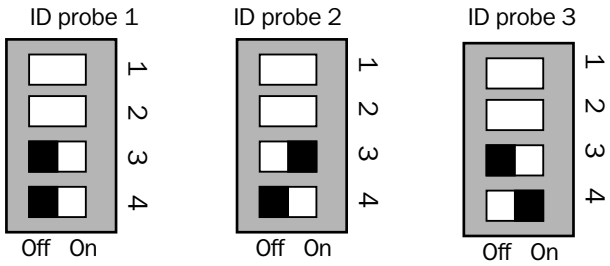
5.2.1 Troubleshooting Table

Error Description/Message	Component/Possible Cause	Remedy
Evaluation Unit not responding	Evaluation Unit: • Power supply to Evaluation Unit defective	▶ Check power supply to all system components: – If necessary, connect on-site power supply – If necessary, reconnect the terminals on the system components, see Fig. 9 Connections of the evaluation unit, page 15
	Evaluation Unit: • Incorrect operating voltage	▶ Check the operating voltage set on the Evaluation Unit: – If necessary, change setting, see Fig. 9 Connections of the evaluation unit, page 15
	Evaluation Unit: • Fuse defective	▶ Check the fuse in the Evaluation Unit: – If necessary, replace the fuse; for the position of the fuse, see *page 29*
	Evaluation Unit: • No defect localized	▶ Disconnect all of the system components and reconnect them one after the other, see Fig. 9 Connections of the evaluation unit, page 15 ▶ Only the cable from the EVU to probe 1 (2, 3)
	Evaluation Unit: • Error occurs again	▶ Replace the component last connected; contact the Service department
	Evaluation Unit: • 24 V/5 V supply defective	▶ Check 24 V/5 V, see *page 29* Replace Evaluation Unit with electronic board module; contact Service department
	Evaluation Unit: • Inconsistent data detected in parameter memory	▶ Restart the system; the default parameter settings are then active: – Call up the Maintenance menu and choose Restart System ▶ If necessary, reconfigure the parameters ▶ If the same error message occurs again, replace the Evaluation Unit and contact the Service department.
Sensor communication	• No connection between the EVU and ZIRKOR302	See *page 30*: ▶ Check connection ▶ Ensure that the connector is connected securely ▶ Check address

5.3 Troubleshooting

5.3.1 Troubleshooting on the Evaluation Unit

Activity	Procedure
Evaluation Unit not responding  	**Fuses** ▶ Open the housing cover on the EVU ▶ Check and, if necessary, replace the fuse in the Evaluation Unit **Power supply** ▶ Check the indicator for the 24 V/5V supply in the Evaluation Unit and, if necessary, remove the screw terminal (CAN) of the signal cable to the ZIRKOR302 probe. ▶ If these indicators only light up when the connector has been removed, check the cabling first. ▶ If no error is found, connect the system components one by one. 1. Only the cable between the Evaluation Unit and the probe 2. Connect the probe **ZIRKOR302 probe** ▶ If the error recurs, replace the probe, remove the device from service and dismantle the probe; see separate ZIRKOR302 operation manual .

Activity	Procedure
Communication error between Evaluation Unit and ZIRKOR302 probe  DIP switches for device selection as probe 1…3  	Error message: **Sensor Communication** The probe constantly sends data to the Evaluation Unit; if this is not received, a query is output automatically. ▶ Check the cable connections between the Evaluation Unit and the probe: ▶ Cable connection at the screw terminal (CAN) in the Evaluation Unit, see *page 29*. ▶ Cable to the probe and terminal on the probe **Addressing the probe** ▶ Open the housing cover ▶ Set the DIP switches in accordance with the setting in the EVU (parameterization, **par**; Configuration menu).

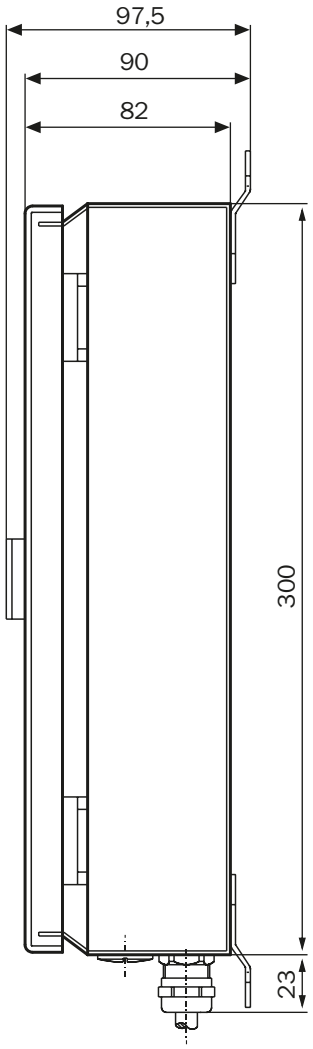
6 Technical Data

6.1 Evaluation Unit

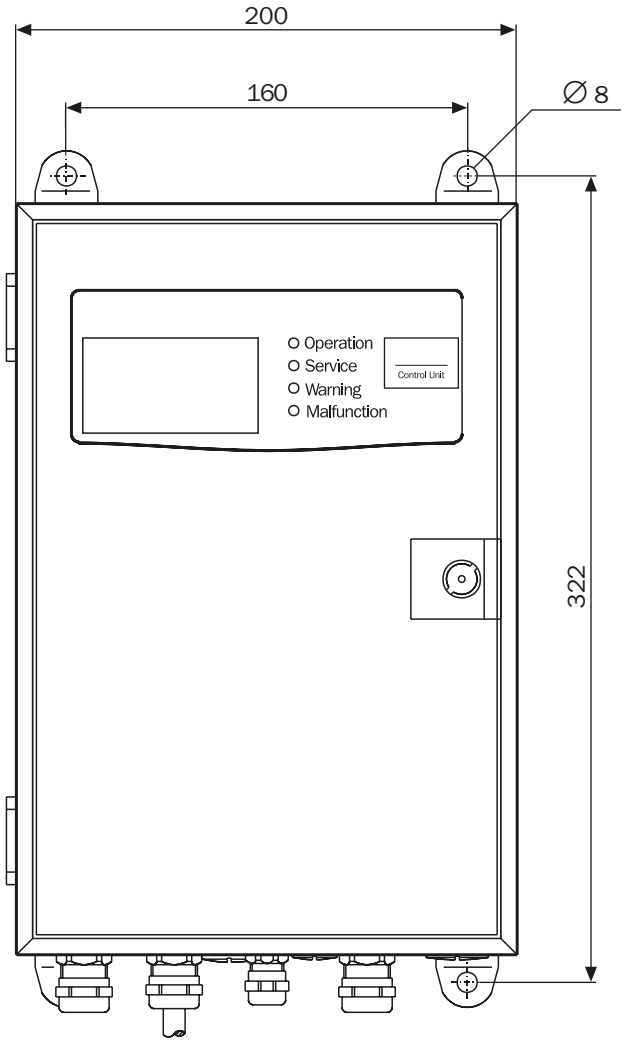
Technical Data	Values	
Version (model)	Steel plate housing	Aluminium cast housing
Class of protection	IP 65 (NEMA 4X)	IP 67 (NEMA 4X)
Outputs	3 analog outputs: 0…20 mA, max. load 500 Ω; electrically isolated • Output 1: Measured value output O_2 probe 1 • Output 2: Measured value output O_2 probe 2 • Output 3: Measured value output O_2 probe 3	
	3 relay outputs: Switching capacity: DC 48 V, 1 A_{max}; 30 W; AC 48 V, 1 A_{max}; 60 VA; floating; • Relay 1 (NO contact): failure* • Relay 2 (NC contact): maintenance requirement* • Relay 3 (NC contact): functional check* * if several probes exist on one EVU, you must determine which probe generated the message.	
Inputs:	3 digital inputs: controlled via floating contact (can be loaded with 24 V) • Input 1: automatic adjustment of O_2 probe 1 • Input 2: automatic adjustment of O_2 probe 2 • Input 3: automatic adjustment of O_2 probe 3	
Interfaces	RS 232 for service (via 9-pol. sub D connector) PROFIBUS interface (in preparation) with the host computer CAN bus interface with external I/O modules	
Dimensions (L x W x H)	300 x 400 x 170 mm^3	
Weight	4 kg (8.8 lb)	
Power supply:	115/230 V AC; ±10%, 50/60 Hz; 50 W power consumption	

6.2 Dimensions Evaluation Unit: Steel Plate Housing

EVU: side view

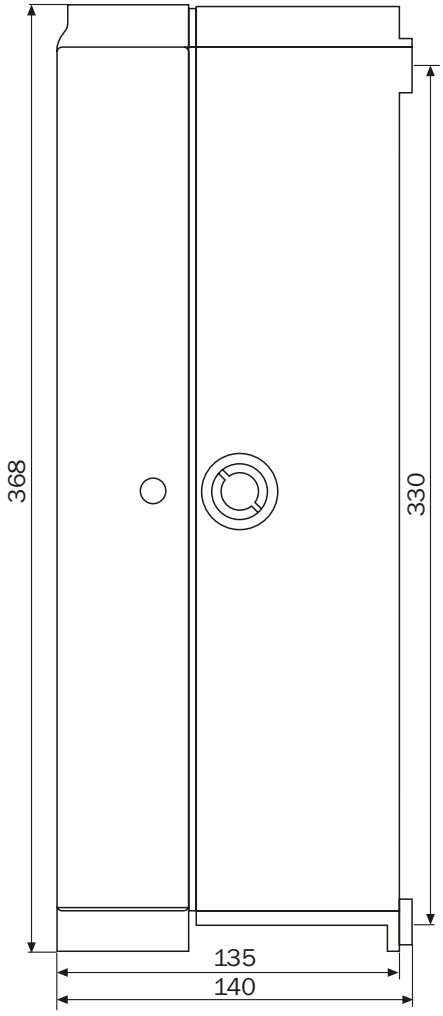


EVU: front view

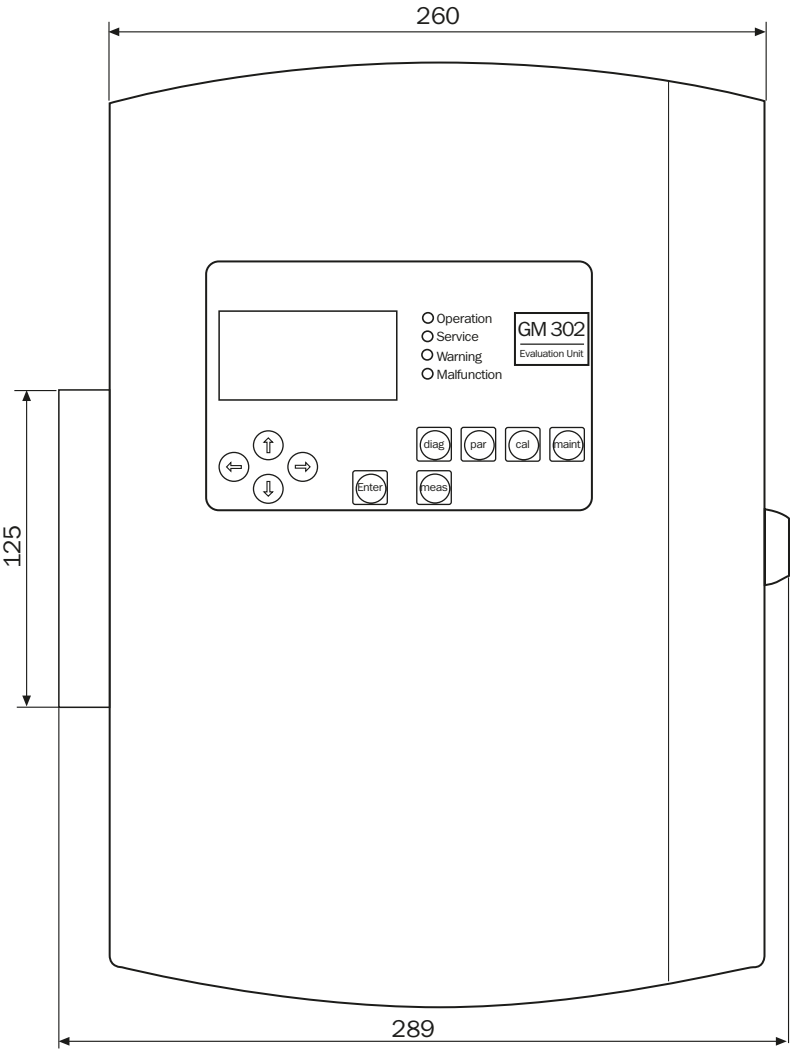


6.3 Dimensions Evaluation Unit: Aluminium Cast Housing

EVU: side view



EVU: front view



6.4 Options and Spare Parts

6.4.1 Options

Order no.	Description
2 023 687	CAN connection cable, 4 m (13 ft)
2 020 437	CAN connection cable, 5 m (16 ft)
2 020 438	CAN connection cable, 10 m (33 ft)
2 020 439	CAN connection cable, 15 m (49 ft)
6 026 308	Serial connection cable, 9-pin Sub-D, socket/socket, 10 m (33 ft)
6 026 309	Extension for serial connection cable für serielle Verbindungsleitung, 9-pin Sub-D, socket/socket, 10 m (33 ft)

6.4.2 Spare Parts

Order no.	Description
2 021 795	PC system control
6 021 782	Fuse 250 V, D8,5 x 8
6 020 125	Closing cab fuse D5 x 20
6 007 328	Jumper, pluggable
6 020 400	Membrane keyboard
2 017 329	Hinge bolt
6 010 378	Lithium battery 3,00 V CR2032

8011028/2013-08/ISubject to change without notice

Australia
Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au
Belgium/Luxembourg
Phone +32 (0)2 466 55 66
E-Mail info@sick.be
Brasil
Phone +55 11 3215-4900
E-Mail sac@sick.com.br
Canada
Phone +1 905 771 14 44
E-Mail information@sick.com
Ceská Republika
Phone +420 2 57 91 18 50
E-Mail sick@sick.cz
China
Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk
Danmark
Phone +45 45 82 64 00
E-Mail sick@sick.dk
Deutschland
Phone +49 211 5301-301
E-Mail kundenservice@sick.de
España
Phone +34 93 480 31 00
E-Mail info@sick.es
France
Phone +33 1 64 62 35 00
E-Mail info@sick.fr
Great Britain
Phone +44 (0)1727 831121
E-Mail info@sick.co.uk
India
Phone +91–22–4033 8333
E-Mail info@sick-india.com
Israel
Phone +972-4-6881000
E-Mail info@sick-sensors.com
Italia
Phone +39 02 27 43 41
E-Mail info@sick.it
Japan
Phone +81 (0)3 3358 1341
E-Mail support@sick.jp
Magyarország
Phone +36 1 371 2680
E-Mail office@sick.hu
Nederlands
Phone +31 (0)30 229 25 44
E-Mail info@sick.nl
Norge
Phone +47 67 81 50 00
E-Mail austefjord@sick.no
Österreich
Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at
Polska
Phone +48 22 837 40 50
E-Mail info@sick.pl
România
Phone +40 356 171 120
E-Mail office@sick.ro
Russia
Phone +7-495-775-05-30
E-Mail info@sick.ru
Schweiz
Phone +41 41 619 29 39
E-Mail contact@sick.ch
Singapore
Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg
Slovenija
Phone +386 (0)1-47 69 990
E-Mail office@sick.si
South Africa
Phone +27 11 472 3733
E-Mail info@sickautomation.co.za
South Korea
Phone +82 2 786 6321/4
E-Mail info@sickkorea.net
Suomi
Phone +358-9-25 15 800
E-Mail sick@sick.fi
Sverige
Phone +46 10 110 10 00
E-Mail info@sick.se
Taiwan
Phone +886 2 2375-6288
E-Mail sales@sick.com.tw
Türkiye
Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr
United Arab Emirates
Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae
USA/México
Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at **www.sick.com**

SICK
Sensor Intelligence.