

# **EUCHNER**

## **Operating Instructions**

Safety Systems  
**MGB-L..B-EI-... (Ethernet/IP)**  
**With Data Structure Type A**  
**From V1.5.0**

**EN**

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## 1. About this document

### 1.1. Scope

These operating instructions are valid for all MGB-L..B-EI... (Ethernet/IP) With Data Structure Type A. These operating instructions, the document *Safety information* and any enclosed data sheet form the complete user information for your device.

Series	Guard locking types	System families	Product versions
MGB	L0 (without guard locking)	...EI...	From V1.5.0
	L1 (guard locking by spring force)		
	L2 (guard locking by solenoid force)		

#### 1.1.1. Notes on older product versions

Products with lower product versions or without a version number are not described by these operating instructions. Please contact our support team in this case.

### 1.2. Target group

Design engineers and installation planners for safety devices on machines, as well as setup and servicing staff possessing special expertise in handling safety components.

### 1.3. Key to symbols

Symbol/depiction	Meaning
	Printed document
	Document is available for download at <a href="http://www.euchner.com">www.euchner.com</a>
 <b>DANGER</b> <b>WARNING</b> <b>CAUTION</b>	Safety precautions <b>Danger</b> of death or severe injuries <b>Warning</b> about possible injuries <b>Caution</b> Slight injuries possible
 <b>NOTICE</b> <b>Important!</b>	<b>Notice</b> about possible device damage <b>Important</b> information
<b>Tip</b>	Useful information

### 1.4. Supplementary documents

The overall documentation for this device consists of the following documents:

Document title (document number)	Contents	
Safety information (2525460)	Basic safety information	
Operating instructions (2126330)	(this document)	
Possibly enclosed data sheet	Item-specific information about deviations or additions	

	<b>Important!</b> Always read all documents to gain a complete overview of safe installation, setup and use of the device. The documents can be downloaded from <a href="http://www.euchner.com">www.euchner.com</a> . For this purpose enter the doc. no. in the search box.
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## 2. Correct use

### The following applies to MGB-L0:

The system comprises at least one interlocking module MGB-L0-... and one handle module MGB-H...

The safety system MGB is an interlocking device without guard locking (type 4). Devices with unicode evaluation possess a high coding level, devices with multicode evaluation possess a low coding level.

In combination with a movable guard and the machine control, this safety component prevents dangerous machine functions from occurring while the guard is open. A stop command is triggered if the guard is opened during the dangerous machine function.

This means:

- Starting commands that cause a dangerous machine function must become active only when the guard is closed.
- Opening the guard triggers a stop command.
- Closing a guard must not cause automatic starting of a dangerous machine function. A separate start command must be issued. For exceptions, refer to EN ISO 12100 or relevant C-standards.

### The following applies to MGB-L1/MBG-L2:

The system comprises at least one locking module MGB-L1-.../MGB-L2-... and one handle module MGB-H...

The safety system MGB is an interlocking device with guard locking (type 4). Devices with unicode evaluation possess a high coding level, devices with multicode evaluation possess a low coding level.

In combination with a movable guard and the machine control, this safety component prevents the guard from being opened while a dangerous machine function is being performed.

This means:

- Starting commands that cause a dangerous machine function must become active only when the guard is closed and locked.
- The guard locking must not be released until the dangerous machine function has ended.
- Closing and locking a guard must not cause automatic starting of a dangerous machine function. A separate start command must be issued. For exceptions, refer to EN ISO 12100 or relevant C-standards.

### The following applies to MGB-L0/MGB-L1/MGB-L2:

The interlocking module MGB-LOB-EI-... and the locking module MGB-L1B-EI-.../MGB-L2B-EI-... are operated as IO devices under Ethernet/IP.

Before the device is used, a risk assessment must be performed on the machine, e.g. in accordance with the following standards:

- EN ISO 13849-1
- EN ISO 12100
- IEC 62061

Correct use includes observing the relevant requirements for installation and operation, particularly based on the following standards:

- EN ISO 13849 1
- EN ISO 14119
- EN 60204-1

The safety system MGB can be combined only with the intended modules in the MGB system family.

On the modification of system components, EUCHNER provides no warranty for function.

The customer is responsible for the safe overall function, especially for the safe integration into the CIP Safety® environment.



**Important!**

- › The user is responsible for the proper integration of the device into a safe overall system. For this purpose, the overall system must be validated, e.g. in accordance with EN ISO 13849-2.
- › Correct use requires observing the permissible operating parameters (see chapter 18. *Technical data on page 30*).
- › If a data sheet is included with the product, the information on the data sheet applies.

Table 1: Possible combinations for MGB components

Evaluation unit	Handle module
MGB...EI From V1.5.0	MGB-H... From V2.0.0  ●
Key to symbols	● Combination possible

## 3. Description of the safety function

Devices from this series feature the following safety functions:

**The following applies to MGB-L1 and MGB-L2:**

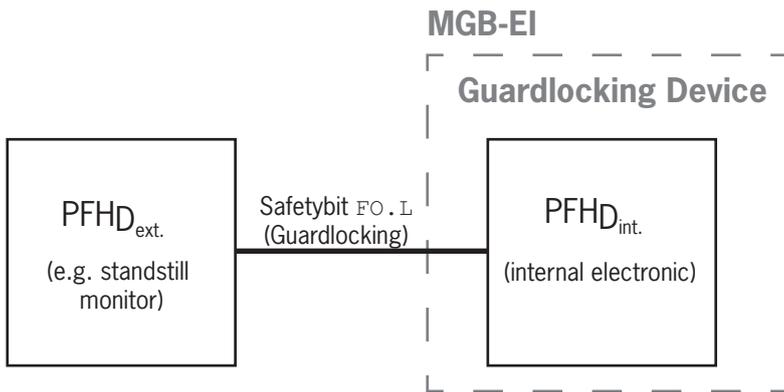
### Monitoring of guard locking and the position of the guard (interlocking device with guard locking according to EN ISO 14119)

- Safety function (see chapter 6. *Function on page 10*):
  - When guard locking is released, safety bit  $FI.ÜK$  (ÜK) = 0 (monitoring of the locking element).
  - When the guard is open, safety bit  $FI.SK$  (SK) = 0.
  - Guard locking can be activated only when the bolt tongue is located in the locking module (prevention of inadvertent locking position (faulty closure protection)).
- Safety characteristics: category, Performance Level,  $PFH_D$  (see chapter 18. *Technical data on page 30*).

### Control of guard locking (safety bit $FO.L$ )

- Safety function  
If the device is used as guard locking for personnel protection, control of guard locking must be regarded as a safety function. Guard locking is controlled via safety bit  $FO.L$  (see chapter 6.3. *Guard locking for version MGB-L1 on page 11*).

The safety level of guard locking control is determined by the device  $PFH_{D_{int}}$  and by the external control (e.g.  $PFH_{D_{ext}}$  of the standstill monitor).



- Safety characteristics: category, Performance Level,  $PFH_D$  (see chapter 18. *Technical data on page 30*).

**The following applies to MGB-L0:**

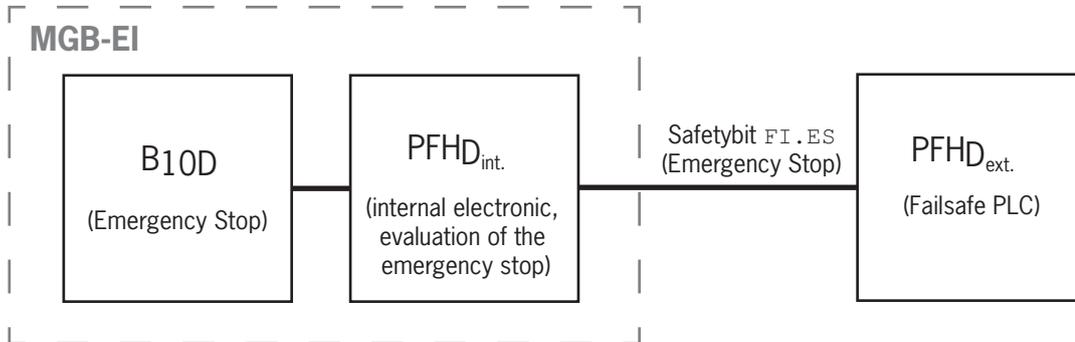
### Monitoring of the guard position (interlocking device according to EN ISO 14119)

- Safety function: When the guard is open, safety bit  $FI.SK$  (SK) = 0. (See chapter 6. *Function on page 10*.)
- Safety characteristics: category, Performance Level,  $PFH_D$  (see chapter 18. *Technical data on page 30*).

The following applies to devices with emergency stop:

**Emergency stop**  
(emergency stop device according to EN ISO 13850)

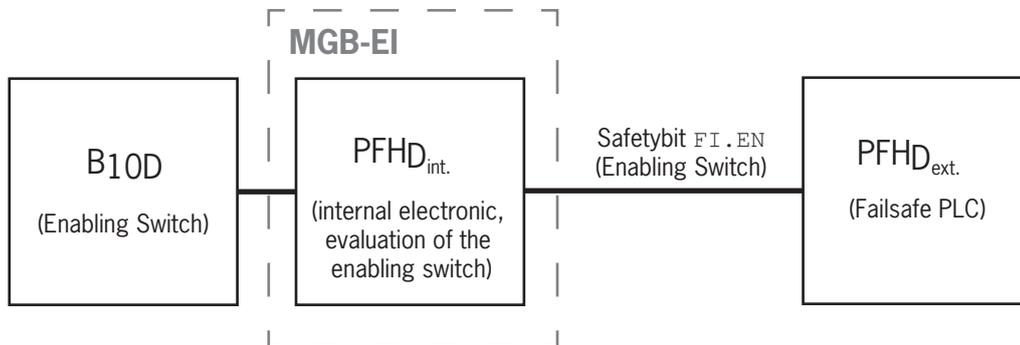
- › Safety function: evaluation of emergency stop
- › Safety characteristics:  $B_{10D}$  value for the emergency stop and  $PFH_D$  for the evaluation electronics (see chapter 18. *Technical data on page 30*)



The following applies to devices with connection for enabling switch:

**Enabling function**

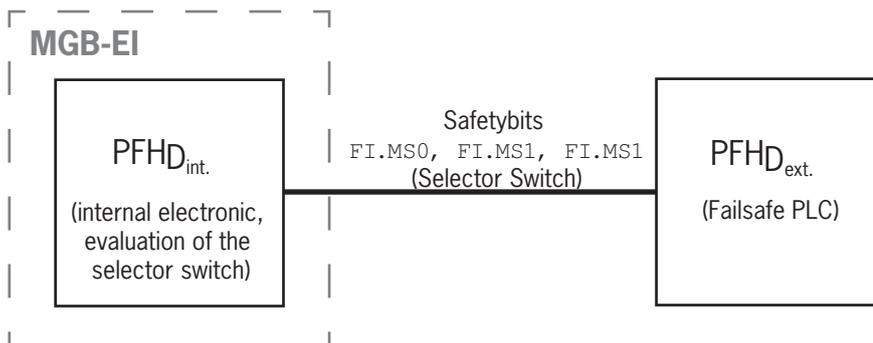
- › Safety function: evaluation of a connected enabling switch
- › Safety characteristics:  $B_{10D}$  value for the enabling switch (see manufacturer's information) and  $PFH_D$  for the evaluation electronics (see chapter 18. *Technical data on page 30*)



For devices with multi-position switch:

**Detection of the switch position**

- › Safety function: Evaluation of the switch position. E.g. for safe switchover between individual operating modes
- › Safety characteristics:  $PFH_D$  for the evaluation electronics (see chapter 18. *Technical data on page 30*). The switch position is scanned electronically. There is therefore no  $B_{10D}$  value for the switch.



## 4. Exclusion of liability and warranty

In case of failure to comply with the conditions for correct use stated above, or if the safety regulations are not followed, or if any servicing is not performed as required, liability will be excluded and the warranty void.

## 5. General safety precautions

Safety switches fulfill personnel protection functions. Incorrect installation or tampering can lead to fatal injuries to personnel.

Check the safe function of the safeguard particularly

- › after any setup work
- › after the replacement of an MGB component
- › after an extended period without use
- › after every fault

Independent of these checks, the safe function of the safeguard should be checked at suitable intervals as part of the maintenance schedule.



### WARNING

Danger to life due to improper installation or due to bypassing (tampering). Safety components fulfill a personnel protection function.

- › Safety components must not be bypassed, turned away, removed or otherwise rendered ineffective. On this topic pay attention in particular to the measures for reducing the possibility of bypassing according to EN ISO 14119:2013, section 7.
- › The switching operation is allowed to be triggered only by the intended handle module MGB-H... that is positively fastened to the guard.
- › Prevent bypassing by means of replacement actuators (only for multicode evaluation). For this purpose, restrict access to actuators and to keys for releases, for example.
- › Mounting, electrical connection and setup only by authorized personnel possessing the following knowledge:
  - specialist knowledge in handling safety components
  - knowledge about the applicable EMC regulations
  - knowledge about the applicable regulations on operational safety and accident prevention.



### Important!

Prior to use, read the operating instructions and keep these in a safe place. Ensure the operating instructions are always available during mounting, setup and servicing. For this reason you should archive a printed copy of the operating instructions. You can download the operating instructions from [www.euchner.com](http://www.euchner.com).

## 6. Function

### 6.1. Interlocking module MGB-L0.B-EI.

Together with a handle module, the interlocking module makes it possible to interlock movable guards. The combination also serves as a mechanical door stop at the same time.



**Important!**

To operate the device as an interlocking device according to EN ISO 14119, the signals for door position (safe bit `FI.D`) and bolt position (safe bit `FI.B`) must be polled in a logical AND operator. This operator is already implemented in safety bit `FI.SK`.

As an alternative, you can also link the bits `FI.D` and `FI.B` individually in your control system.

The following switch-on condition applies to safety bit `FI.SK` (SK):

- Guard closed `FI.D`
- Bolt tongue inserted into interlocking module `FI.B`

Also see chapter 16. *System status table on page 28.*

The interlocking module detects the position of the guard and the position of the bolt tongue.

The bolt tongue in the handle module is moved into and out of the interlocking module by actuating the door handle.

### 6.2. Locking module MGB-L1.B-EI. and MGB-L2.B-EI.

Together with a handle module, the locking module makes it possible to lock movable guards. The combination also serves as a mechanical door stop at the same time.



**Important!**

To operate the device as a guard locking device for personnel protection according to EN ISO 14119, the signals for door position (safe bit `FI.D`), bolt position (safe bit `FI.B`) and guard lock monitoring (safe bit `FI.L`) must be polled in a logical AND operator. This operator is already implemented in safety bit `FI.UK`.

As an alternative, you can also link the bits `FI.D`, `FI.B` and `FI.L` individually in your control system.

The following switch-on condition applies to safety bit `FI.UK`:

- Guard closed `FI.D`
- Bolt tongue inserted into locking module `FI.B`
- Locking arm in locking position (guard lock monitoring) `FI.L`

Also see chapter 16. *System status table on page 28.*

The locking module detects the position of the guard and the position of the bolt tongue. The position of the locking arm is also monitored.

The bolt tongue in the handle module is moved into and out of the locking module by actuating the door handle.

The locking arm locks the bolt tongue when the bolt tongue is fully inserted into the locking module. Depending on version, this locking is by spring force or solenoid force.

Guard locking is controlled via safety bit `FO.L`. See chapter 6.3. *Guard locking for version MGB-L1 on page 11.*

## 6.3. Guard locking for version MGB-L1

(guard locking actuated by spring force and released by power-ON)

**Activating guard locking:** close guard, no voltage at the solenoid (safety bit  $FO.L = 0$ ).

**Releasing guard locking:** apply voltage to the solenoid (safety bit  $FO.L = 1$ ).

The spring-operated guard locking functions in accordance with the closed-circuit current principle. If the voltage is interrupted at the solenoid, the guard locking remains active and the guard cannot be opened directly.



### Important!

If the guard is open when the power supply is interrupted and is then closed, guard locking is activated. This can lead to persons being locked in unintentionally.

As long as the locking arm is closed, the bolt tongue cannot be pulled out of the locking module and the guard is locked.

When voltage is applied to the guard locking solenoid, the locking arm is opened and bolt tongue is released. The guard can be opened.

## 6.4. Guard locking for version MGB-L2

(guard locking actuated by power-ON and released by spring force)



### Important!

Use as guard locking for personnel protection is possible only in special cases, after strict assessment of the accident risk (see EN ISO 14119:2013, section 5.7.1)!

**Activating guard locking:** apply voltage to the solenoid (safety bit  $FO.L = 0$ ).

**Releasing guard locking:** disconnect voltage from the solenoid (safety bit  $FO.L = 1$ ).

The magnetically actuated guard locking operates in accordance with the open-circuit current principle. If the voltage is interrupted at the solenoid, the guard locking is released and the guard can be opened directly!

The guard can be opened as long as no voltage is applied to the guard locking solenoid.

When voltage is applied to the guard locking solenoid, the locking arm is held in the locked position and the guard is locked.

## 7. System overview

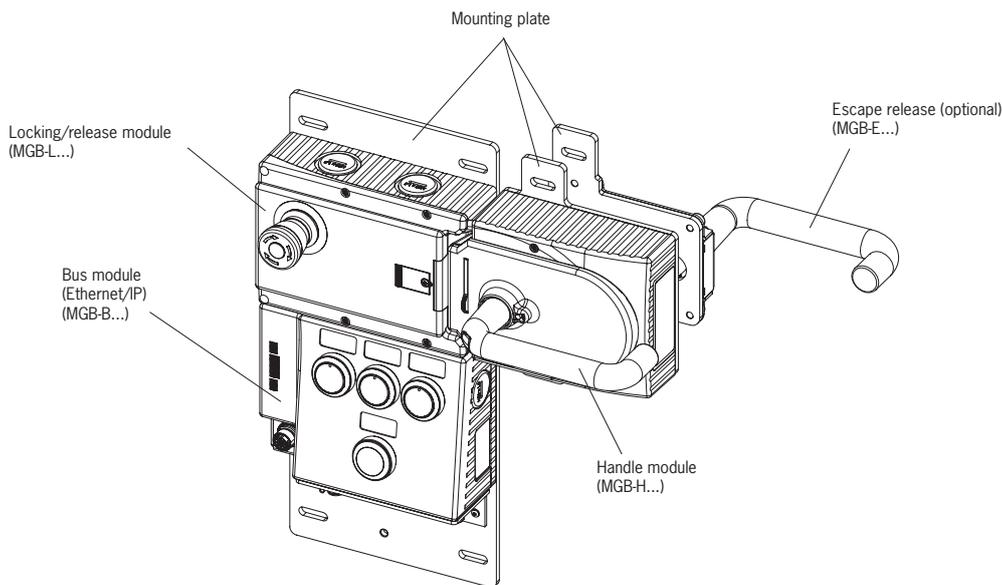


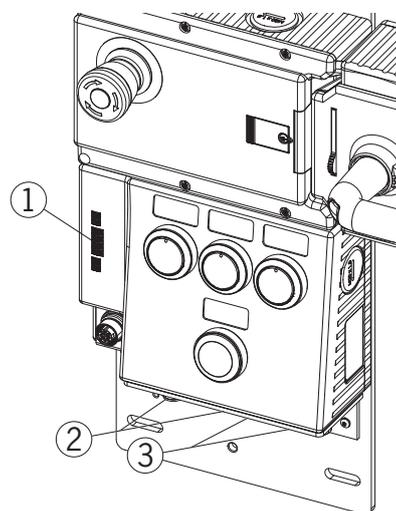
Fig. 1: Components at a glance



### NOTICE

MGB-EI systems are completely factory configured. The configuration must not be changed subsequently. The illustrations in this chapter can deviate from your system and serve only as examples. The configuration of your MGB system can be found in the data sheet included with every MGB system.

### 7.1. Bus module MGB-B-...-EI



#### Key:

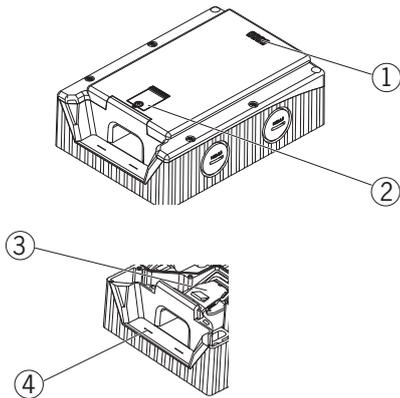
- ① LED indicator
- ② Power supply
- ③ Ethernet/IP connection

#### Notice:

Depending on version, additional controls and indicators may be integrated into the cover. See enclosed data sheet.

Fig. 2: Bus module MGB-B-...-EI (configuration example)

## 7.2. Locking/release module MGB-L.-



**Key:**

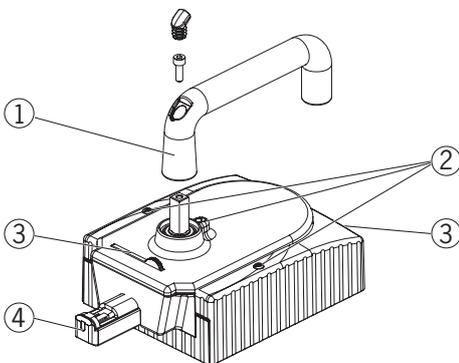
- ① LED indicator
- ② Cover for auxiliary release
- ③ Locking arm (only version with guard locking)
- ④ Auxiliary marking for max. permitted mounting distance

**Notice:**

Depending on version, additional controls and indicators may be integrated into the cover. See enclosed data sheet.

Fig. 3: Locking/release module MGB-L.-

## 7.3. Handle module MGB-H-...



**Key:**

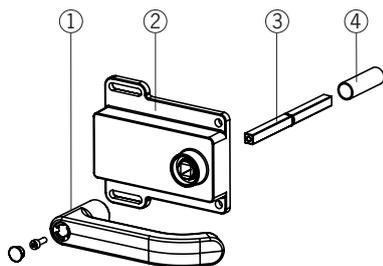
- ① Door handle
- ② Locking screws T10 for housing cover and handle adjustment
- ③ Fold-out lockout mechanism  
(optional: second, automatically extending lockout mechanism)
- ④ Bolt tongue

**Notice:**

Depending on version, a mounting plate can be included. See enclosed data sheet.

Fig. 4: Handle module MGB-H-...

## 7.4. Escape release MGB-E-... (optional)



**Key:**

- ① Door handle
- ② Housing
- ③ Actuation axis 8 x 8 mm  
(different lengths available)
- ④ Protective sleeve

**Notice:**

Depending on version, a mounting plate can be included. See enclosed data sheet.

Fig. 5: Escape release MGB-E-...

## 7.5. Dimension drawing

See enclosed data sheet.

## 8. Manual release

Some situations require the guard locking to be released manually (e.g. malfunctions or an emergency). A function test should be performed after release.

More information on this topic can be found in the standard EN ISO 14119:2013, section 5.7.5.1. The device can feature the following release functions:

### 8.1. Auxiliary release

In the event of servicing, the guard locking can be released with the auxiliary release irrespective of the state of the solenoid (see Fig. 6).



#### Important!

- › The system enters into a latching fault when the auxiliary release is actuated. See *System status table, signal sequence incorrect* status (DIA red, Lock flashes 1 time).
- › The system might not enter into a latching fault if the auxiliary release is actuated very slowly.
- › The auxiliary release is not a safety function.
- › The machine manufacturer must select and use a suitable release (escape release, emergency release, etc.) for a specific application. A hazard assessment is required for this purpose. It may be necessary to take specifications from a product standard into account.
- › The correct function must be checked at regular intervals.
- › Loss of the release function due to mounting errors or damage during mounting. Check the release function every time after mounting.
- › Observe the notes on any enclosed data sheets.

The locking screw must be screwed back in and sealed (with sealing lacquer, for example) after mounting and after every use of the auxiliary release. Tightening torque 0.5 Nm.

1. Undo locking screw.
2. Lift locking arm using a screwdriver and actuate door handle.

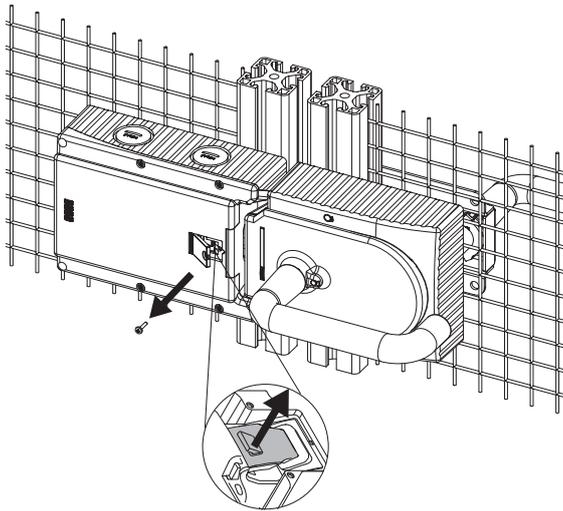


Fig. 6: Auxiliary release

## 8.2. Lockout mechanism

If the lockout mechanism is pivoted out/extended, the bolt tongue cannot be extended. The lockout mechanism can be secured with padlocks (see Fig. 7). This is intended to prevent people from being locked in unintentionally. The lockout mechanism does not fulfill any safety function.

➔ To pivot out, press the grooved part (possible only with bolt tongue retracted).

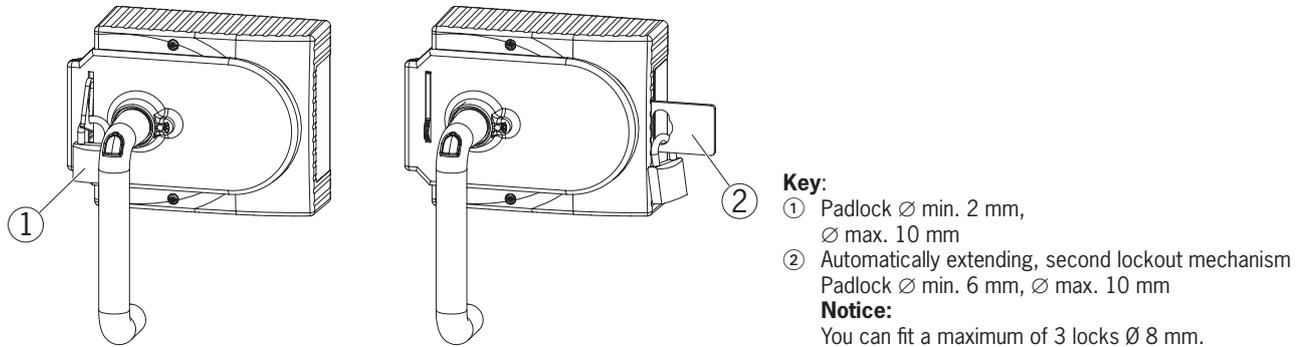


Fig. 7: Lockout mechanism secured with padlock

## 8.3. Escape release (optional)

The escape release is used to open a locked guard from the inside without tools.



### Important!

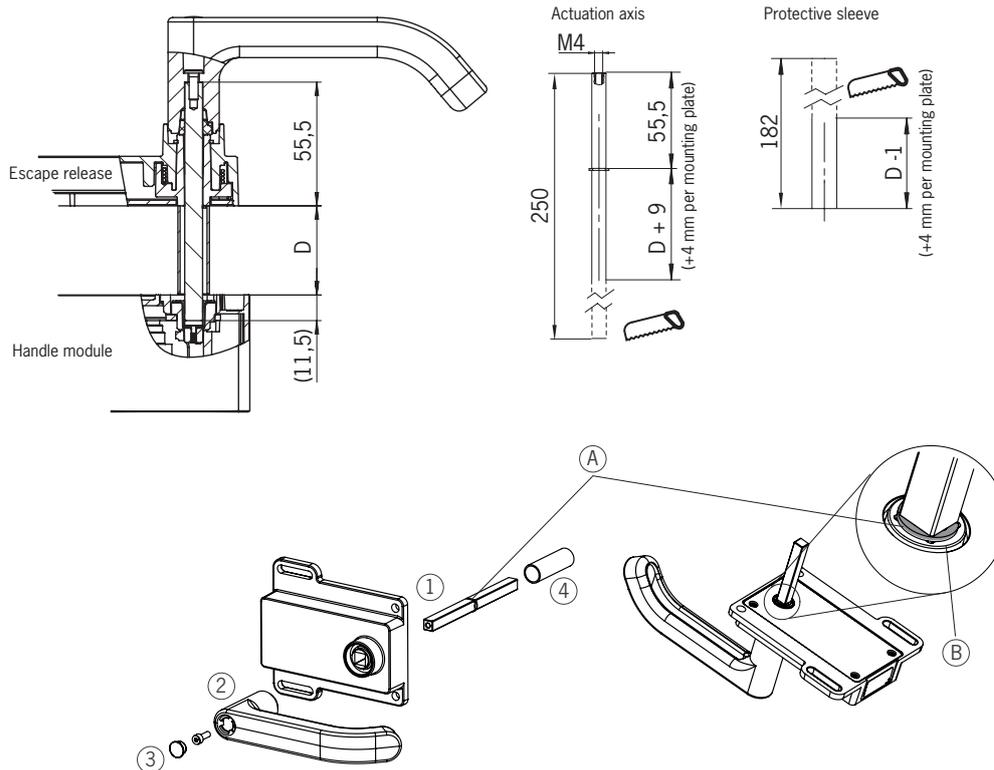
- › The system enters into a latching fault when the escape release is actuated. See *System status table, signal sequence incorrect* status (DIA red, Lock flashes 1 time).
- › The system might not enter into a latching fault if the escape release is actuated very slowly.
- › It must be possible to actuate the escape release manually from inside the protected area without tools.
- › It must not be possible to reach the escape release from the outside.
- › The actuator must not be under tensile stress during manual release.
- › The escape release meets the requirements of Category B according to EN ISO 13849-1:2015.
- › The correct function must be checked at regular intervals.
- › Observe the notes on any enclosed data sheets.

- › Fit escape release such that operation, inspection and service are possible.
- › The actuation axis for the escape release must be inserted min. 10 mm into the handle module. Note the information on the different profile widths in chapter 8.3.1. *Preparing escape release on page 16.*
- › Adjust escape release axis at right angles to the handle module. See Fig. 8.

**8.3.1. Preparing escape release**

Profile width	Required length Actuation axis		Which EUCHNER parts are required?	Necessary work steps
	Without mounting plates	With mounting plates (4 mm each)		
D	D+9	D+17		
30 mm	39 mm	47 mm	Standard escape release with 107 mm axis (order no. 100465)	Shorten to required length
40 mm	49 mm	57 mm	Standard escape release with 107 mm axis (order no. 100465) If necessary, extended actuation axis (order no. 106761)	<i>Without mounting plates:</i> none <i>With mounting plates:</i> Use extended actuation axis and protective sleeve and shorten to required length
45 mm	54 mm	62 mm	Standard escape release with 107 mm axis (order no. 100465) <b>and</b> extended actuation axis (order no. 106761)	Use extended actuation axis and protective sleeve and shorten to required length
50 mm	59 mm	67 mm	Standard escape release with 107 mm axis (order no. 100465) <b>and</b> extended actuation axis (order no. 106761)	Use extended actuation axis and protective sleeve and shorten to required length

Example without mounting plates:



- ① Insert actuation axis. The snap ring **A** must be in contact with the escape release **B**.
- ② Fit door handle.
- ③ Tighten fixing screw to 2 Nm and push in cap.
- ④ Fit protective sleeve.

Fig. 8: Preparing escape release

## 9. Mounting



### WARNING

Mounting must be performed only by authorized personnel.



### NOTICE

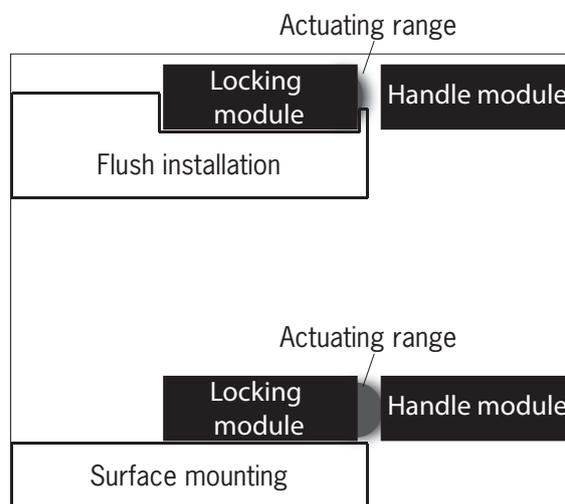
Risk of damage to equipment and malfunctions as a result of incorrect installation.  
 › Observe EN ISO 14119:2013, sections 5.2 and 5.3, for information about mounting the safety switch and the actuator.

With two-leaf hinged doors, one of the two door leaves must also be latched mechanically.  
 Use a rod latch (Item) or a double-door lock (Bosch Rexroth) for this purpose, for example.



### Important!

› In case of flush installation, the operating distances change as a function of the installation depth and the guard material.



### Tip!

› You can find various animations about the assembly process in the media library at [www.euchner.com](http://www.euchner.com).  
 › The color and labeling of pushbuttons and indicators can be modified.

For mounting steps, see Fig. 9 and Fig. 10 to Fig. 15.

Attach system such that operation of the auxiliary release as well as inspection and service are possible.

The locking screw of the auxiliary release must be returned to its original position and sealed before putting into operation (with sealing lacquer, for example).

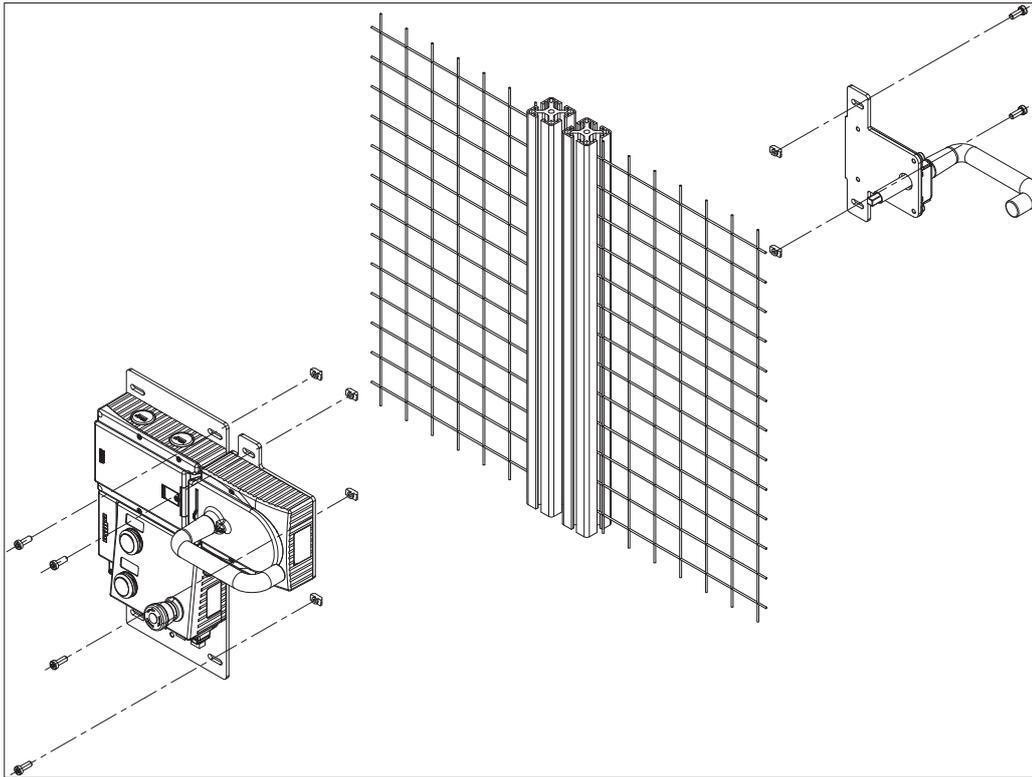
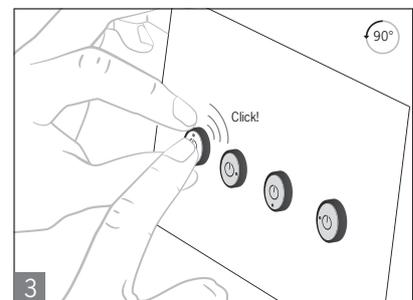
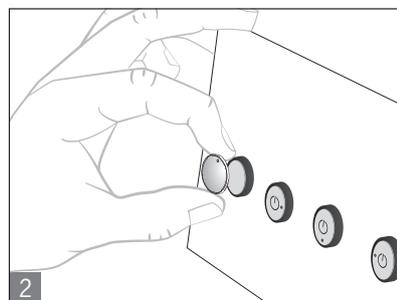
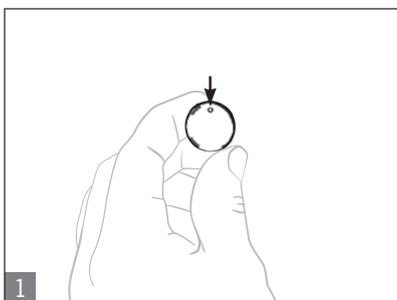


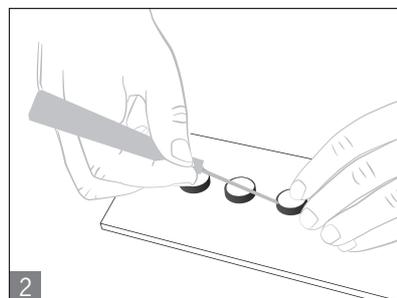
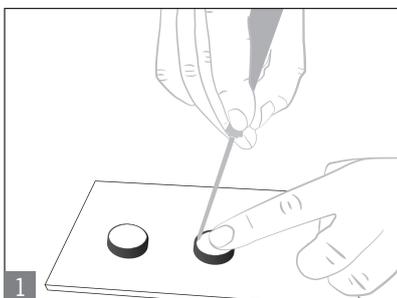
Fig. 9: Installation example for door hinged on the right (general view)

### 9.1. Mounting lens

#### Mounting



#### Removal



## 10. Changing actuating direction

(here: from right to left)



### Important!

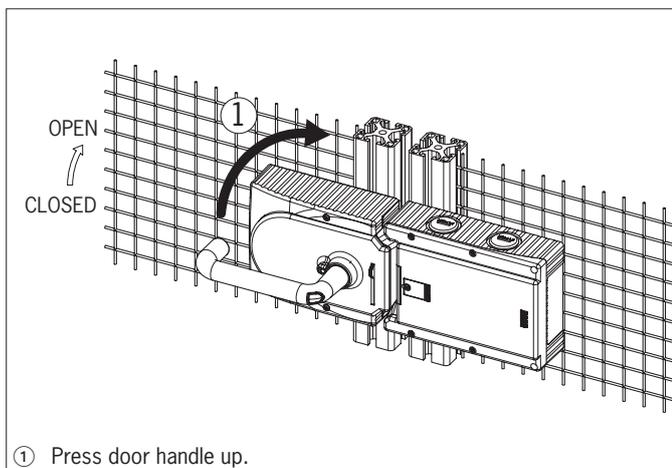
It is possible to make this change only when the bolt tongue is not extended and an escape release is not yet mounted.

In the delivery state, the handle module is set either for doors hinged on the right or for doors hinged on the left.

Based on the example of a handle module for doors hinged on the right this means:

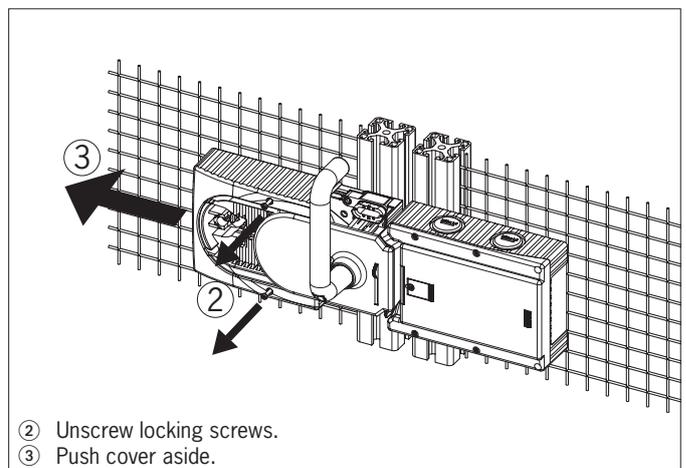
- The guard opens by pressing down the door handle.
- The system is mounted the other way around for doors hinged on the left. In other words, the guard opens by pressing up the door handle (see Fig. 10). For this reason the actuating direction of the door handle must be changed (see Fig. 10 to Fig. 15).

(Similarly on handle modules for doors hinged on the left)



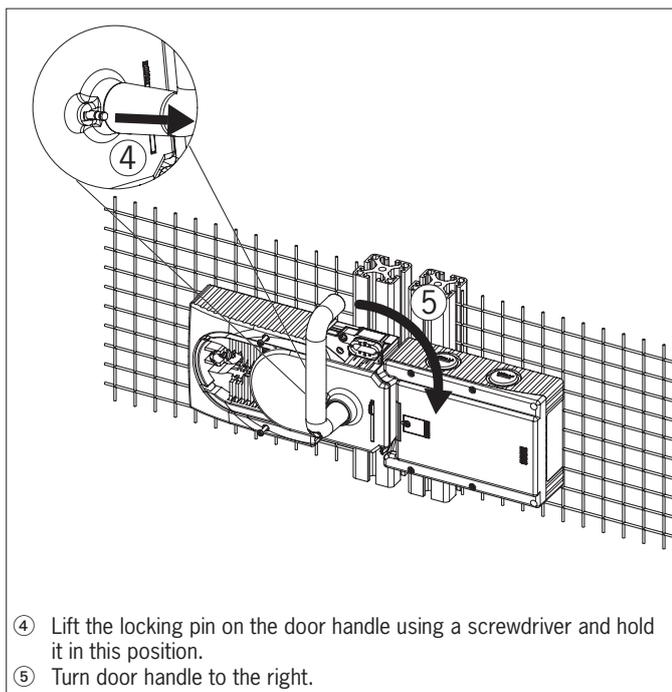
① Press door handle up.

Fig. 10: Changing actuating direction, step ①



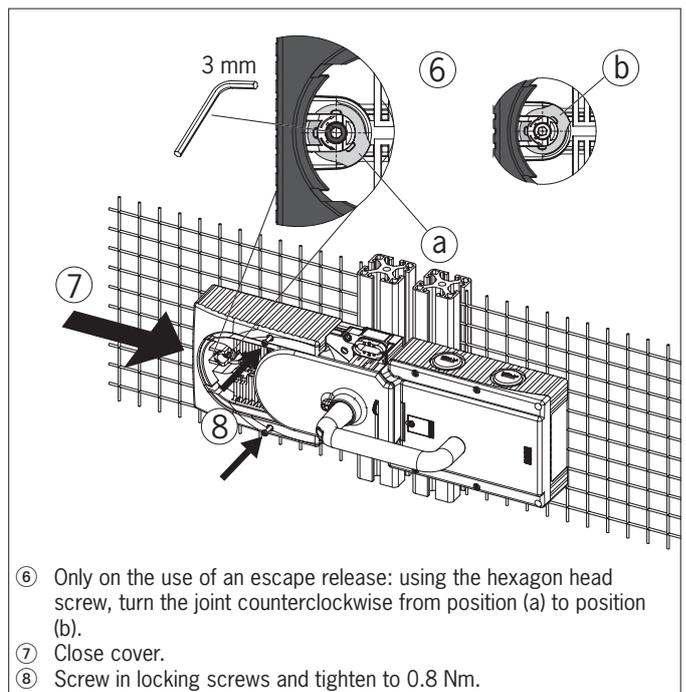
② Unscrew locking screws.  
③ Push cover aside.

Fig. 11: Changing actuating direction, steps ② and ③



④ Lift the locking pin on the door handle using a screwdriver and hold it in this position.  
⑤ Turn door handle to the right.

Fig. 12: Changing actuating direction, steps ④ and ⑤



⑥ Only on the use of an escape release: using the hexagon head screw, turn the joint counterclockwise from position (a) to position (b).  
⑦ Close cover.  
⑧ Screw in locking screws and tighten to 0.8 Nm.

Fig. 13: Changing actuating direction, steps ⑥ to ⑧

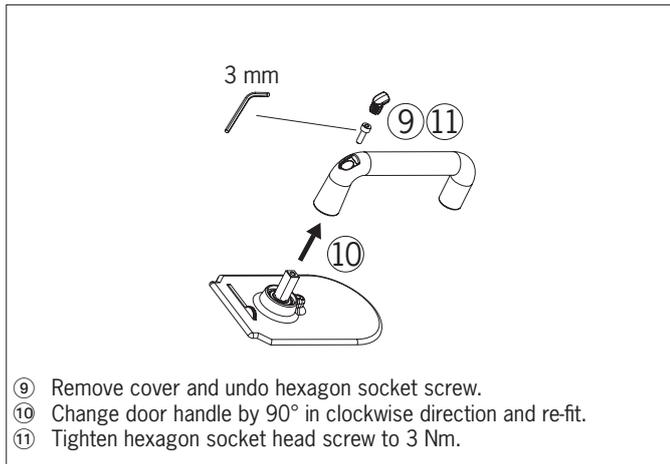


Fig. 14: Changing actuating direction, steps ⑨ to ⑪

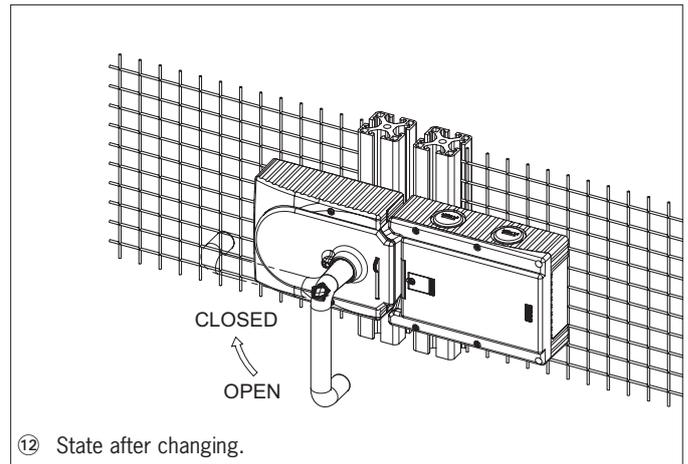


Fig. 15: Changing actuating direction, final state

## 11. Protection against environmental effects

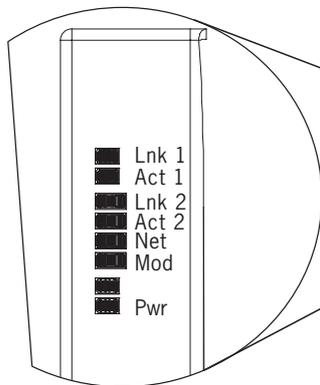
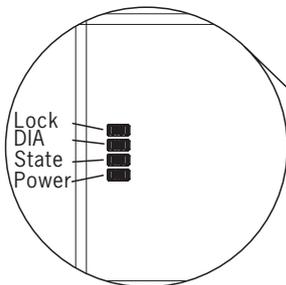
Lasting and correct safety function requires that the system must be protected against foreign bodies such as swarf, sand, blasting shot, etc., which can become lodged in the locking and handle modules. For this purpose a suitable installation position should be selected.

Cover device during painting work!

## 12. Controls and indicators

### LEDs on locking/release module

see System status table

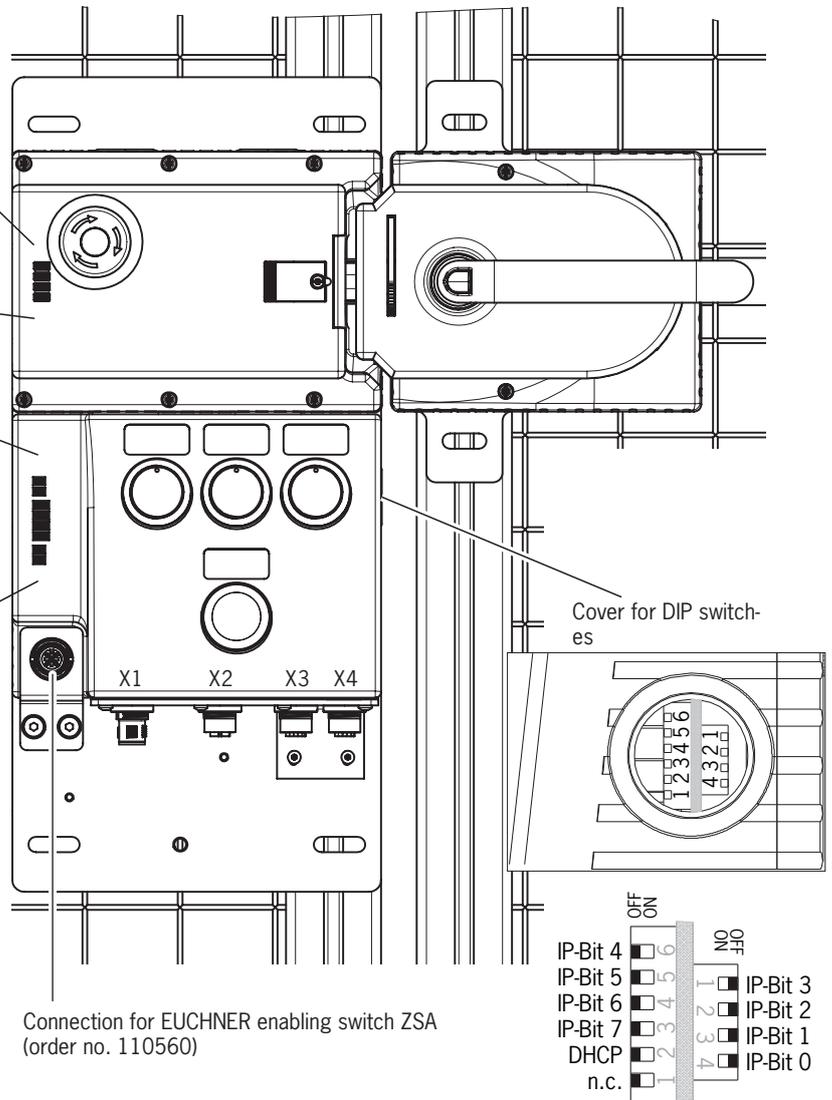


LEDs on the bus module

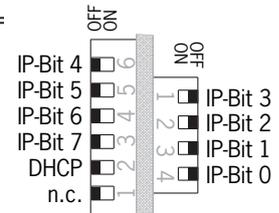
LED	Color	Meaning
ACT1	OFF	No activity
ACT2	Green flashing	Port activity
	Yellow flashing	Collision
LNK1	OFF	No connection
LNK2	Green	Connection
	Yellow	Port disabled
	Red	Major NIC fault
NET	Green flashing	No network connection
	Green	Network connection
	Red flashing	Timeout
	Red	Communication failed
	Red/green flashing	Network error

LED	Color	Safety Supervisor Status	Meaning
MOD	OFF	No voltage	No voltage
	Green	Version	Normal operation
	Green flashing	Idle	Idle or ready Check the Identity and the Safety Supervisor Object.
	Red flashing	Cancel	Resettable fault
	Red	Critical fault	Non-resettable fault
	Red/green flashing	Self-test, waiting for TUNID or configuration	Self-test/Power On Device must be configured or TUNID is missing, incomplete or incorrect. Check the Identity Object and the Safety Supervisor Object.

A detailed overview of the error messages can be found in chapter 15. MGB system diagnostic messages on page 27.



Connection for EUCHNER enabling switch ZSA (order no. 110560)



### DIP switch assignment

Switch	Designation	Value	Function
Block 2	1	n.c.	Reserved
	2	DHCP	OFF position = IP address via DIP switch ON position = IP address via DHCP (attention: all other DIP switches in position = OFF) <b>Tip:</b> Set the DIP switch to ON to identify your MGB in the control system. This will ensure that the device is recognized by the DHCP server. This can be helpful if you do not know the IP address.
	3	IP bit 7	Enter the last byte of the IP address bit by bit here.
	4	IP bit 6	
	5	IP bit 5	
	6	IP bit 4	
Block 1	1	IP bit 3	
	2	IP bit 2	
	3	IP bit 1	
	4	IP bit 0	

(Factory setting: all switches in OFF position)

**Example:**  
192.168.1.[DIP switch code, binary]

The following applies:  
OFF position = 0  
ON position = 1

**Notice:**  
Different IP addresses according to data sheet are possible.

Fig. 16: Indicators and control elements

## 13. Electrical connection

	<p><b>WARNING</b></p> <p>In the event of a fault, loss of the safety function due to incorrect connection.</p> <ul style="list-style-type: none"><li>› Mounting must be performed only by authorized personnel.</li><li>› Lay the connecting cables with protection to prevent the risk of short circuits.</li></ul>
	<p><b>CAUTION</b></p> <p>Risk of damage to equipment or malfunctions as a result of incorrect connection.</p> <ul style="list-style-type: none"><li>› All the electrical connections must either be isolated from the mains supply by a safety transformer according to EN IEC 61558-2-6 with limited output voltage in the event of a fault, or by other equivalent insulation measures.</li><li>› Power devices which are a powerful source of interference must be installed in a separate location away from the input and output circuits for signal processing. The cable routing for safety circuits should be as far away as possible from the cables of the power circuits.</li><li>› In order to avoid EMC interference, follow the EMC notes on devices in the immediate vicinity of the MGB system and its cables.</li><li>› In order to avoid EMC interference, the physical environmental and operating conditions at the installation site of the device must comply with the requirements according to the standard DIN EN 60204-1:2006, section 4.4.2/EMC).</li><li>› The functional earth <math>\oplus</math> must be connected. An M6 thread hole is available on the mounting plate for this purpose.</li></ul>
	<p><b>Important!</b></p> <ul style="list-style-type: none"><li>› The supply for further devices on the bus may be forwarded via the Euchner MGB system. The entire supply current through the MGB must not be higher than specified in chapter 18. <i>Technical data on page 30.</i></li><li>› If the device does not appear to function when operating voltage is applied (e.g. Pwr LED does not illuminate), the safety switch must be returned unopened to the manufacturer.</li><li>› To ensure the stated degree of protection is achieved, the cover screws must be tightened to a tightening torque of 1 Nm.</li><li>› Tighten screw for the cover for the auxiliary release to 0.5 Nm.</li></ul>

### 13.1. Notes about

	<p><b>Important!</b></p> <ul style="list-style-type: none"><li>› This device is intended to be used with a Class 2 power source in accordance with UL1310 <sup>1)</sup>. As an alternative an LV/C (Limited Voltage/Current) power source with the following properties can be used:<ul style="list-style-type: none"><li>- This device shall be used with a suitable isolating source in conjunction with a fuse in accordance with UL248. The fuse shall be rated max. 3.3 A and be installed in the max. 30 V DC power supply to the device in order to limit the available current to comply with the UL requirements. Please note possibly lower connection ratings for your device (refer to the technical data).</li></ul></li><li>› The mounting of conduits directly on the MGB is not allowed. Cables are allowed to be connected only via suitable cable glands. For this purpose use EUCHNER cable gland of type EKPM20/06U. Equivalent cable glands can be used if they are UL-listed (QCRV) and are suitable for the related cable diameter (22 AWG – 17 AWG).</li></ul> <p><small>1) Note on the scope of the UL approval: only for applications as per NFPA 79 (Industrial Machinery). the devices have been tested as per the requirements of UL508 (protection against electric shock and fire).</small></p>
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## 13.2. Connections, variant M12

The bus module includes the Ethernet/IP connections (X3 and X4) and the power supply connections (X1 and X2). Connection is via M12 plugs (Ethernet/IP → M12 D-coded, power supply → M12 A-coded).

The bus module includes an Ethernet/IP switch for Ethernet connection.

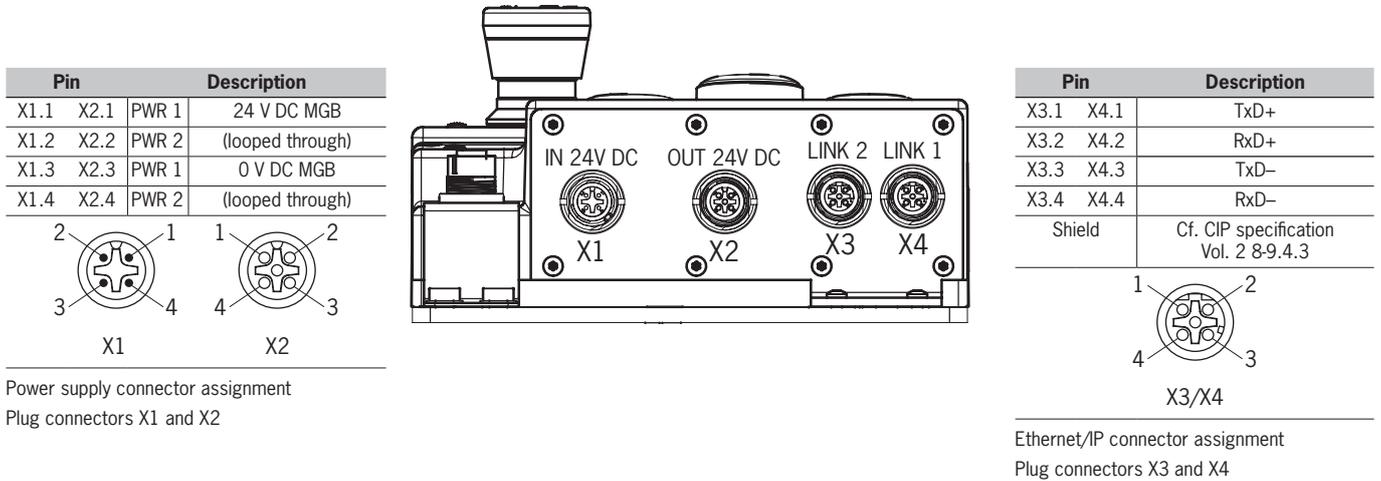


Fig. 17: Connections, variant M12

## 13.3. Connections, variant 7/8"

The bus module includes the Ethernet/IP connections (X3 and X4) and the power supply connections (X1 and X2). Connection is via 7/8" plugs (Ethernet/IP → M12 D-coded, power supply → 7/8" plugs according to ANSI/B93.55M-1981).

The bus module includes an Ethernet/IP switch for Ethernet connection.

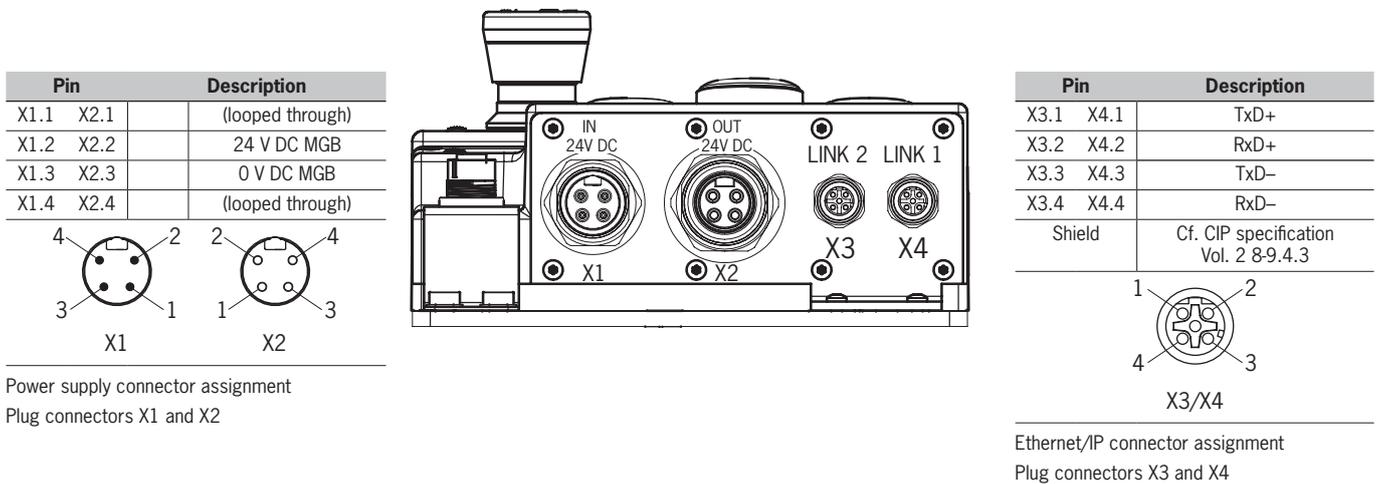


Fig. 18: Connections, variant 7/8"

## 14. Setup

### 14.1. Integrating into Ethernet/IP and CIP Safety®



#### NOTICE

- › The parameters *Request Packet Interval* and *Connection Reaction Time Limit* have a decisive influence on the reaction time of the safety function. The safety function could be lost if the reaction times are too long.
- › With the setting  $SCID = 0$ , the function of the safety program must be safeguarded in the PLC.
- › It is recommended to assign to all safe networks and safe subnetworks an *SNN* that is unique across the entire system.
- › Before the MGB can be integrated into a safe network, an IP address must be assigned.
- › The device can be operated on control systems from firmware version 20.011.

Detailed information about setup can be downloaded from [www.euchner.com](http://www.euchner.com).

For this purpose enter application number AP000223 in the search box. An AOI is also available on the Internet. For this purpose enter application number AP000224 in the search box.

When configuring, bear in mind that each MGB requires eight concurrent CIP connections.

### 14.2. Teach-in operation (only for MGB unicode)

The handle module must be assigned to the locking module using a teach-in function before the system comprising locking module and handle module forms a functional unit.

The system is in a safe state (bits  $FI.L$ ,  $FI.B$ ,  $FI.L$ ,  $FI.SK$  and  $FI.UK$  are not set) during a teach-in operation.



#### Important!

- › The locking module disables the code for the previous handle module if teach-in is carried out for a new handle module. Teach-in is not possible again immediately for this device if a new teach-in operation is carried out. The disabled code is deleted in the locking module only after a third code has been taught-in.
- › The locking module can be operated only with the last handle module taught-in.
- › If, in the teach-in standby state, the locking module detects the handle module taught-in or a disabled handle module, the teach-in standby state is ended immediately and the locking module changes to normal operation.
- › If the bolt tongue is in the actuating range for less than 30 s, the handle module is not taught-in.

#### Teaching-in handle module

1. Fit handle module.
  2. Close safety device. Check for correct alignment and distance using the marking on the locking module and re-adjust if necessary.
  3. Insert bolt tongue into the locking module.
  4. Apply operating voltage to the locking module.
- ➔ Teach-in operation starts, green LED (State) flashes slowly (approx. 1 Hz). The teach-in standby state is active for 3 minutes after switch on. During the teach-in operation, the locking module checks whether the handle module is a disabled handle module. Provided this is not the case, the teach-in operation is completed after approx. 30 seconds, and the green LED (State) goes out. The new code has now been stored, and the old code is disabled.
5. Reset via bit  $Q.PF$  in the data block of the diagnostic function to activate the taught-in code of the handle module in the locking module. Alternatively, the voltage to the device can be interrupted for a few seconds.

### 14.3. Mechanical function test

It must be possible to insert the bolt tongue easily into the locking module. To check, close guard several times and actuate door handle.

If available, check function of the escape release. With active guard locking it must be possible to operate the escape release from the inside without excessive effort (approx. 40 N).

## 14.4. Electrical function test

1. Switch the operating voltage on or perform a reset via output bit  $Q.PF$  in the data block of the diagnostic function.
2. Close all guards and insert the bolt tongue into the locking module.  
In case of guard locking by solenoid force → activate guard locking.
  - The machine must not start automatically.
  - It must not be possible to open the guard.
  - **The following applies to MGB-LO:** The green LED (State) is illuminated.
  - **The following applies to MGB-L1/2:** The green LED (State) and the yellow LED (Lock) are illuminated.
3. Enable operation in the control system.
  - It must not be possible to deactivate guard locking as long as operation is enabled.
4. Disable operation in the control system and deactivate guard locking.
  - The guard must remain locked until there is no longer any risk of injury.
  - It must not be possible to start the machine as long as guard locking is deactivated.
  - It must be possible to open the guard.

Repeat steps 2-4 for each guard.

## 14.5. Ethernet/IP data bytes

The MGB system contains the following modules:

- Bus module, MGB-B...EI (includes everything required for Ethernet/IP connection)
- Locking module, MGB-L. (forms the door locking mechanism together with the handle module)

Each MGB module occupies a certain number of data bytes in the input and output range of the control system.

The data bytes are combined into data blocks (see tables below).

A distinction is made between the following data types:

- data for safe functions
- data for non-safe functions



### Important!

Safety bits and non-safe control bits are transmitted together via CIP Safety®. Only safety bits (FI.x and FO.x) may be used for safety functions

Inputs	Bit							
	7	6	5	4	3	2	1	0
Byte 0 = Connection Header	-	-	-	-	-	Diagnostic Active	Connection Faulted	RunMode
Byte 1 = Connection Header	DiagnosticSequenceCount							
Byte 2 = Connection Header	-	-	-	-	-	-	-	-
Byte 3 = Connection Header	-	-	-	-	-	-	-	-
Byte 4 = Failsafe Inputs 0	FI.MS2	FI.MS1	FI.MS0	-	-	-	FI.EN	FI.ES
Byte 5 = Failsafe Inputs 1	FI.UK	FI.SK	-	-	-	FI.L	FI.B	FI.D
Byte 6 = Inputs 0	EN-S1	-	S92.2	S92.1	S91.2	S91.1	S90.2	S90.1
Byte 7 = Inputs 1	EN-S2	-	S95.2	S95.1	S94.2	S94.1	S93.2	S93.1
Byte 8 = Inputs 2	S4.2	S4.1	S3.2	S3.1	S2.2	S2.1	S1.2	S1.1
Byte 9 = Diagnostics	D.LT	-	D.OL	D.MS	D.EN	D.ES	D.PF	-
Bytes 10,11	FaultCode							

Outputs	Bit							
	7	6	5	4	3	2	1	0
Byte 0 = Failsafe Outputs 0	-	-	-	-	-	-	-	FO.L
Byte 1 = Outputs 0	EN-H1	-	H95	H94	H93	H92	H91	H90
Byte 2 = Outputs 1	EN-H2	-	-	-	H4	H3	H2	H1
Byte 3 = Acknowledge	Q.PF	Q.G	-	-	ST4	ST3	ST2	ST1

Legend, see Page 26

Abbr.	Name	Data Type	Safe signal	Tag Definition
RM	RunMode	BOOL	No	Run Mode - Indicates the operating mode of the multifunctional gate box 0 = while restarting 1 = Run Mode after successful restarting of bus module
CF	ConnectionFaulted	BOOL	No	Connection Faulted - Indicates the state of the communication connection between the multifunctional gate box and the controller. 0 = Connection of output data 1 = Connection of output data Faulted
DA	DiagnosticActive	BOOL	No	Diagnostic Active - Indicates whether the multifunctional gate box is faulted. 0 = No Fault 1 = Fault
DSC	DiagnosticSequenceCount	SINT	No	Diagnostic Sequence Count - Displays the total accumulated diagnostic counts. Values range from 0...255.
FI.ES	EstopStatus	BOOL	Yes	E-stop Button Status 1 = Contacts Closed (E-stop not pressed) 0 = Contacts Open (E-stop pressed)
FI.EN	EnablingSwitchStatus	BOOL	Yes	Enabling Switch Status 1 = Switch Enabled 0 = Released
FI.MS0	ModeSelectPos1	BOOL	Yes	Mode Selector Switch Position 1 1 = Selector Switch in position 1 0 = Selector switch is not in position 1
FI.MS1	ModeSelectPos2	BOOL	Yes	Mode Selector Switch Position 2 1 = Selector Switch in position 2 0 = Selector switch is not in position 2
FI.MS2	ModeSelectPos3	BOOL	Yes	Mode Selector Switch Position 3 1 = Selector Switch in position 3 0 = Selector switch is not in position 3
FI.D	DoorStatus	BOOL	Yes	Door Status - position of the guard door 0 = guard door is OPEN 1 = guard door is CLOSED
FI.B	BoltStatus	BOOL	Yes	Bolt Status - position of the bolt actuator 0 = bolt is retracted 1 = bolt is extended
FI.L	SolenoidStatus	BOOL	Yes	Solenoid Status - position of the solenoid locking arm 0 = locking arm is in unlocked position 1 = locking arm is in locked position
FI.SK	InterlockStatus	BOOL	Yes	Interlock Status 0 = bolt retracted and/or door OPEN 1 = door is CLOSED and bolt is extended
FI.UK	GuardLockStatus	BOOL	Yes	Guard Lock Status 0 = door is OPEN, or door is CLOSED with bolt retracted, or door is CLOSED with bolt extended and unlocked 1 = door is CLOSED, bolt is extended, and bolt is locked
Sxx.1	OpxPos1	BOOL	No	Operator Position 1 1 = Pressed (push button) or right position (selector switch) 0 = Released (push button) or 2-position selector switch in middle position or 3-position selector switch in middle or left position x = 1, 2, 3, 4, 90, 91, 92, 93, 94, 95
Sxx.2	OpxPos2	BOOL	No	Operator Position 2 1 = left position (3-position selector switch) 0 = released push button or 2 position selector switch in right or middle position or 3 position selector switch in middle position x = 1, 2, 3, 4, 90, 91, 92, 93, 94, 95
D.PF	PlausibilityFault	BOOL	No	Plausibility Fault - indicates a signal sequence error (lock module error), unlocking sequence
D.ES	EstopFault	BOOL	No	Estop Fault - indicates an E-stop specific fault
D.EN	EnablingSwitchFault	BOOL	No	Enabling Switch Fault - indicates an Enabling Switch specific fault
D.MS	ModeSelectFault	BOOL	No	Safe Mode Selector Switch Fault - indicates a Mode Selector Switch specific fault
D.OL	LockCommandFault	BOOL	No	Lock Command Fault - indicates a fault in the Lock Command
D.LT	CycleCount	BOOL	No	Cycle Count - indicates when the device has reached 1,000,000 switching cycles 0 = < 1,000,000 switching cycles of the solenoid 1 = > 1,000,000 switching cycles of the solenoid
	FaultCode	SINT	No	Fault Code - indicates the specific diagnostic message of the multifunctional gate box
FO.L	LockCommand	BOOL	Yes	Lock Command - control for switching the guard locking on and off 0 = Guardlocking is locked 1 = Guardlocking is unlocked
Hxx	OpxIndicator	BOOL	No	Operator Indicator - controls illumination of the operator 1 = illumination is turned ON 0 = illumination is turned OFF x = 1, 2, 3, 4, 90, 91, 92, 93, 94, 95
STx	StacklightControl	BOOL	No	Stacklight Indicator - controls illumination of the stacklight 1 = illumination is turned ON 0 = illumination is turned OFF x = 1, 2, 3, 4
Q.G	GeneralFaultAck	BOOL	No	General Fault Acknowledgement - resets the bus module 1=Reset of bus module 0=normal operation of device
Q.PF	PlausibilityFaultAck	BOOL	No	Plausibility Fault Acknowledgement - resets the lock module 1=Reset of locking module 0=normal operation of device
EN-Sx	EnablingSwitchOpxPos	BOOL	No	Enabling Switch Operator Position 1 = pressed (push button) 0 = released (push button)
EN-Hx	EnablingSwitchOpxIndicator	BOOL	No	Enabling switch Operator Indicator - controls illumination of the operator 1 = illumination is turned ON 0 = illumination is turned OFF

## 15. MGB system diagnostic messages

All diagnostic messages are listed below. The scope of the possible messages can differ depending on MGB system version.

### Device-specific diagnostic information

Display via MOD LED (see Fig. 16)

#### Discrepancy error (two-channel monitoring detected an error)

##### Notice:

- The discrepancy time is the maximum time during which channel 1 and channel 2 may have different signal states.
- If acknowledgment was unsuccessful, send the device to the manufacturer.

No.	Description	Measures/rectifying errors
2721	Emergency stop discrepancy time exceeded	1. Press emergency stop 2. Acknowledge error (via output bit Q.G)
2722	Enabling switch detection discrepancy time exceeded	1. Remove enabling switch 2. Acknowledge error (via output bit Q.G)
2723	Door position discrepancy time exceeded	1. Open the door 2. Acknowledge error (via output bit Q.G)
2724	Bolt position discrepancy time exceeded	1. Open the door 2. Acknowledge error (via output bit Q.G)
2725	Guard locking discrepancy time exceeded	1. Open the door 2. Acknowledge error (via output bit Q.G)

### Severe system errors

- System errors without error number

Severe system errors are indicated by the rapidly flashing red LEDs in the bus module. The system must be restarted for resetting.

- System errors with error number

Indication via MOD LED: flashes red

No.	Description	Measures/rectifying errors
2750	Severe system error	The error indicates an overload problem on the safe output of the guard locking solenoid.

### Test-pulse error (short-circuit monitoring detected an error)

##### Notice:

- Emergency stop must **not** be pressed during acknowledgment.
- If acknowledgment was unsuccessful, send the device to the manufacturer.

No.	Description	Measures/rectifying errors
2731	Emergency stop test pulses erroneous	Safety function is switched off while no test pulses are being detected. 1. Check system 2. Acknowledgment via output bit Q.G required.
2732	Enabling switch detection test pulses erroneous	Safety function is switched off while no test pulses are being detected. 1. Check system 2. Acknowledgment via output bit Q.G required.
2733	Door position test pulses erroneous	Safety function is switched off while no test pulses are being detected. 1. Close door 2. Acknowledgment via output bit Q.G required.
2734	Bolt position test pulses erroneous	Safety function is switched off while no test pulses are being detected. 1. Close door 2. Acknowledgment via output bit Q.G required.
2735	Guard locking test pulses erroneous	Safety function is switched off while no test pulses are being detected. 1. Close and lock door 2. Acknowledgment via output bit Q.G required.
2736	Operating mode selector test pulses erroneous	Safety function is switched off while no test pulses are being detected. 1. Check system 2. Acknowledgment via output bit Q.G required.

### General messages of the overall system

No.	Description	Measures/rectifying errors
2741	Information: 1 million operating cycles exceeded	–
2742	Internal device error	Restart the system. If the fault persists, please contact our support team.
2743	Signal sequence erroneous (e.g. broken bolt tongue detected)	1. Check mechanical functions 2. Error must be acknowledged twice (via output bit Q.PF). The safety door must be open.
2744	Plausibility check detected an error (e.g. escape release actuated)	Important: The resetting procedure is contained in the section "Latching fault when actuating the escape release" ▸ Acknowledge error (via output bit Q.PF)
2745	Locking module in error	Restart the system. If the fault persists, please contact our support team.



## 17. Special functions

### 17.1. Factory reset

1. Switch off the MGB.
2. Set all DIP switches to ON.
3. Restart the MGB.
4. Wait for the LED flashing code.
5. Switch off the MGB.
6. Set DIP switches based on the required configuration (see the table *DIP switch assignment on page 21*).
7. Switch on the MGB.



#### NOTICE

The factory reset clears all set customer configurations such as IP address, network mask and gateway settings. This does not apply to the learned data of the locking module such as the learned handle module or number of operating cycles.

### 17.2. Software update

The MGB firmware can be updated using the *ControlFLASH™ software*<sup>1)</sup> from *Rockwell Automation*. New firmware updates are available from the EUCHNER support team. Refer to *Rockwell Automation Manual 1756-UM105J* for more details about using *ControlFLASH*.

1) *ControlFLASH* is a trademark of Rockwell Automation, Inc.

## 18. Technical data



### NOTICE

If a data sheet is included with the product, the information on the data sheet applies.

Parameter	Value
$s_{ar}$ max. door position	65 mm
Housing material	Fiber glass reinforced plastic Die-cast zinc, nickel-plated, stainless steel, powder-coated sheet steel
Supported protocols	DLR acc. to CT17/CIP acc. to CT17
Dimensions	See dimension drawing
Weight of MGB-L.B (bus module, locking module and operating module with mounting plate)	4.05 kg
Weight of handle module with mounting plate	1.20 kg
Weight of escape release module with mounting plate	1.15 kg
Ambient temperature	-20 ... +55 °C
Degree of protection	IP54
Safety class	III
Degree of contamination	3
Installation orientation	Any
Locking force $F_{zh}$ acc. to GS-ET-19	2,000 N
Connection, power supply	2 x M12 (A-coded) or 2 x 7/8" possible
Connection, bus	2 x M12 (D-coded)
Connecting cable, bus	Ethernet/IP cable, at least cat. 5e
Operating voltage $U_B$	DC 24 V +10% / -15% (PELV – see chapter 13. <i>Electrical connection on page 22</i> )
Current consumption, max.	500 mA
Maximum feed-in current in the connection block	4,000 mA
Fuse protection for power supply, external	Min. 1 A slow-blow
Safety outputs	CIP Safety®
Rated insulation voltage $U_i$	75 V
Rated impulse withstand voltage $U_{imp}$	0.5 kV
Resilience to vibration and shock	Acc. to EN 60947-5-3
EMC protection requirements	Acc. to EN 61000-4 and DIN EN 61326-3-1
Storm Prevention: maximum number of multicast telegrams	1,500 packets / 100 ms
Switching frequency, max.	1 Hz
Risk times, max. (turn-off times) <sup>2)</sup>	
- Emergency stop	100 ms
- Enabling switch	100 ms
- Operating mode selector	100 ms
- Door position	250 ms
- Bolt position	250 ms
- Guard locking	250 ms
<b>Reliability values acc. to EN ISO 13849-1</b>	
Category	4
Performance Level	PL e
DC	99%
Mission time	20 years
MTTF <sub>D</sub> / PFH <sub>D</sub> <sup>3)</sup>	
- Monitoring of guard locking	746 years / 3.37 x 10 <sup>-9</sup>
- Control of guard locking	475 years / 4.91 x 10 <sup>-9</sup>
- Emergency-stop evaluation	787 years / 3.05 x 10 <sup>-9</sup>
- Evaluation of operating mode selector switch	483 years / 4.91 x 10 <sup>-9</sup>
- Enabling switch evaluation	753 years / 3.05 x 10 <sup>-9</sup>
$B_{10D}$ <sup>4)</sup>	
- Emergency stop	1.3 x 10 <sup>5</sup>
- Enabling switch	Acc. to manufacturer's specifications

2) The risk time is the max. time between the change in the input status and the clearing of the corresponding bit in the bus protocol.

3) Fixed failure rate without consideration of faults in wearing parts.

4) Information regarding wearing parts without consideration of fixed failure rates in electronic components.

## 19. Troubleshooting and assistance

### 19.1. Latching fault when actuating the escape release

In order to achieve monitoring of the locking element in category 4, PL e according to EN ISO 13849-1, an internal monitoring logic system is integrated into every locking module.

**Result:** The MGB system enters into a latching fault when the escape release is actuated (see 16. System status table on page 28).

Door position	Position of the bolt tongue	Guard locking	Door position Input bit F.I..D	Bolt position Input bit F.I..B	Guard locking Input bit F.I..L	ÜK Input bit F.I..UK	Device diagnostics Input bit D..PF	LED indicator				State
								Power (gn)	State (gn)	Lock (ye)	DIA (rd)	
X	X	X	off	off	off	off	on		○	 1 x		Signal sequence incorrect (e.g. after actuation of the escape release)*
							○					LED not illuminated
												LED illuminated
							 10 Hz (8 s)					LED flashes for 8 seconds at 10 Hz
							 3 x					LED flashes three times
							X					Any state



#### NOTICE

The system might not enter into a latching fault if the escape release is actuated very slowly.

### 19.2. Resetting errors

Proceed as follows:

1. Acknowledge fault via output bit Q..PF (in data block for diagnostics function).
  2. Close guard if necessary and switch on guard locking.
- ➔ The system is in normal operation again.

### 19.3. Application examples

You will find application examples on connecting the device to various control systems at [www.euchner.com](http://www.euchner.com).

## 20. Inspection and service



### WARNING

Loss of the safety function because of damage to the device.  
In case of damage, the affected module must be replaced completely. Only accessories or spare parts that can be ordered from EUCHNER may be replaced.

Regular inspection of the following is necessary to ensure trouble-free long-term operation:

- › Check the switching function (see chapter 14.4. *Electrical function test on page 25*)
- › Check the secure mounting of the devices and the connections
- › Check for soiling

No servicing is required. Repairs to the device are only allowed to be made by the manufacturer.



### NOTICE

The year of manufacture can be seen in the lower right corner of the rating plate.

## 21. Service

If servicing is required, please contact:

EUCHNER GmbH + Co. KG  
Kohlhammerstraße 16  
70771 Leinfelden-Echterdingen  
Germany

**Service telephone:**

+49 711 7597-500

**E-mail:**

support@euchner.de

**Internet:**

www.euchner.com

## 22. Declaration of conformity



# EUCHNER

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**EU-Konformitätserklärung**  
**EU declaration of conformity**  
**Déclaration UE de conformité**  
**Dichiarazione di conformità UE**  
**Declaración UE de conformidad**

Original DE  
Translation EN  
Traduction FR  
Traduzione IT  
Traducción ES

2123624-06-01/17

Die nachfolgend aufgeführten Produkte sind konform mit den Anforderungen der folgenden Richtlinien (falls zutreffend):  
*The beneath listed products are in conformity with the requirements of the following directives (if applicable):*  
*Les produits mentionnés ci-dessous sont conformes aux exigences imposées par les directives suivantes (si valable)*  
*I prodotti sotto elencati sono conformi alle direttive sotto riportate (dove applicabili):*  
*Los productos listados a continuación son conforme a los requisitos de las siguientes directivas (si fueran aplicables):*

I:	Maschinenrichtlinie <i>Machinery directive</i> <i>Directive Machines</i> <i>Direttiva Macchine</i> <i>Directiva de máquinas</i>	2006/42/EG 2006/42/EC 2006/42/CE 2006/42/CE 2006/42/CE	
II:	Funkanlagen-Richtlinie (RTTE / RED) <i>Radio equipment directive</i> <i>Directive équipement radioélectrique</i> <i>Direttiva apparecchiatura radio</i> <i>Directiva equipo radioeléctrico</i>	1999/5/EC bis 2017-06-12 1999/5/EC until 2017-06-12 1999/5/CE 1999/5/CE 1999/5/CE	2014/53/EU ab 2017-06-13 2014/53/EU from 2017-06-13 2014/53/UE 2014/53/UE 2014/53/UE
III:	RoHS Richtlinie <i>RoHS directive</i> <i>Directive de RoHS</i> <i>Direttiva RoHS</i> <i>Directiva RoHS</i>	2011/65/EU 2011/65/UE 2011/65/UE 2011/65/UE 2011/65/UE	

Die Schutzziele der Niederspannungsrichtlinie 2014/35/EU und EMV Richtlinie 2014/30/EU werden gemäß Artikel 3.1 der Funkanlagen-Richtlinie eingehalten.  
*The safety objectives of the Low-voltage directive 2014/35/EU and EMC Directive 2014/30/EU comply with article 3.1 of the Radio equipment directive.*  
*Les objectifs de sécurité de la Directive basse tension 2014/35/UE et Directive de CEM 2014/30/UE sont conformes à l'article 3.1 de la Directive équipement radioélectrique.*  
*Gli obiettivi di sicurezza della Direttiva bassa tensione 2014/35/UE e Direttiva CEM 2014/30/UE sono conformi a quanto riportato nell'articolo 3.1 della Direttiva apparecchiatura radio.*  
*Los objetivos de seguridad de la Directiva de bajo voltaje 2014/35/UE y Directiva CEM 2014/30/UE cumplen con el artículo 3.1 de la Directiva equipo radioeléctrico.*

Folgende Normen sind angewandt:  
*Following standards are used:*  
*Les normes suivantes sont appliquées:*  
*Vengono applicate le seguenti norme:*  
*Se utilizan los siguientes estándares:*

a:	EN 60947-5-3:2013	f:	EN 62061: 2005/A2:2015
b:	EN ISO 14119:2013	g:	EN 61508-3:2010 (SIL 3)
c:	EN ISO 13849-1:2015 (Cat.4, PLe)	h:	EN 61784-3-2:2010 (CIP Safety)
d:	EN 61784-3-3:2010 (Profisafe)	i:	EN 50581:2012 (RoHS)
e:	EN 60947-5-5:1997/A1:2005/A11:2013	j:	EN 50364:2010
		k:	EN 300 330-2 V1.6.1

Bezeichnung der Bauteile <i>Description of components</i> <i>Description des composants</i> <i>Descrizione dei componenti</i> <i>Descripción de componentes</i>	Type <i>Type</i> <i>Type</i> <i>Tipo</i> <i>Typo</i>	Richtlinie <i>Directives</i> <i>Directive</i> <i>Direttiva</i> <i>Directivas</i>	Normen <i>Standards</i> <i>Normes</i> <i>Norme</i> <i>Estándares</i>	Zertifikats-Nr. <i>No. of certificate</i> <i>Numéro du certificat</i> <i>Numero del certificato</i> <i>Número del certificado</i>
Sicherheitschalter <i>Safety Switches</i> <i>Interrupteurs de sécurité</i> <i>Fincorsa di sicurezza</i> <i>Interruptores de seguridad</i>	MGB...PN ...	I, II, III	a, b, c, d, f, g, i, j, k	Z10 16 07 40393 021
	MGB-B...PN...	I, II, III	c, d, f, g, i, j, k	Z10 16 07 40393 021
	MGB-CB...PN...	I, II, III	c, d, f, g, i, j, k	Z10 16 07 40393 021
	MGB...EI...	I, II, III	a, b, c, f, g, h, i, j, k	Z10 16 07 40393 021
	MGB-H...	I, II, III	a, b, c, f, g, i, j, k	Z10 16 07 40393 021
Sicherheitschalter mit Not-Halt-Einrichtungen <i>Safety Switches with Emergency-Stop facilities</i> <i>Interrupteurs de sécurité avec appareillage arrêt d'urgence</i> <i>Fincorsa di sicurezza con dispositivi di arresto di emergenza</i> <i>Interruptores de seguridad con dispositivos de parada de emergencia</i>	MGB...PN ...	I, II, III	a, b, c, d, e, f, g, i, j, k	Z10 16 07 40393 021
	MGB-B...PN...	I, II, III	c, d, e, f, g, i, j, k	Z10 16 07 40393 021
	MGB-CB...PN...	I, II, III	c, d, e, f, g, i, j, k	Z10 16 07 40393 021
	MGB...EI...	I, II, III	a, b, c, e, f, g, h, i, j, k	Z10 16 07 40393 021

Benannte Stelle  
*Notified Body*  
*Organisme notifié*  
*Sede indicata*  
*Entidad citada*

NB 0123  
TÜV SÜD Product Service GmbH  
Ridlerstrasse 65  
80339 München  
Germany



**EUCHNER**

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Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller:  
*This declaration of conformity is issued under the sole responsibility of the manufacturer:*  
*La présente déclaration de conformité est établie sous la seule responsabilité du fabricant:*  
*La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante:*  
*La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante:*

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Leinfelden, Januar 2017

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