

**EN** Installation and operating instructions  
Last updated: 03.2025

# Controller for door drives CS 265



## Table of contents

<b>1.</b>	<b>Safety information.....</b>	<b>3</b>
1.1	Correct use.....	3
1.2	Target groups.....	3
1.3	General safety advice.....	4
<b>2.</b>	<b>Product overview.....</b>	<b>4</b>
2.1	Product description.....	4
2.2	Variants.....	4
2.3	Programming.....	4
2.4	Motherboard.....	5
2.5	Technical data.....	6
2.6	Safety functions in accordance with EN ISO 13849-1.....	7
<b>3.</b>	<b>Installation.....</b>	<b>8</b>
3.1	Safety instructions for installation.....	8
3.2	Mains connection.....	8
3.3	Internal fuse protection.....	10
3.4	Mains voltage selection.....	10
3.5	Connection of electronic end position system absolute value encoder (AWG).....	11
3.6	Mechanical limit switch (MEC) connection.....	12
3.7	Connection of command devices.....	13
3.8	Connection of safety elements.....	14
3.9	Connection light barrier 1.....	14
3.10	Connection of closing edge protective device 1.....	16
3.11	Light grid connection.....	17
3.12	Relay output connection.....	18
3.13	Connection of programmable inputs.....	19
3.14	Safety input per EN 12453.....	20
3.15	Connection of radio module (pluggable).....	21
3.16	Connection of external radio receiver.....	22
3.17	Connection of LCD monitor.....	23
3.18	Connection of MS BUS components.....	23
<b>4.</b>	<b>Setting the end positions.....</b>	<b>24</b>
4.1	Checking the output drive direction of rotation / travel direction.....	24
4.2	Setting the electronic end position system using the setting buttons on the circuit board.....	24
4.3	Setting the electronic end position system via the 3-fold button CS-I 15.....	24
4.4	Setting the electronic end position system via the LCD monitor.....	25
4.5	Setting the intermediate positions of the electronic end position system via the LCD monitor.....	25
4.6	Setting the mechanical limit switches.....	25
<b>5.</b>	<b>Programming with the CS-I 15 3-button input unit.....</b>	<b>26</b>
5.1	Overview of CS-I 15 3-button input unit with programming function.....	26
5.2	Menu structure.....	27
5.3	Checking the output drive direction of rotation.....	27
5.4	Setting the end positions (ADJUSTMENT).....	28
5.5	Teaching the radio hand-held transmitter (RADIO).....	28
5.6	Automatic closing after elapse of time (AUT. CLOSE).....	29
5.7	Earlier closing after the photocell beam has been interrupted (FAST CL.).....	29
5.8	Relay output function.....	30
5.9	Resetting all settings to factory default settings (RESET).....	30
5.10	Reading out the cycle counter (CYCLE).....	31
<b>6.</b>	<b>Programming.....</b>	<b>31</b>
6.1	Overview of the LCD monitor.....	31
6.2	LCD monitor operating modes.....	32
6.3	Expert menu.....	32
6.4	Initialisation / reset.....	32
6.5	RESET.....	33
6.6	RESETTING the controller with LCD monitor.....	33
6.7	RESETTING the controller without LCD monitor.....	33
<b>7.</b>	<b>Navigator (only LCD monitor).....</b>	<b>35</b>
<b>8.</b>	<b>Functional overviews.....</b>	<b>36</b>
8.1	AUTOMATIC mode.....	36
8.2	INPUT operating mode.....	37
8.3	Explanations of the relay modes.....	47
8.4	Explanations of the inputs:.....	51
8.5	DIAGNOSIS operating mode / error memory.....	54
<b>9.</b>	<b>Fault display and remedial measures.....</b>	<b>56</b>
9.1	Fault display on the LCD monitor.....	56
9.2	Error message via LED indicator.....	58
<b>10.</b>	<b>Maintenance.....</b>	<b>60</b>
10.1	Service.....	60
10.2	Testing.....	60
<b>11.</b>	<b>Declaration of conformity.....</b>	<b>61</b>
<b>12.</b>	<b>Overview of the connections.....</b>	<b>62</b>

## About this document

- Original operating manual.
- Part of the product.
- Reading and subsequent storage mandatory.
- Protected by copyright.
- No part of this manual may be reproduced without our prior consent.
- Subject to changes which are in the interest of technical improvements.
- All dimensions in millimetres.
- Figures are not to scale.

### Safety instructions

#### **WARNING!**

Safety information regarding a danger that can lead to death or serious injuries.

#### **CAUTION!**

Safety information regarding a danger that can lead to minor or moderate injuries.

#### **ATTENTION!**

Safety information regarding a danger that can lead to damage or destruction of the product.

### Meaning of symbols

- Action prompt
- ✓ Check
- List, itemisation
- Reference to other parts of this document
-  Reference to separate documents that must be observed
-  Factory settings

## 1. Safety information

### **WARNING!**

#### **Risk of death due to a failure to observe the installation and operating instructions!**

This manual contains important information for handling the product safely. Particular reference is made to possible dangers.

- Read this manual through carefully.
- Follow the safety instructions in this manual.
- Store the manual in an accessible location.

### 1.1 Correct use

The controller CS 265 is designed exclusively for controlling door systems through drives without holding brake and with mechanical limit switches (MEC) or an electronic end position system (AWG). Use is only permissible:

- In technically faultless condition.
- Following correct installation.
- In compliance with the data in the technical specifications.

→ "2.5 Technical data"

Any other use is deemed to be improper use.

### 1.2 Target groups

#### 1.2.1 Operator

The operator is responsible for the building in which the product is used. The operator has the following tasks:

- Knowledge and safekeeping of the instruction manual.
- Instruct all persons who use the system.
- Ensure that the system is inspected and maintained regularly by qualified specialist personnel in accordance with the manufacturer's instructions.
- Make sure that inspection and maintenance are documented in the inspection logbook.
- Safe and proper keeping of the inspection logbook.

#### 1.2.2 Specialist personnel

Qualified specialist personnel are responsible for assembly, maintenance, repair, disassembly and disposal.

Requirements applicable to qualified specialist personnel:

- Knowledge of the general and specific safety and accident-prevention regulations.
- Knowledge of the relevant electrical regulations.
- Training in the use and care of appropriate safety equipment.
- Knowledge of the relevant standards.

Electrical work by qualified electricians exclusively, in accordance with DIN VDE 0100.

Requirements applicable to qualified electricians:

- Knowledge of the basics of electrical engineering.
- Knowledge of national regulations and standards.
- Knowledge of the relevant safety regulations.
- Knowledge of this operating manual.

### 1.2.3 Users

Instructed users operate and care for the product.

Requirements applicable to instructed users:

- Users are instructed in relation to their work by the operator.
- Users must have been instructed on how to use the product safely.
- Knowledge of this operating manual.

Special requirements apply to the following users:

- Children aged 8 and above.
- Persons with reduced physical, sensory or mental capabilities.
- Persons with a lack of experience and knowledge.

These users are only authorised to operate the product.

Special requirements:

- The users must be supervised.
- Users must have been instructed on how to use the product safely.
- The users must understand the dangers involved in handling the product.
- Children are not allowed to play with the product.

## 1.3 General safety advice

Persons or objects must never be moved with the aid of the system.

In the following cases, the manufacturer accepts no liability for damages. The guarantee on the product and accessory parts is voided with:

- A failure to observe these operating instructions.
- Misuse and improper handling.
- The assignment of unqualified personnel.
- Modifications or changes to the product.
- The use of spare parts that have not been produced or approved by the manufacturer.

The product is manufactured according to the directives and standards mentioned in the Declaration of Incorporation. The product has left the factory in perfect condition with regard to safety.

Batteries, accumulators, fuses and bulbs are excluded from warranty.

**Further safety information can be found in the relevant respective sections of the document.**

→ "3.1 Safety instructions for installation"

## 2. Product overview

### 2.1 Product description

The controller CS 265 is specially designed for use in industrial areas and is intended for integrated installation in a motor or an external housing. It is possible to connect and operate motors without holding brake and with mechanical limit switches (MEC) or an electronic end position system (AWG).

### 2.2 Variants

The following supplier variants of the controller CS 265 are possible:

#### Housing variants:

- Controller CS 265 integrated in the motor
- Controller CS 265 in the mini housing
- Controller CS 265 in the standard housing

#### Command device variants:

- 3-fold button CS integrated in the housing
- External 3-fold button CS-I 15

#### Optional:

- Housing without 3-fold button
  - Housing with ON/OFF key switch
  - Housing with main switch
  - Housing with emergency stop
  - Pluggable components (circuit board)
    - Digital 168 radio module
    - Digital 921 radio module
- "3.15 Connection of radio module (pluggable)"

The operating instructions describe the connection and programming options and variants of the CS 265 controller with connected LCD monitor and from software version V1.00.

### 2.3 Programming

Programming the controller via the internal 3-fold keyboard or the external 3-fold button CS-I 15 (item no. 120858) only allows programming of a limited number of parameters.

→ "5. Programming with the CS-I 15 3-button input unit"

Programming the controller via the LCD monitor MS BUS (item no. 121246) allows access to all parameters.

#### NOTE:

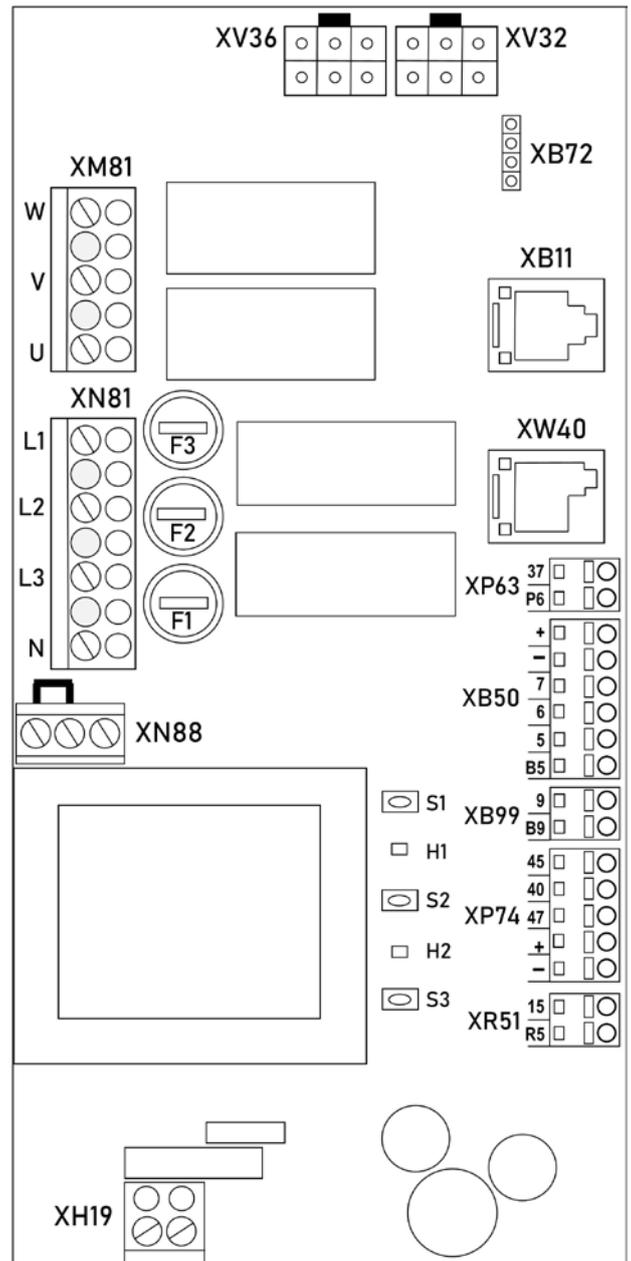
Other displays or button units are not compatible with the CS 265 controller and cannot be used.

## 2.4 Motherboard

### Explanation:

- XN81: Mains connection terminal strip  
 XM81: Motor terminal strip  
 XN88: Mains voltage selection  
 XB50: Terminal strip for command devices  
 XR51: Emergency stop terminal strip  
 XP63: Light barrier terminal strip  
 XP74: Terminal strip for closing edge protective device and programmable input 2  
 XB99: Programmable input 1 terminal strip  
 XH19: Relay output terminal strip  
 XV32: Connector strip for electronic end position system (AWG)  
 XV36: Connector strip for mechanical limit switches (MEC)  
 XB72: Radio module connector strip  
 XB11: Plug-in connector RJ receptacle for internal 3-fold button CS or external 3-fold button CS-I 15  
 XW40: Plug-in connector RJ receptacle for LCD monitor MS BUS or MS BUS module
- H1: Ready for operation (green) lights up with power supply  
 H2: Status indicator (red) lights up with faults or with actuation of the safety equipment
- S1: Programming button (+)  
 S2: Programming button (-)  
 S3: Programming button (P)
- F1: Fuse protection for controller and motor L3 (max. 5 A)  
 F2: Fuse protection for controller and motor L2 (max. 5 A)  
 F3: Fuse protection for controller and motor L1 (max. 5 A)

2.4 / 1



## 2.5 Technical data

Mechanical and electrical data	
Housing dimensions	165 x 220 x 105 mm (in the mini housing) 275 x 215 x 190 mm (in the standard housing)
Installation	Fix vertically to the wall at a minimum height of 1,100 mm
Power supply via L1, N, PE	230 V/1~ , 50/60 Hz ± 10 %  Power input max. 1,500 W, or 5 A max. current with supply 400V/3~
Power supply via L1, L2, L3, N, PE	400 V/3~ , 50/60 Hz ± 10 % 230 V/3~ , 50/60 Hz ± 10 %
Fuse protection	16 A K-characteristic
Controller internal consumption	max. 200 mA (only circuit board)
Control voltage	24 V DC, max. 200 mA; protected by automatically resetting fuse for external sensors
Controller inputs	24 V DC, all inputs are to be connected potential-free. Minimum signal duration for input controller command >100 ms.
Controller outputs	24 V DC, max. 200 mA.
Safety circuit / emergency stop	All inputs must be connected potential-free; with an interruption of the safety chain, no further electrical movement of the drive is possible, even with dead man's switching.
Safety strip input (protection level C)	Performance Level C, for electrical safety strips with 8.2 kΩ terminal resistance and for dynamically optical systems.
Light barrier (Protection level D):	If the light barrier is used as a protection system according to level D, its function must be checked regularly and within 6 months as a minimum. If this is a self-testing system, this requirement does not apply.
Safety input with resistance evaluation	Performance Level C, cat.2 for safety-related components with 8.2 kΩ terminal resistance

Mechanical and electrical data	
Display (LCD)	Only an original LCD monitor from Marantec may be used (Art.-No. 121246).
Relay outputs	If inductive loads are to be switched (e.g. Additional relays or brakes), these must be equipped with corresponding interference suppression measures (e.g. Free-wheeling diodes, varistors, RC elements). Work contact potential-free: min. 10 mA; max. 30 V DC / 4 A.
Temperature range	Operation: -10 °C to +45 °C Storage: -25 °C to +70 °C
Humidity	Up to 80 % non-condensing.
Vibrations	Low-vibration mounting, e. g. on a masonry wall.
Protection grade	IP 44 in external housing IP 54 in controller integrated in the motor
Weight	approx. 1.5 kg

## 2.6 Safety functions in accordance with EN ISO 13849-1

Function	Category	MTTF <sub>D</sub>	DC <sub>avg</sub>	Performance Level
Emergency stop	2	high: >100 years	low: 86.14 %	c
Closing edge protective device	2	high: >100 years	low: 86.14 %	c
Light barrier	2	high: >100 years	low: 86.14 %	c
Load circuit and function monitoring	2	high: >100 years	low: 86.14 %	c

DC<sub>avg</sub> Average diagnostic coverage  
 MTTF<sub>D</sub> Mean time to dangerous failure

## 3. Installation

### 3.1 Safety instructions for installation

#### **WARNING!**

##### **Danger due to a failure to observe the installation instructions!**

This chapter contains important information for the safe assembly of the product.

- Read this chapter through carefully before assembly.
- Follow the safety instructions.
- Perform the assembly as described.

Assembly by qualified specialist personnel only.

→ "1.2.2 Specialist personnel"

Electrical work must be performed by qualified electricians exclusively.

→ "1.2.2 Specialist personnel"

- Before performing wiring work, always disconnect the system from the power supply.
- Make sure that the power supply remains disconnected during wiring work.

The operator of the system or their representative must be instructed on its operation after the system has been installed.

- Children must not play with the control or command devices.
- No persons or objects are permitted inside the danger zone of the system.
- It is necessary to check all available emergency command devices.
- Observe possible crushing and shearing points on the system.
- Never reach into a running system or moving parts.
- The line types and cross-sections must be selected in accordance with the valid specifications.
- With a fixed connection, an all-pole main switch must be used
- Mains cables and control cables must be routed separately.
- The line types and cross-sections must be selected in accordance with the valid specifications.
- It is essential to observe the local protective regulations.
- Observe the specifications of the door manufacturer for installation.

The following points must be correct to guarantee fault-free functioning:

- The door is installed, fully functional and designed for power-driven operation.
- The gear motor is fitted and ready for operation.
- The command and safety devices are fitted and ready for operation.
- The control housing with the CS 265 controller is fitted.

Observe the valid standards and regulations!

 The instructions from the respective manufacturer must be observed for the installation of the door, the gear motor and the command and safety devices.

### 3.2 Mains connection

#### **Prerequisites**

The following points must be correct to guarantee the function of the controller:

- The mains voltage must correspond with the information on the type plate.
- The mains voltage must correspond with the voltage of the drive.
- In the case of three-phase power, this must have a clockwise rotating field.
- With a fixed connection, an all-pole main switch must be used.
- With three-phase power, only triple block circuit breakers of type C (max. 16 A) shall be used.
- An original wiring harness from Marantec must be used for the connection between the door motor and controller. Changes or replacements shall only take place following consultation with the manufacturer and approval by the same.

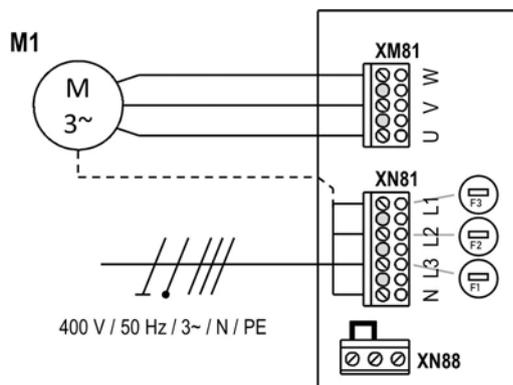
#### **ATTENTION!**

##### **Malfunctions due to improper installation of the controller!**

- Before switching on the control for the first time, a check must be carried out after completing the wiring to ensure that all the motor connections on the motor and the control are securely fixed. All control voltage inputs are galvanically isolated from the supply.
- The control and load lines of the connected drives must be double-insulated along their entire route.

**Detailed circuit diagram for mains connection and motor connection (400 V / 3-phase)**

3.2 / 1



**Key:**

- M1: Motor
- X81: Terminal block for mains connection
- XM81: Terminal block for motor
- XN88: Mains voltage selection
- F1-3: Fuse protection for controller and motor

**NOTE:**

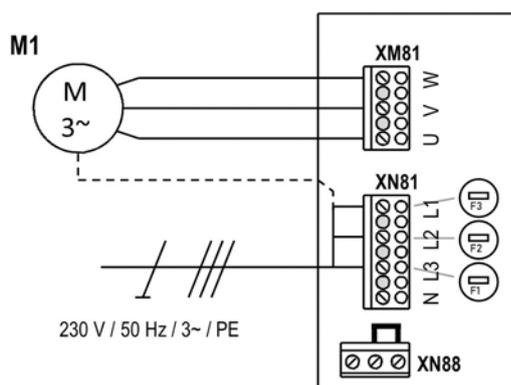
Maximum connected load: 1.5 kW / 5 A

**Connection:**

- Connect electronic end position system (AWG) or the mechanical limit switch (MEC) to the controller.
- Connect controller to the motor.
- Connect controller to the mains power supply.  
Cable groups must be secured close to their relevant terminals using a cable tie.
- Check and match the technical data.  
→ "2.5 Technical data"

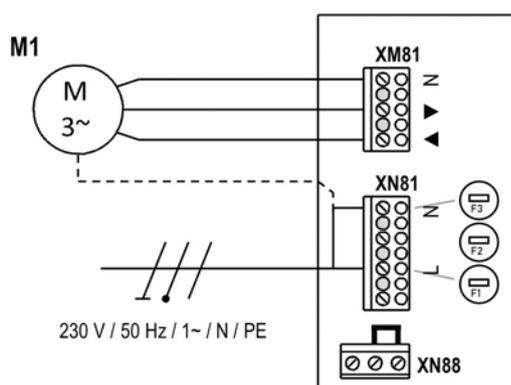
**Detailed circuit diagram for mains connection and motor connection (230 V / 3-phase)**

3.2 / 2



**Detailed circuit diagram for mains connection and motor connection (230 V / 1-phase)**

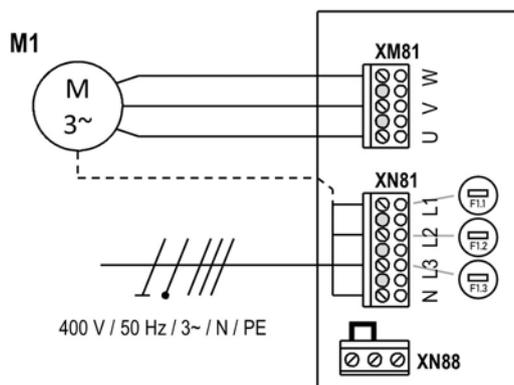
3.2 / 3



### 3.3 Internal fuse protection

The controller CS 265 is equipped with internal fuse protection (F1-3) at the mains input. The fuse elements are equipped with fine fuses 5 A / T (5.2 x 20 mm) in the factory.

#### 3.3 / 1



#### ATTENTION!

##### Malfunctions due to improper fuse protection of the controller!

Internal fuse maximum 5 A / T!

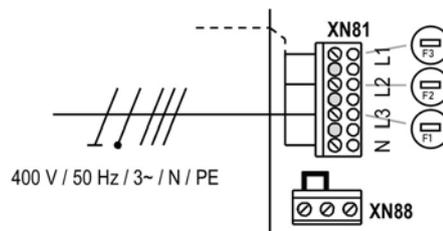
The internal fuses do not replace fuse protection of the supply cable. This shall be realised with max. 16 A and must be configured as triple block circuit breakers of type C.

→ "3.2 Mains connection"

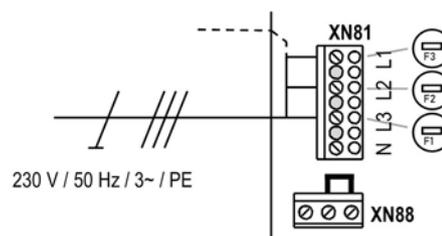
### 3.4 Mains voltage selection

The position of the bridge connector to XN88 must be adjusted to the supply voltage and motor voltage.

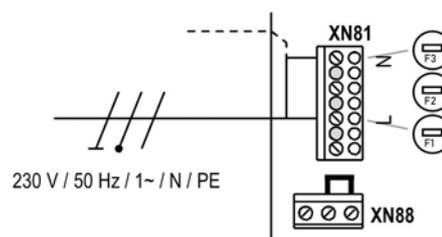
#### 3.4 / 1



#### 3.4 / 2



#### 3.4 / 3

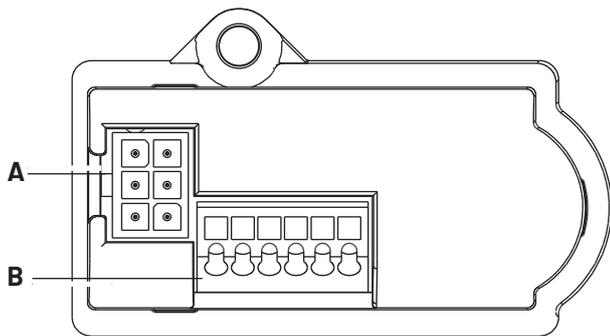


### 3.5 Connection of electronic end position system absolute value encoder (AWG)

The CS 265 controller has a connection for a singleturn absolute encoder as an electronic end position system.

#### AWG V3 type Marantec

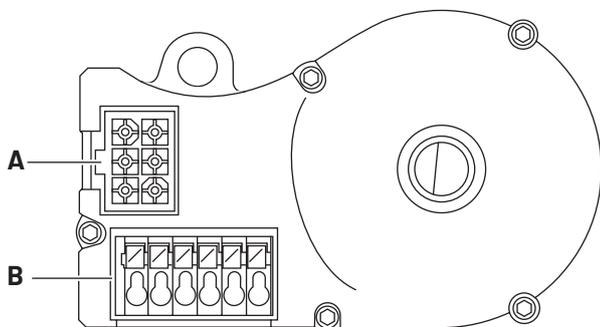
##### 3.5 / 1



A: Absolute value encoder plug  
B: AWG plug-in terminal

#### AWG type Kostal

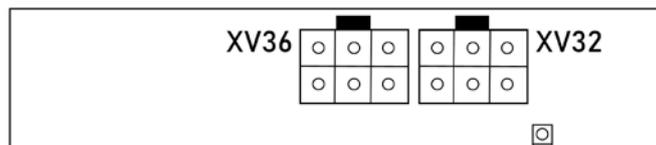
##### 3.5 / 2



A: Absolute value encoder plug  
B: AWG plug-in terminal

#### Connection of absolute value encoder (connector strip XV32 on connector A)

##### 3.5 / 3



4 grey	7 yellow
5 green	8 pink
6 white	9 brown

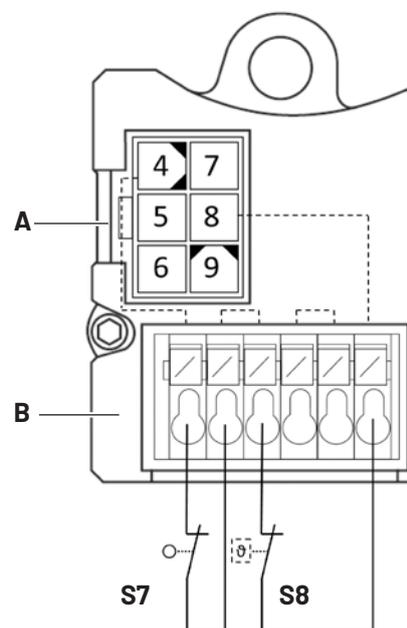
Cables with either numbered or coloured wires are used for the AWG, depending on the drive:

4 (grey): Safety circuit input  
5 (green): RS 485 B  
6 (white): GND  
7 (yellow): RS 485 A  
8 (pink): Safety circuit output  
9 (brown): 12 V DC

#### Connector strip B (only absolute value encoder)

The internal safety elements of the drive can be connected to connector strip B of the absolute encoder.

##### 3.5 / 4



A: AWG plug receptacle  
B: Safety element plug-in terminal  
S7: Emergency manual actuation (emergency crank or emergency chain)  
S8: Thermal element in the drive

#### NOTE:

In order to satisfy the requirements of EN 12453:2017 the electronic end position system must comply as a minimum with PL "c" with a min. category 2 per EN ISO 13849-1.

In order to satisfy this requirement, it is only permissible to use an absolute value encoder from Marantec (type Marantec or Kostal) as an electronic end position system.

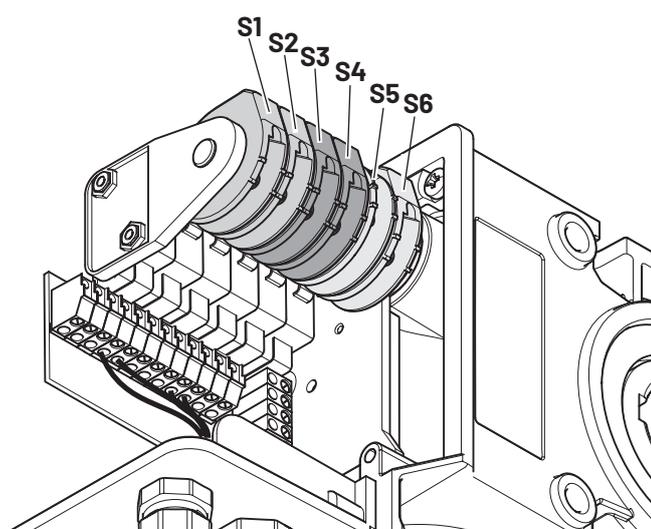
### 3.6 Mechanical limit switch (MEC) connection

Alternatively to the absolute value encoder as an electronic system, it is also possible to connect a mechanical cam limit switch and evaluate this.

With first commissioning and after a RESET, the connected end position system is automatically detected. With a subsequent change, the respective end position system must be selected through a parameter setting in the INPUT operating mode.

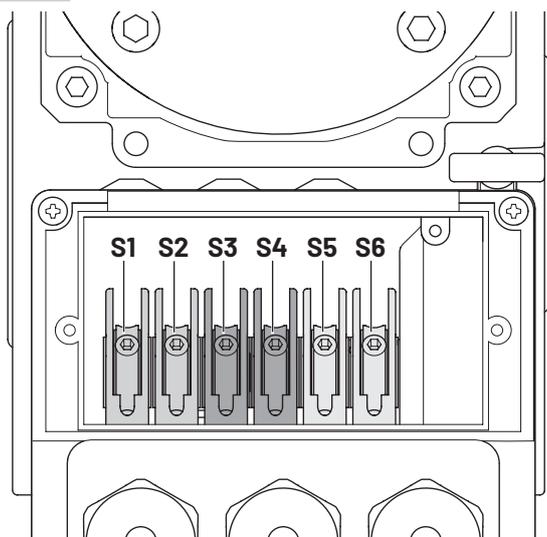
#### Series STA, MDF 05, MTZ 05

3.6 / 1



#### Series MDF 20+, KD, MTZ 20+

3.6 / 2

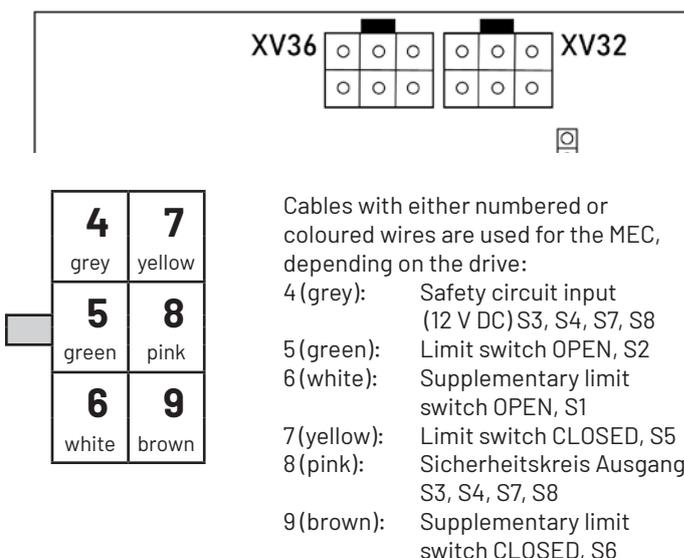


#### Legend:

- S1 Supplementary limit switch UP
- S2 Limit switch UP
- S3 Safety limit switch UP
- S4 Safety limit switch DOWN
- S5 Limit switch DOWN
- S6 Supplementary limit switch DOWN
- S7 Emergency operation (NC - contact)
- S8 Motor thermal protection

#### Mechanical limit switch connection (XV36)

3.6 / 3



The respective available connection (XV32 or XV36) must be fitted with a bridging plug (included in the scope of supply), otherwise the internal safety circuit is interrupted.

With first commissioning, the connected end position system is automatically detected. With a subsequent change, the respective end position system must be selected through a parameter setting in the INPUT operating mode.

#### NOTE:

In order to satisfy the requirements of EN 12453:2017 the mechanical limit switches must have been approved as a "reliable component" in accordance with EN ISO 13849-1.

Drives with integrated safety catch device must not be equipped with mechanical limit switches.

### 3.7 Connection of command devices

#### CAUTION!

##### Risk of injury due to uncontrolled door movement!

A CLOSE command in dead-man operation without a view of the door is not permitted.

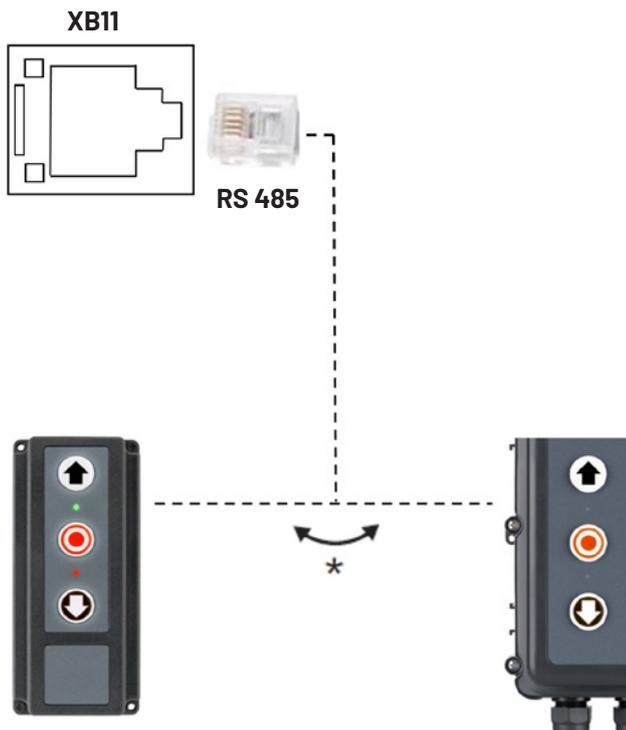
- Install the command devices for the dead-man operation in direct visual contact with the door, although outside the danger zone for the operator.  
A CLOSE command without visual sight of the door may only be given via the parameter SELF-LOCK - MOD 9.

If the command device is not a key switch:

- Install it at a height of at least 1.5 m.
- Install it where it is inaccessible to the public.

#### External "intelligent" 3-fold button CS-I 15 or internal 3-fold button CS

3.7 / 1



\* optionally

#### NOTE:

If no 3-fold button is connected, the connection XB11 must be equipped with a bridging plug.

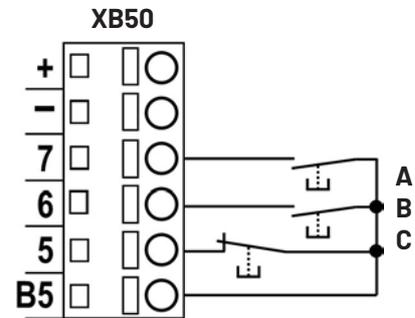
Otherwise the controller has no function.

Detailed information for programming via the "intelligent" 3-fold button CS-I 15:

→ "5. Programming with the CS-I 15 3-button input unit"

#### External 3-fold button

3.7 / 2

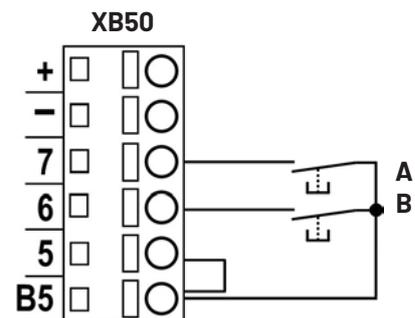


#### NOTE:

If no STOP button is connected, the input must be bridged.

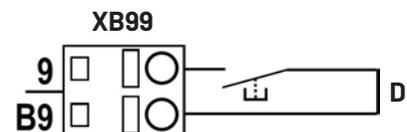
#### Key switch

3.7 / 3



#### Pulse button

3.7 / 4



The pulse function can only be realised via the programmable input 1- MOD 17 (XB99 / 9-B9).

→ "3.13 Connection of programmable inputs"

→ "8.2 INPUT operating mode" (Parameter Impuls)

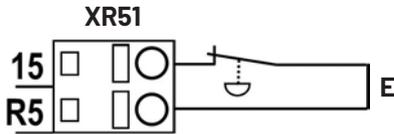
#### Legend:

- A Button / CLOSE input
- B Button / OPEN input
- C Stop button
- D Button / pulse input

### 3.8 Connection of safety elements

#### Emergency stop or safety circuit door

3.8 / 1



**NOTE:**

If no emergency stop / safety element button is connected, the input must be bridged.

**Legend:**

E: Emergency stop / safety element

### 3.9 Connection light barrier 1

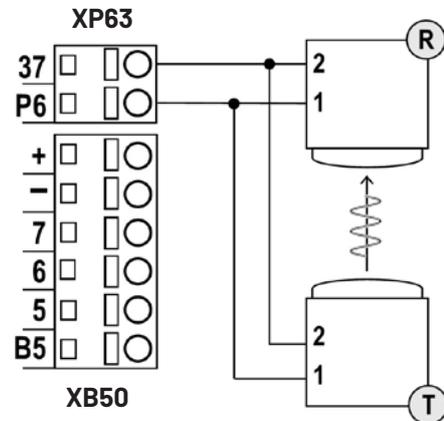
With first commissioning and after a reset the light barrier is automatically detected and programmed. If no light barrier system is connected, the input is requested every time the power is switched on again until a light barrier system has been detected. With a subsequent change, the respective system must be selected via a parameter setting in the INPUT operating mode. In the case of light barriers with a test function, this must be set manually.

→ "8.2 INPUT operating mode"

**Light barrier Marantec 2-wire**

with testing parameter LIGHT BARR 1 = MOD 1

3.9 / 1



**Legend:**

R Receiver  
T Transmitter

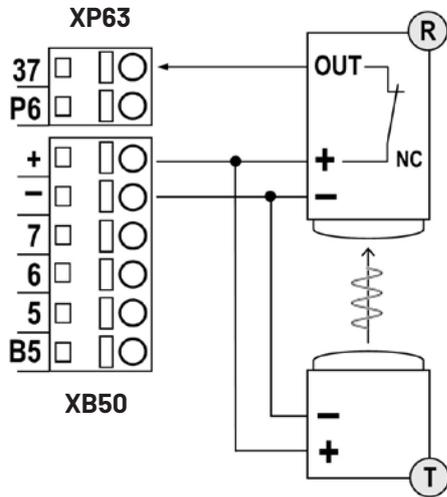
**NOTE:**

All light barriers are active in the UP or DOWN direction depending on the setting.

**Light barrier 4-wire NC**

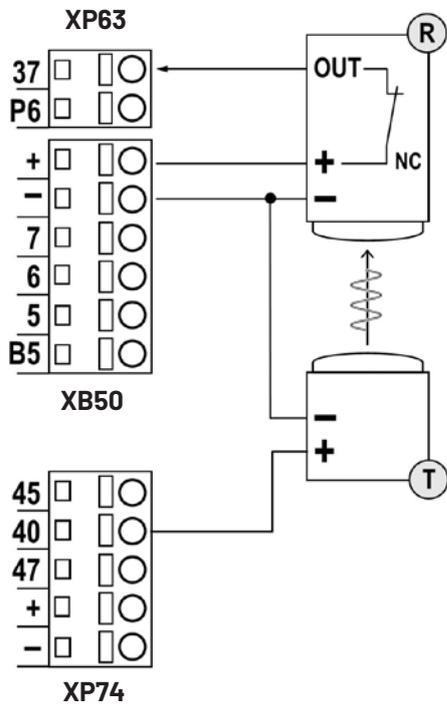
without testing parameter LIGHT BARR 1= MOD 3

3.9 / 2



with testing parameter LIGHT BARR 1= MOD 5

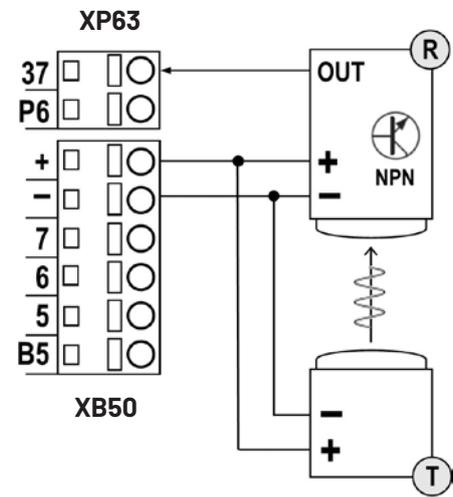
3.9 / 3



**Light barrier 3 wire NPN**

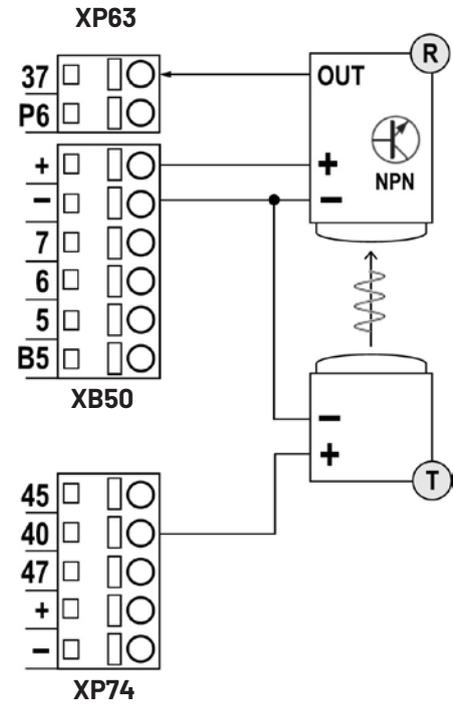
without testing parameter LIGHT BARR 1= MOD 2

3.9 / 4



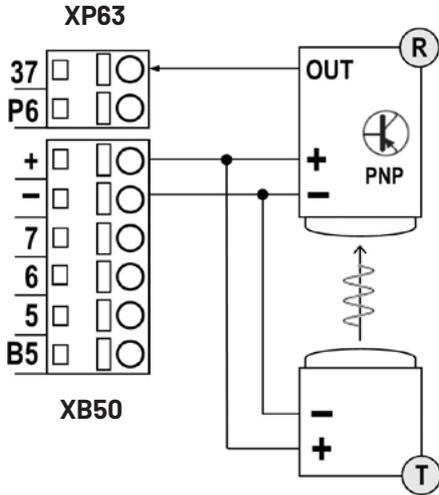
with testing parameter LIGHT BARR 1= MOD 4

3.9 / 5



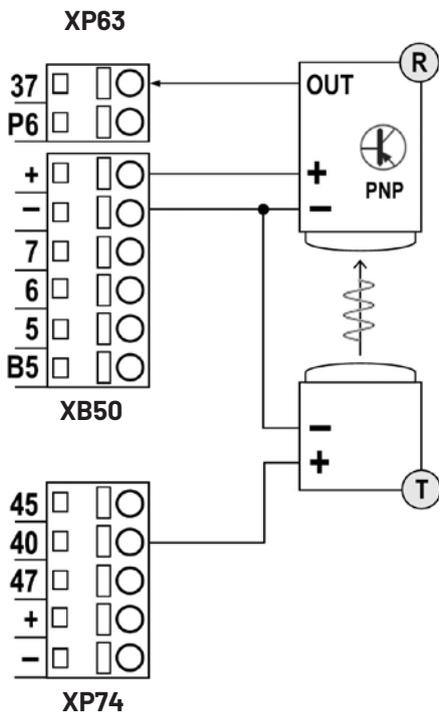
**Light barrier 3 wire PNP**  
without testing parameter LIGHT BARR 1 = MOD 3

3.9 / 6



with testing parameter LIGHT BARR 1 = MOD 5

3.9 / 7



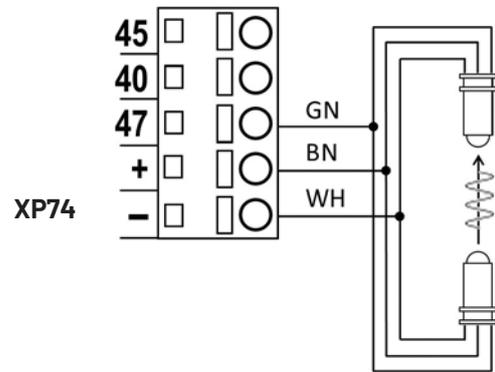
**3.10 Connection of closing edge protective device 1**

With first commissioning and after a RESET the system of the closing edge protective device is automatically detected and programmed. If no closing edge system is connected, the input is requested every time the power is switched on again until a closing edge system has been detected. With a subsequent change, the respective system must be selected via a parameter setting in the INPUT operating mode. In the case of light barriers with a test function, this must be set manually.  
→ "8.2 INPUT operating mode"

**Optoelectronic closing edge protective device (OSE)**

Parameter SKS = MOD 1

3.10 / 1



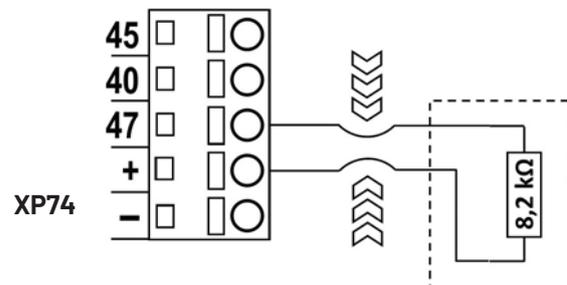
**Legend:**

WH	White	GND
GN	Green	Signal output
BN	Brown	12 V DC

**Electrical closing edge protection (8.2 kOhm)**

Parameter SKS = MOD 2

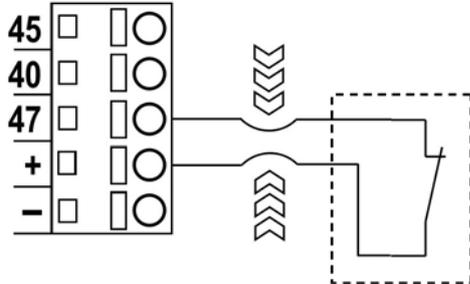
3.10 / 2



### Pneumatic closing edge protection (DW)

Parameter SKS = MOD 3 / testing automatically active

#### 3.10 / 3



### 3.11 Light grid connection

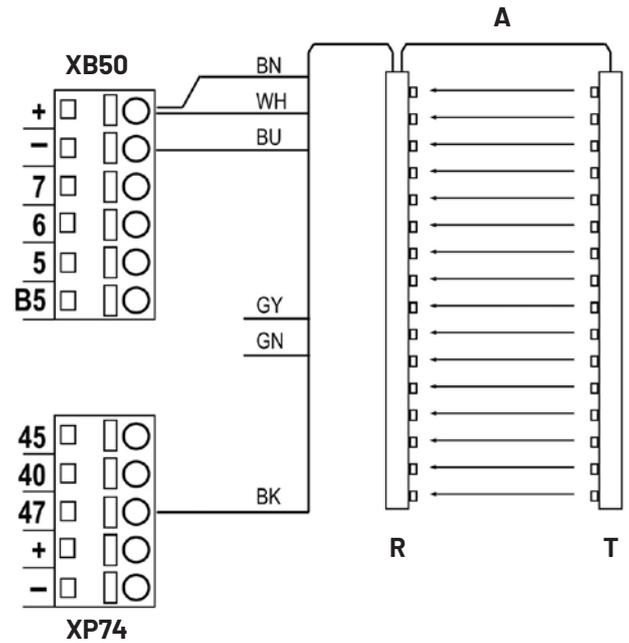
It is possible to connect up to 2 light grids to the CS 265 Light grid 1 is connected to the closing edge protective device input. Light grid 2 is connected to programmable input 2.

#### Light grid 1

Parameter SKS = MOD 4

The connection cable (A) is pluggable.

#### 3.11 / 1

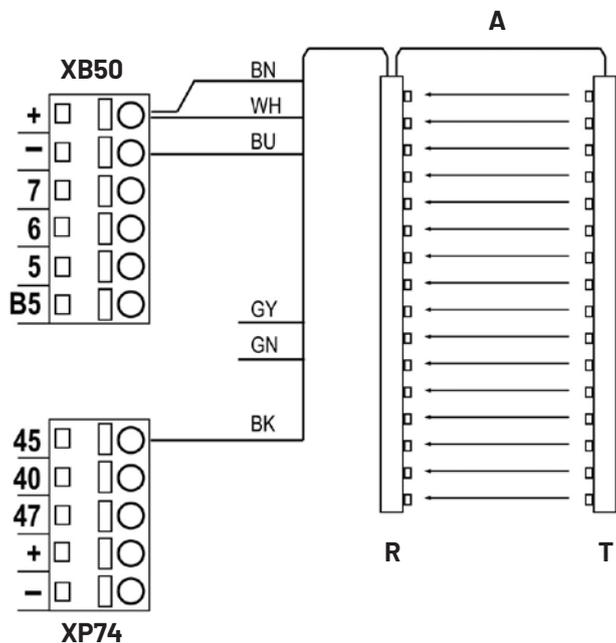


### Light grid 2

Parameter INPUT 2 = MOD 12

The connection cable (A) is pluggable.

#### 3.11 / 2



#### Legend:

BK Black  
GN Green  
GY Grey  
BU Blue  
WH White  
BN Brown

R Receiver  
T Transmitter

#### NOTE:

The GridScan/Pro OSE light grids from Cedes are shown on an exemplary basis in this manual.

The GridScan/Pro light grids correspond to

- Performance Level d, category 2 per EN ISO 13849-1
- Protection level E per EN 12453:2017

In addition to the OSE system, other systems (e.g. PNP, SSR) can also be connected.

Diagrams of other systems and/or from other manufacturers on inquiry.

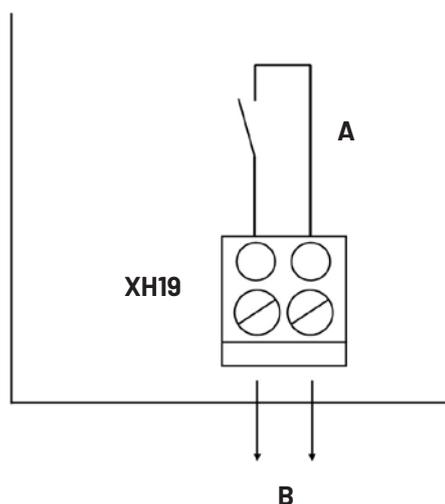
 For a precise description of the function and connection, refer to the separate documentation for the light grid.

### 3.12 Relay output connection

The potential-free relay output can be programmed with a variety of function types.

→ "8.2 INPUT operating mode"

#### 3.12 / 1



#### Legend:

A Relay switch contact  
B Relay output

This is a potential-free relay output able to take a max. load of 4 A at 30 V DC.

The type of function depends on the parameter setting for the relay output in the INPUT operating mode.

### 3.13 Connection of programmable inputs

The controller CS 265 has 2 programmable inputs, for which different functions can be selected.  
The type of wiring is determined on the basis of the parameter settings for the individual inputs.  
→ "8.2 INPUT operating mode" (Parameter INPUT 1-3)

#### **ATTENTION!**

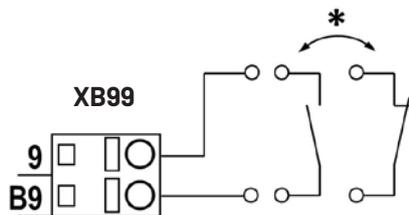
##### **Danger of damage to the circuit board due to incorrect connection!**

Inputs 1 and 2 have different reference potentials and must not be operated from a common potential!

#### **Input 1**

Optional wiring with NO / NC contacts.  
Reference potential 24 V DC  
→ "8.2 INPUT operating mode" (Parameter INPUT 1)

#### 3.13 / 1

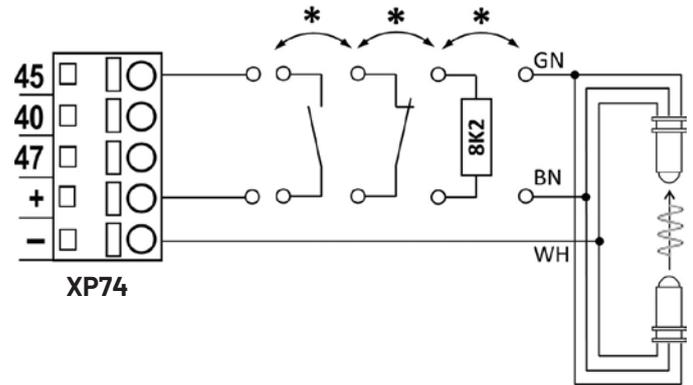


\* optionally

#### **Input 2**

Optional wiring with components on a 8.2 kOhm basis,  
NO / NC contacts and photo sensors.  
Reference potential 12 V DC  
→ "8.2 INPUT operating mode" (Parameter INPUT 2)

#### 3.13 / 2



\* optionally

#### **Legend:**

GN	Green	Signal output
BN	Brown	12 V DC
WH	White	GND

#### **NOTE:**

Programmable input 2 can also be used for the connection of a light grid.  
→ "3.11 Light grid connection"

Programmable input 2 is also used as a safety input in accordance with EN 12453:2017.  
If a resistance value is detected with first commissioning and after a reset:

- MOD 2 (safety input) is activated automatically.
- Individually connected closing edge protective device 8.2 kOhm must be activated manually in this case.

→ "3.14 Safety input per EN 12453"

### 3.14 Safety input per EN 12453

Increased requirements on the fail-safety of the slip door switch have been part of EN 12453 since 2001. With EN 12453:2017 increased safety requirements (PLc, Cat.2) also apply, for example to slack rope switches and switches of fall protection systems, including the transmission and processing of the signal.

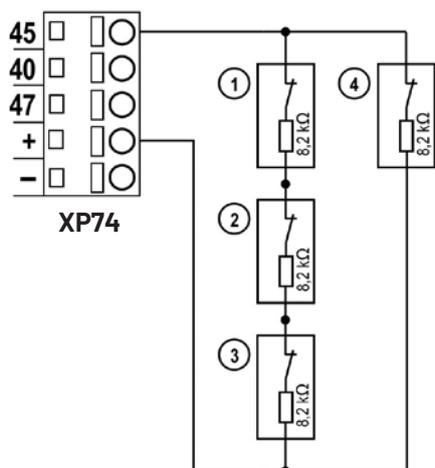
With the setting MOD 2 the programmable INPUT 2 allows the evaluation of these components, which all work with an internal resistance value of 8.2 kOhm. If a fault occurs in one of the components, the system can no longer be operated and the message ERROR STOP appears on the display.

1 – 4 components on a 8.2 kOhm basis can be linked according to the following wiring diagrams. It does not matter which of the respective switches represents the components 1 – 4 here.

- ✓ The tolerance of the individual resistance values must not exceed max. 1%.

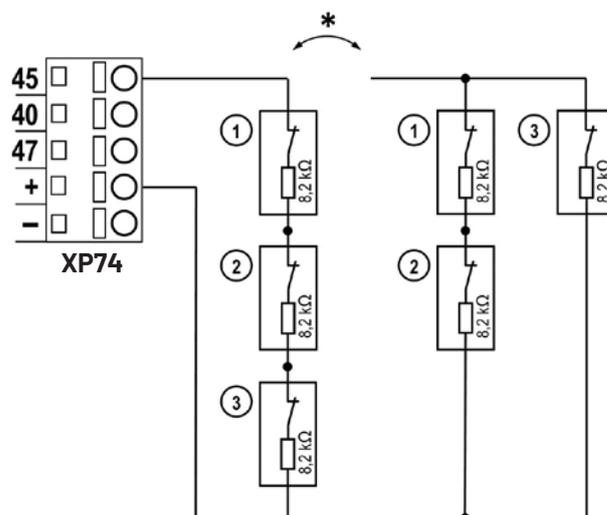
#### Connection of 4 components

3.14 / 1



#### Connection of 3 components

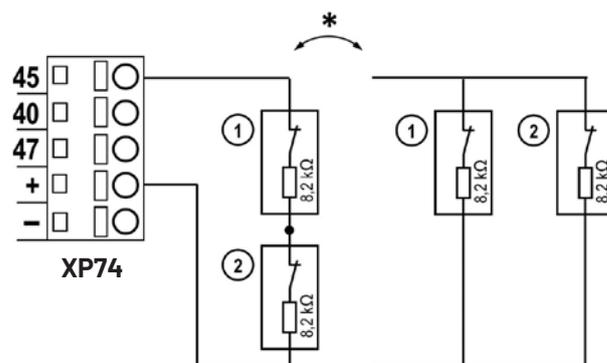
3.14 / 2



\* optionally

#### Connection of 2 components

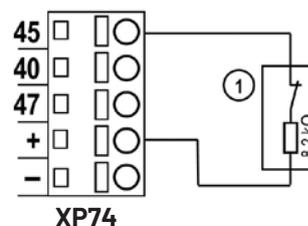
3.14 / 3



\* optionally

#### Connection of 1 component

3.14 / 4



**NOTE:**

With first commissioning and after a reset, input 2 is set to A (self-teaching) once.

When a resistance value is detected:

- MOD (safety input) is set automatically.
- The measured value is stored and monitored as a reference for the connected safety-related components.

Deviation of the measured value leads to an error message.

If a safety element is subsequently added or removed, the resistance measurement must be performed again.

- The parameter INPUT 2 must be manually reset to A (self-teaching).
- Switch the supply voltage must be switched off and on again.
- Perform the measurement again.

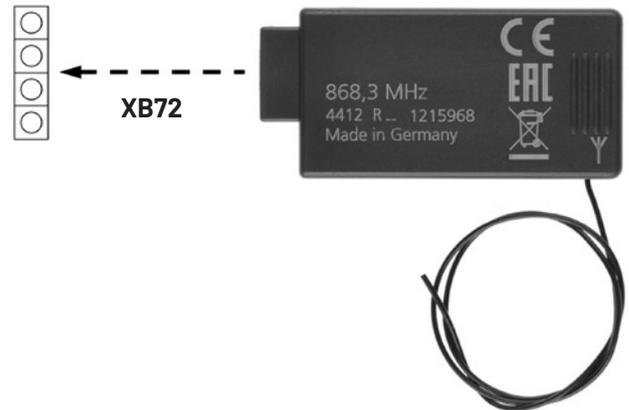
The components used must either comply with EN ISO 13849-1 PLc/Cat.2 or be approved as a reliable component in order to satisfy the requirements of EN 12453:2017.

Alternatively, the fall protection can also be equipped with an NC contact and integrated in the safety circuit of the controller (X3/1-2). This switch with NC contact must be approved as a reliable component per EN ISO 13849-1. To ensure cross-wire short monitoring, the connection cable must be laid in a protective tube.

### 3.15 Connection of radio module (pluggable)

2 different radio receivers can be connected to the controller directly. This allows the door system to be controlled by radio.

#### 3.15 / 1



**Digital 168, module antenna 1-channel, Multi-Bit**

- 868 MHz - item no. 101966
- 433 MHz - item no. 102049

Compatible hand-held transmitter:  
Digital 382, 384, 392, 323, 306, 317, 318

**Digital 921, module receiver 1-channel, bi.linked, 200 storage spaces**

- 868 MHz - item no. 101180
- 433 MHz - item no. 101179

Compatible hand-held transmitter:  
Digital 564, 572, 506, 517, 518

### Digital 168 programming (Multi-Bit)

3.15 / 2



- Plug the Digital 168 into the XB72 connector.
- Call up the RADIO parameter in INPUT.
- Select the desired MOD.
- Press the (P) button.  
The desired MOD is confirmed.  
The display shows " >>>> ".
- Press the function button of the handheld transmitter that is to be programmed.  
The selected MOD appears in the display.

### Digital 921 programming (bi.linked)

3.15 / 3

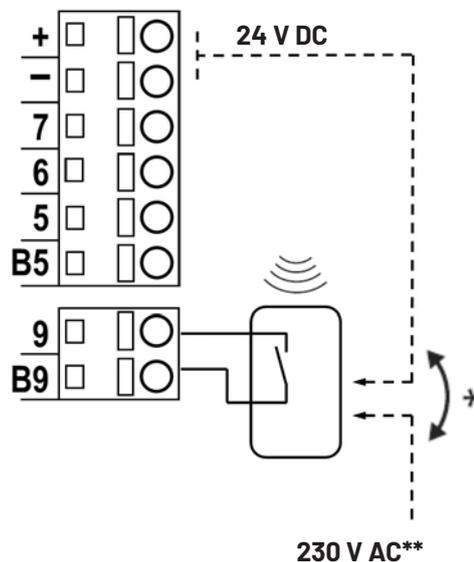


- Plug the Digital 921 into the XB72 connector.
- Call up the RADIO parameter in INPUT.
- Select the desired MOD.
- Press the (P) button.  
The desired MOD is confirmed.  
The display shows " >>>> ".
- Briefly press the programming button on the underside of the handheld transmitter.
- Press the function button of the handheld transmitter that is to be programmed.  
The selected MOD appears in the display.

### 3.16 Connection of external radio receiver

Connection via the programmable input 1 - MOD 17 (XB99 / 9-B9).

3.16 / 1



\* optionally, depending on connection of the radio receiver  
\*\* external

#### NOTE:

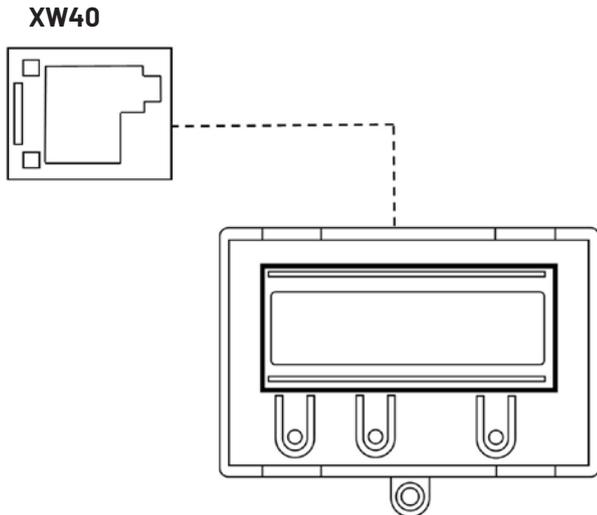
The CS 265 controller does not have a separate internal 230 V/~1Ph supply for peripheral devices. If necessary, an external 230 V/1Ph supply must be used.

### 3.17 Connection of LCD monitor

The MS BUS LCD monitor (article number 121246) is supplied with a 3 m long connection cable and permits full access to all parameter settings.

→ "6. Programming"

3.17 / 1



#### **ATTENTION!**

##### **Property damage due to improper installation!**

The LCD monitor must be plugged in whilst de-energised. Only an LCD monitor from Marantec (item no. 121246) may be used.

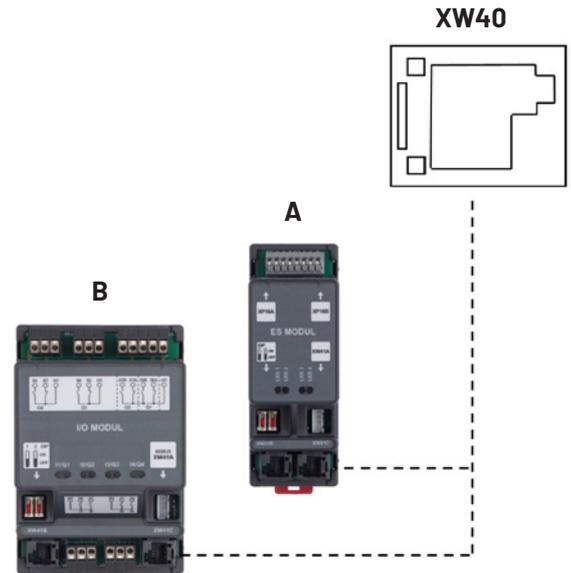
### 3.18 Connection of MS BUS components

One BUS interface is present on the circuit board for connecting different components.

It is possible to expand functions or realise additional functions with the MS BUS function modules.

- ES module: Evaluation of trap-in protection systems
- I/O module: Input/output expansion
- GV module: Two-way control

3.18 / 1



- A ES module
- B I/O module / GV module

 For a precise description of the function and connection, refer to the separate documentation for the BUS modules.

#### **NOTE:**

The XW40 plug-in connector receptacle can only be used once. However, multiple BUS modules and the LCD monitor can be connected in series through special bypass cables. The current consumption must be considered with this.

## 4. Setting the end positions

### 4.1 Checking the output drive direction of rotation / travel direction

#### A. Using the setting buttons on the circuit board

##### Change to ADJUSTMENT mode

- Press the (P) button for approx. 2 seconds.  
The red LED flashes rapidly.
- Release the buttons (P).  
The red LED lights up for approx. 2 seconds.
- At the same time, press the (P) button for approx. 4 seconds.  
The green LED flashes slowly. The red LED is off.

##### Checking the drive direction

- Press the (+) button.  
The door opens.
- Press the (-) button.  
The door closes.
- ✓ If both conditions apply:
  - Set the end positions.  
→ "4.2 Setting the electronic end position system using the setting buttons on the circuit board"
- ✓ If both conditions do not apply:
  - Change the direction of travel.

##### Changing the direction of travel

- Press the (+) and (-) buttons at the same time for approx. 5 seconds.  
The red LED lights up for approx. 2 seconds.  
The direction of travel is changed.  
Any stored end positions are deleted.
- Set the end positions.  
→ "4.2 Setting the electronic end position system using the setting buttons on the circuit board"

#### B. Via the 3-fold button CS-I 15

→ "5. Programming with the CS-I 15 3-button input unit"

#### C. Via the LCD monitor

##### Change to ADJUSTMENT mode

- Press the (P) button until ADJUSTMENT appears.

##### Checking the drive direction

- Press the (+) button.  
The door opens.
- Press the (-) button.  
The door closes.
- ✓ If both conditions apply:
  - Set the end positions.
- ✓ If both conditions do not apply:
  - Change the direction of travel.

##### Changing the direction of travel

- Press and hold the buttons (+) and (-) simultaneously for more than 5 seconds.  
The display shows LEFT ROT FIELD.  
Any stored end positions are deleted.
- Set the end positions.  
→ "4.2 Setting the electronic end position system using the setting buttons on the circuit board"

### 4.2 Setting the electronic end position system using the setting buttons on the circuit board

- Check the output drive direction of rotation.  
→ "4.1 Checking the output drive direction of rotation / travel direction"

The green LED flashes slowly. The red LED is off.

##### Setting the OPEN end position

- Press and hold the (+) button.  
The door drives in the OPEN position.
- Set the desired OPEN end position with the (+) and (-) buttons.
- Press the (P) and (+) buttons.  
The OPEN end position is saved.  
The green LED lights up for 2 seconds.

##### Setting the CLOSED end position

- Press and hold the (-) button.  
The door drives in the CLOSED position.
- Set the desired CLOSED end position with the (+) and (-) buttons.
- Press the (P) and (+) buttons.  
The CLOSED end position is saved.  
The green LED lights up for 2 seconds.

After setting the end positions:

- Press the (P) button for longer than 4 seconds.  
Change to AUTOMATIC mode.

Further settings are also possible via the circuit board button (in the same way as the 3-fold button CSI 15).

→ "Chapter 5.4 to Chapter 5.9"

##### Note

- ADJUSTMENT mode is automatically exited after approx. 7 minutes if no button is pressed.
- Normal operation is not possible until both end positions have been learned through the initial calibration.
- If an end position is to be corrected, the ADJUSTMENT mode can be exited by pressing the (P) button after learning the special end position.
- After programming the end positions, the system running time is learned automatically. The controller functions are the same as in AUTOMATIC mode.

### 4.3 Setting the electronic end position system via the 3-fold button CS-I 15

→ "5. Programming with the CS-I 15 3-button input unit"

## 4.4 Setting the electronic end position system via the LCD monitor

### ATTENTION!

#### **Improper assembly will cause damage or destruction!**

The monitor must be plugged in whilst de-energised. Only a MS BUS LCD monitor (article number 121246) from Marantec may be used.

#### **Change to ADJUSTMENT mode**

- Press the (P) button until ADJUSTMENT appears.

#### **Setting the OPEN end position**

- Press and hold the (+) button.  
The door drives in the OPEN position.
- Set the desired OPEN end position with the (+) and (-) buttons.
- Press the (P) and (+) buttons.  
The end position OPEN is saved.  
STORAGE UP appears in the display.

#### **Setting the CLOSED end position**

- Press and hold the (-) button.  
The door drives in the CLOSED position.
- Set the desired CLOSED end position with the (+) and (-) buttons.
- Press the (P) and (+) buttons.  
The end position CLOSED is saved.  
STORAGE DOWN appears in the display.
- Exit ADJUSTMENT mode by pressing the (P) button.

#### **Note**

- ADJUSTMENT mode is automatically exited after approx. 7 minutes if no button is pressed.
- Normal operation is not possible until both end positions have been learned through the initial calibration.
- If an end position is to be corrected, the ADJUSTMENT mode can be exited by pressing the (P) button after learning the special end positions.
- After programming the end positions, the system running time is learned automatically. The display shows TEACH IN RUN. The controller functions are the same as in AUTOMATIC mode.

## 4.5 Setting the intermediate positions of the electronic end position system via the LCD monitor

#### **Drive the door to the desired position in AUTOMATIC mode**

- Drive the door to the desired intermediate position (INC.P.OP. or INC.P.CL.) with the (+/-) buttons.

#### **Change to INPUT mode**

- Press the (P) button until INPUT appears.
- Press and hold the buttons (+) and (-) simultaneously for more than 2 seconds.  
The first parameter appears in the second line of the display.

#### **Save the intermediate OPEN (INC.P.OP.) or CLOSE (INC.P.CL.) position**

- Press the buttons (+/-) until the parameter INC.P.OP. or INC.P.CL. appears.  
The value stands at A.
- Press the (P) button.  
The current door position is taken over as the intermediate position.
- Press the (P) button.  
The intermediate position is saved.

#### **Exit INPUT operating mode**

- Press and hold the buttons (+) and (-) simultaneously for more than 1 second.  
INPUT mode is exited.

#### **Change to AUTOMATIC mode**

- Press the (P) button until AUTOMATIC appears.

#### **Note**

If an intermediate position is to be corrected, the taught value can be changed in the INPUT menu or set to A again, so that a new teach-in can be started.

## 4.6 Setting the mechanical limit switches

#### **Change to ADJUSTMENT mode**

- Press the (P) button until ADJUSTMENT appears.

#### **Setting the OPEN and CLOSED end positions**

 Setting the end positions is described in the separate documentation for the mechanical limit switches.

- Exit ADJUSTMENT mode by pressing the (P) button.

#### **Note**

The system does not exit ADJUSTMENT mode automatically. Exit ADJUSTMENT mode by pressing the (P) button in order to change to normal mode.

## 5. Programming with the CS-I 15 3-button input unit

### 5.1 Overview of CS-I 15 3-button input unit with programming function

The CS 265 controller can be optionally programmed via the MS BUS LCD monitor with plain text display.

→ "6.1 Overview of the LCD monitor"

In addition, the following functions can also be programmed using the CS-I 15 "intelligent" 3-button input unit.

- End position OPEN/CLOSED
- Teaching-in of radio hand transmitter
- Open time / Forewarning time / Automatic closing
- Earlier closing after the photocell beam has been interrupted
- Relay function (MOD 1, MOD 2, MOD 6)
- Resetting the control
- Reading out the number of cycles

#### ATTENTION!

##### Damage to property or irreparable damage due to incorrect installation!

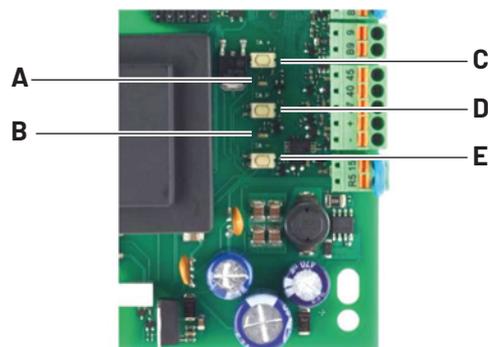
The CS-I 15 3-button input unit must be in a de-energised state before it is connected. Only a 3-button input unit from Marantec (article number 120858) may be used.

#### NOTE:

The same selection of parameters can be programmed using the integrated circuit board buttons.

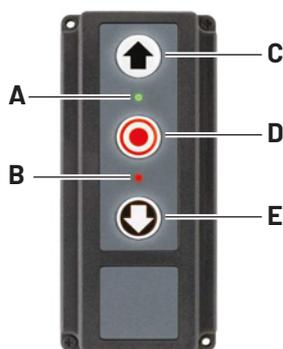
The programming method is identical.

#### 5.1/2



- A: LED 1 green
- B: LED 2 red
- C: Button (+)/(OPEN)
- D: Button (P)/(STOP)
- E: Button (-)/(CLOSE)

#### 5.1/1



- A: LED 1 green
- B: LED 2 red
- C: Button (↑)/(OPEN)
- D: Button (O)/(STOP)
- E: Button (↓)/(CLOSE)

After the control has been switched on, it will be in the initialisation phase. The green LED flashes rapidly.

The control system is not ready for use. After switching on for the first time, the initialisation phase takes approximately 60 seconds.



## 5.4 Setting the end positions (ADJUSTMENT)

The green LED flashes slowly.  
The red LED is off.

### Setting the OPEN end position

- Press and hold the (↑) button.  
The door drives in the OPEN position.
- Set the desired OPEN end position with the (↑) and (↓) buttons.
- Press the (0) and (↑) buttons.  
The OPEN end position is saved  
The green LED lights up for 2 seconds.

### Setting the CLOSED end position

- Press and hold the (↑) button.  
The door drives in the CLOSED position.
- Set the desired CLOSED end position with the (↑) and (↓) buttons.
- Press the (0) and (↑) buttons.  
The CLOSED end position is saved  
The green LED lights up for 2 seconds.

After the end positions have been set, there is an automatic change to the RADIO parameter.

- The green LED flashes 2x slowly.
- The red LED is off.
- The RADIO parameter is selected.

### Please note

- ADJUSTMENT mode is automatically exited after approx. 7 minutes if no button is pressed.
- Normal operation is not possible until both end positions have been learned through the initial calibration.
- If an end position is to be corrected, the ADJUSTMENT mode can be exited by pressing the (0) button after learning the special end position.
- After programming the end positions, the system running time is learned automatically. The controller functions are the same as in AUTOMATIC mode.

Direct change to the next parameter RADIO without correcting a position:

- Press the (0) button for longer than 1 second.

There is an automatic change to the RADIO parameter.

- The green LED flashes 2x slowly
- The red LED is off.
- The RADIO parameter is selected.

## 5.5 Teaching the radio hand-held transmitter (RADIO)

The green LED flashes 2x slowly.  
The red LED is off.

- Press the (0) button.  
The green LED flashes rapidly (ready for teaching).  
The red LED is off.
- Press the button on the hand-held transmitter that is required to perform the command subsequently.  
The green LED lights up for 2 seconds.  
The red LED is off.  
The hand-held transmitter is taught successfully.

There is an automatic change to the AUT.CLOSE parameter.

- The green LED flashes 3x slowly.
- The red LED is off.
- The AUT.CLOSE parameter is selected.

Direct change to the next parameter AUT.CLOSE without teaching a radio hand-held transmitter.

- Press the (0) button.  
The green LED flashes rapidly (ready for teaching).  
The red LED is off.
- Press the (0) button.  
The red LED flickers for 2 seconds.  
The green LED is off.

Afterwards, there is an automatic change to the AUT.CLOSE parameter.

- The green LED flashes 3x slowly.
- The red LED is off.
- The AUT.CLOSE parameter is selected.

## 5.6 Automatic closing after elapse of time (AUT. CLOSE)

The green LED flashes slowly three times.  
The red LED is OFF.

- Press the (O) button.  
The first setting (MOD 1) is displayed.

Buttons (↑) and (↓) can be used to scroll through the list of modes.

### MOD 1:

The green LED is OFF, the red LED flashes rapidly.  
No automatic closing.

### MOD 2:

The green LED is OFF, the red LED flashes rapidly twice.  
Automatic closing is active.  
Open time 15 seconds + forewarning time 5 seconds.

### MOD 3:

The green LED is OFF, the red LED flashes rapidly 3 times.  
Automatic closing is active.  
Open time 30 seconds + forewarning time 5 seconds.

### MOD 4:

The green LED is OFF, the red LED flashes rapidly 4 times.  
Automatic closing is active.  
Open time 60 seconds + forewarning time 5 seconds.

- Press the (↑ / ↓) buttons to select the desired MOD.
- Press the (O) button.  
The selected MOD is saved.  
The green LED lights up for 2 seconds.

Followed by automatic change to FAST CL. parameter.

- The green LED flashes slowly 4 times.
- The red LED is OFF.
- The parameter FAST CL. is selected.

## 5.7 Earlier closing after the photocell beam has been interrupted (FAST CL.)

The green LED flashes slowly 4 times.  
The red LED is OFF.

- Press the (O) button.  
The first setting (MOD 1) is displayed.

Buttons (↑) and (↓) can be used to scroll through the list of modes.

### MOD 1:

The green LED is OFF, the red LED flashes rapidly.  
The open time elapses in the normal way.

### MOD 2:

The green LED is OFF, the red LED flashes rapidly twice.  
If the light barrier is passed through during the open time:
 

- The open time is cancelled after passing through the light barrier (system shuts immediately).

 If passing through the light barrier occurs during opening:
 

- The programmed open time is ignored and the door closes directly.

### MOD 3:

The green LED is OFF, the red LED flashes rapidly 3 times.  
If the light barrier is passed through during the open time:
 

- The open time is cancelled after passing through the light barrier for a minimum duration of 2 seconds (personnel suppression).

 If passing through the light barrier occurs during opening:
 

- The programmed open time is ignored and the door closes directly.

### MOD 4:

The green LED is OFF, the red LED flashes rapidly 4 times.  
If the light barrier is passed through during the open time:
 

- The open time is restarted after the light barrier has been passed through.
- During opening, the light barrier does not function.

- Press the (↑ / ↓) buttons to select the desired MOD.
- Press the (O) button.  
The selected MOD is saved.  
The green LED lights up for 2 seconds.

Followed by automatic change to RELAY parameter.

- The green LED flashes slowly 5 times.
- The red LED is OFF.
- The RELAY parameter is selected.

## 5.8 Relay output function

The green LED flashes slowly five times  
The red LED is OFF

The CS-I 15 input unit can only be used to select and programme 3 of the 44 functions.

- Press the (0) button.  
The factory setting (MOD 2) is displayed.

Buttons (↑) and (↓) can be used to scroll through the list of modes.

### MOD 1:

The green LED is OFF, the red LED flashes rapidly.

Red traffic light function:  
Flashing during forewarning,  
lit up during door run

### MOD 2:

The green LED is OFF, the red LED flashes rapidly twice.

Red traffic light function:  
Flashing during forewarning,  
flashing during door run

### MOD 6:

The green LED is OFF, the red LED flashes rapidly three times.

Query end position OPEN:  
Relay is active if the end position OPEN is reached.

- Press the (↑ / ↓) buttons to select the desired MOD.
- Press the (0) button.  
The selected MOD is saved.  
The green LED lights up for 2 seconds.

The parameter then changes automatically to the RESET parameter

- The green LED flashes slowly six times
- The red LED is OFF
- The parameter RESET is selected

## 5.9 Resetting all settings to factory default settings (RESET)

The green LED flashes slowly 6 times.  
The red LED is OFF.

- Press the (0) button.  
The first setting (OFF) is displayed.

OFF: The red LED flashes briefly (0.1 second).  
No reset to factory default settings.

ON: The red LED flashes slowly.  
Complete reset of the control

Buttons (↑) and (↓) can be used to scroll through the list of modes.

### Selection OFF:

The red LED flickers for 2 seconds and no control reset is carried out.

Followed by automatic change to CYCLE parameter

- The green LED flashes slowly 7 times.
- The red LED is OFF.
- The CYCLE parameter is selected.

### Selection ON:

All settings are reset to the factory default settings.

Followed by automatic change to ADJUSTMENT parameter

The end positions must be set again initially.

- Press the (↑ / ↓) buttons to select the desired MOD.
- Press the (0) button.  
The selected MOD is saved.

## 5.10 Reading out the cycle counter (CYCLE)

The green LED flashes slowly 7 times.  
The red LED is OFF.

- Press the (0) button.  
The current number of cycles is displayed as a separate flashing signal for each single digit place.

Order of display:

O\_T\_H\_Th\_T Th\_H Th

Display:

0 - RED flashes briefly (0.1 second)

1 - RED flashes slowly 1 x

2 - RED flashes slowly 2 x

...

The change from one digit place to another is shown by a single flash of the green LED.

After all places have been run through, the display starts again with the units digit. This change is displayed by the green LED lighting up for 3 seconds.

Change back to AUTOMATIC:

- Press the (0) button.

Direct change to the next parameter AUTOMATIC without reading out the cycle counter.

- Press the (0) button for longer than 4 seconds:
  - The green LED lights up.
  - The red LED is OFF.
  - The system has now reverted to AUTOMATIC operating mode.

## 6. Programming

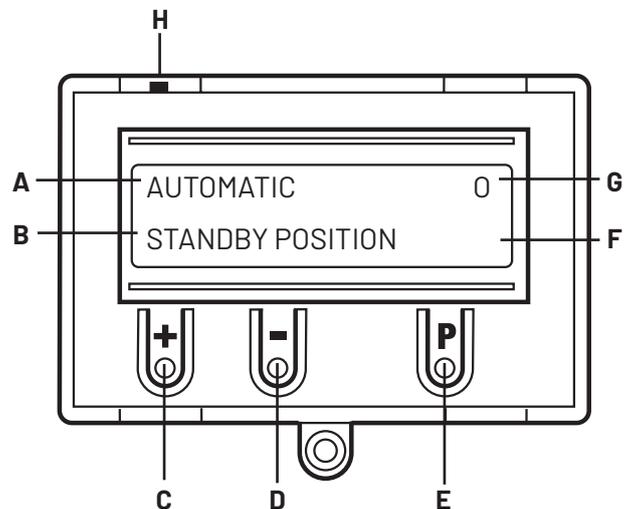
### 6.1 Overview of the LCD monitor

#### ATTENTION!

##### Property damage due to improper installation!

The display must be plugged in whilst de-energised. Only a MS BUS LCD monitor (article number 121246) from Marantec may be used.

#### 6.1/1



#### Explanation:

- A: Operating mode / diagnostics info
- B: Parameters / diagnostics info
- C: (+) button
- D: (-) button
- E: (P) button
- F: Value/status
- G: Value/status
- H: Jumper

If the jumper H is removed, the (+), (-) and (P) buttons no longer function.

The display continues to function.

After the controller has been switched on, it is in the initialisation phase. The display shows "PLEASE WAIT ...". The controller is not ready for operation. The initialisation phase takes approx. 60 seconds after switching on for the first time.

## 6.2 LCD monitor operating modes

With the LCD monitor, the controller has four operating modes:

1. AUTOMATIC
2. ADJUSTMENT
3. INPUT
4. DIAGNOSIS

The operating modes ADJUSTMENT, INPUT and DIAGNOSIS are automatically exited 7 minutes after the last button was pressed. The controller changes to AUTOMATIC mode.

### Operating mode 1: AUTOMATIC

The door system is driven in AUTOMATIC mode.

Display:

- Display of the function being carried out
- Display of possible faults

If the SELF LOCK parameter is set to MOD 2-7 or MOD 9 in the input menu, the display switches from AUTOMATIC mode to MANUAL.

### Operating mode 2: ADJUSTMENT

The OPEN and CLOSED end positions are set in ADJUSTMENT mode.

### ATTENTION!

#### Risk of property damage due to improper operation of the controller!

When in ADJUSTMENT mode, there is no shutdown with the electronic end position system (AWG) upon reaching the end positions. The door can be damaged by running past the end positions.

Fine adjustment can be implemented in INPUT mode.

Display:

- Display of the end position value

### Operating mode 3: INPUT

The values of various parameters can be changed in INPUT mode.

Display:

- Displays the selected parameter
- Displays the status/value set

### Operating mode 4: DIAGNOSIS

Door-specific checks can be interrogated in DIAGNOSIS mode.

Display:

- Display of the check
- Display of the check status

## 6.3 Expert menu

Under factory settings (standard), only a few parameters appear in the INPUT operating mode, which can be adjusted by the operator. These setting parameters reflect the most frequently applied requirements for an industrial door system and are sufficient for commissioning in a standard situation.

The last item in this list is the "EXPERT MENU" parameter. This is always set to OFF.

OFF: Limited number of parameter settings:

- Menu language
- INT POS UP
- OPEN TIME
- FOREWARNING TIME
- FAST CLOSE
- SKS REV
- REVERS. OFF
- RADIO
- INPUT 1
- SELF LOCK
- EXPERT MENU

Setting the EXPERT MENU parameter to ON activates the expert mode. It is now possible to call up and set all input menu parameters.

→ "8.2 INPUT operating mode"

#### Note

- The expert mode is automatically exited after approx. 7 minutes, if no button is pressed. Now, only the limited selection of parameters is once again available until the EXPERT MENU parameter is set to ON again.
- The same applies to switching off the power. This once again sets the EXPERT MENU parameter to OFF.

## 6.4 Initialisation / reset

With first commissioning and after a reset the following components are automatically detected and programmed:

- End position system
- Closing edge protective device
- Light barrier system
- Input 2 (safety input)

During this process (approx. 60 seconds), the green LED flashes quickly and the display shows PLEASE WAIT in the top line. Operation of the system is not possible at this time. Components can be retrospectively changed or added through the LCD monitor or renewed initialisation.

If a component is not yet connected:

- The display shows A.
- A search for this component takes place with every subsequent initialisation.

If a component is connected:

- The corresponding setting mode is set automatically.

**Exception:**

If no resistance value is detected with first initialisation:

- Input 2 remains inactive (OFF).

If a resistance value is detected at input 2 with first commissioning:

- The resistor is rated as a safety element.
- Input 2 is put into operation as a safety input.

→ "8.2 INPUT operating mode" / Parameter INPUT 2

**NOTE:**

Initialisation serves not only to teach the different system components, but also offers the option of changing the menu language directly.

The pre-set menu language (ENGLISH) appears for 60 seconds as flashing text in the display. With the (+) and (-) buttons it is possible to select the desired language and save this with the (P) button. All texts / messages are subsequently displayed in the selected language.

## 6.5 RESET

The RESET function can be used to reset the control parameters to the pre-selected factory settings.

→ "8.2 INPUT operating mode"

**FACTORY SETTING parameter**

Selection of the parameter set that should be reset with a RESET.

It is possible to implement different types of reset whereby more or less settings are reset.

→ "8.2 INPUT operating mode"

**RESET parameter**

*Part reset (MOD 2):*

All parameter settings are reset, except for the settings for the end positions and the detected end position system.

*Full reset (MOD 3):*

Everything is reset to factory settings.

→ "6.6 RESETTING the controller with LCD monitor"

→ "6.7 RESETTING the controller without LCD monitor"

## 6.6 RESETTING the controller with LCD monitor

**Changing to the INPUT operating mode**

- Press (P) button until INPUT appears.
- Press and hold the buttons (+) and (-) for more than 2 seconds. INPUT mode is activated.

**Resetting the controller**

- Press the buttons (+/-) until the RESET parameter appears. The value stands at OFF.
- Press the (P) button until the display flashes.
- Press the button (+) until MOD 3 appears.
- Press the (P) button. The reset starts.

The system runs through the initialisation phase and all connected safety components and the end position system are automatically taught.

**Change to ADJUSTMENT mode**

→ "4.4 Setting the electronic end position system via the LCD monitor"

**Change to AUTOMATIC mode**

- Press (P) button until AUTOMATIC appears.

## 6.7 RESETTING the controller without LCD monitor

- Interrupt the supply voltage.
- Press and hold the circuit board buttons (P) and (-) at the same time.
- Switch the supply voltage back on.
- Press and hold the circuit board buttons (P) and (-) at the same time. The red LED (H2) flashes rapidly.
- Release the circuit board buttons (P) and (-). The green LED (H1) flashes rapidly.

The system then runs through the initialisation phase (approx. 60 seconds).

During initialisation, it is not possible to program or operate the system.

The rapid flashing of the green LED changes to slow flashing.

The system is in ADJUSTMENT mode.

After initialisation is complete, the end positions are deleted and all parameters are reset to factory settings.



SELF LOCK.	MOD1
POWER	10
RESET MSBUS	OFF
RESTART	OFF
FACTORY SET.	99
RESET	OFF
PIN-NO.2	1111
SERVICE	OFF
EXPERT MENU	OFF

DIAGNOSIS



Scroll up menu:  
⊕ > 2 sec

Scroll down menu:  
⊖ > 2 sec.

Back to AUTOMATIC operating mode: **(P)**

Only interrogation possible

UPPER SWITCH	ON
LOWER SWITCH	ON
UP-SWITCH	OFF
DOWN-SWITCH	OFF
INPUT 1	OFF
INPUT 2 / SKS OP. 2 / SAFE. 2	- / ON / OFF
SKS	ON
LIGHT BARR.	ON
LIGHT BARR. 2	ON
SAFETY CIRC.	ON
STOP	ON
ROT FIELD	Right
CYCLE	000000
SERVICE	OFF
AWG	0000
C.STOP	0000
C.OPENED	0000
C.O.BTN	0000
Error memory	Error ...

## 8. Functional overviews

### 8.1 AUTOMATIC mode



Display	Description
AUTOMATIC TEACH IN RUN	The run-time is taught automatically.
AUTOMATIC OPENING	The door is currently in the opening phase.
AUTOMATIC CLOSING	The door is currently in the closing phase.
AUTOMATIC STANDBY POSITION	The door is currently in an intermediate position.
AUTOMATIC STANDBY POSITION	0 The door is currently in the OPEN end position.
AUTOMATIC STANDBY POSITION	o The door is in the Sect. UP position (INTERMEDIATE POSITION UP parameter).
AUTOMATIC STANDBY POSITION	U The door is currently in the CLOSED end position.
AUTOMATIC STANDBY POSITION	u The door is in the Sect. DOWN position (INTERMEDIATE POSITION DOWN parameter).
AUTOMATIC STANDBY POSITION	r The door is in the reverse shut-off position.
AUTOMATIC STOP	The command button STOP (cover keypad CS) was pressed for longer than 5 seconds.
AUTOMATIC PERMANENT INPUT	When the power is switched off, an active signal (NO) is detected at the UP, DOWN, pulse or programmable input 1 (with use of I/O BUS modules, also inputs 11-14 or 15-18). This always constitutes an impermissible state. The cause is probably a defective component that must be replaced. Exception: The signal comes from a pluggable timer or the programmable input 1 if this is set as a timer function (MOD 4), or fire alarm function (MOD 5-9, 13).
AUTOMATIC CRASH SENSOR	The door system crash sensor has been activated (connection to X4/9-10, programmable input 1, MOD 18). A vehicle (e. G. forklift truck) has possibly driven into the closed door.
SERVICE STANDBY POSITION	The pre-selected service interval has been reached.

If the SELF LOCK parameter is set to MOD 2-7 or MOD 9 in the input menu, the display switches from AUTOMATIC mode to MANUAL.

Display	Description
MANUAL MAN. UP	The door is currently in the opening phase.
MANUAL MAN. DOWN	The door is currently in the closing phase.
MANUAL STANDBY POSITION	The door is currently in an intermediate position.

## 8.2 INPUT operating mode



Function	Description	Adjustment options	Factory setting
DEUTSCH	<p>Selection of the menu language.</p> <p><b>Only with LCD monitor:</b> The menu language can also be selected during the initialisation phase (during first commissioning or after a reset). The factory pre-set menu language (ENGLISH) appears here for approx. 60 seconds as flashing text in the display. At this time it is possible to change the menu language during the initialisation phase. You can scroll through the language choices by pressing the [+] or [-] buttons. Save the desired language with the [P] button. All texts / messages are subsequently displayed in the selected language.</p>	DEUTSCH ENGLISH FRANCAIS NEDERLANDS DANSK ESPANOL POLSKI CESKY ITALIANO SUOMI SVENSKA TÜRKÇE NORSK MAGYARUL	DEUTSCH
FINE-UP	<p>Fine adjustment of the OPEN end position in relation to the saved end position (OPEN SWITCH). Only visible with electronic end position system.</p>	-250 – 250	0
FINE-DOWN	<p>Fine adjustment of the CLOSED limit position in relation to the saved limit position (CLOSED SWITCH). Only visible with electronic end position system.</p>	-250 – 250	0
INT POS UP	<p>Setting the switching point OPEN intermediate position (Sect. OPEN) in relation to the saved end position OPEN. Display as a negative value. Only visible with electronic end position system.</p> <p>Automatic teach-in of the position: → "4.5 Setting the intermediate positions of the electronic end position system via the LCD monitor"</p>	A (teaching) -1 – DOWN SWITCH	A
INT POS CLOSED	<p>Setting the switching point CLOSED intermediate position (Sect. CLOSED) in relation to the saved end position CLOSED. Display as a positive value. Only visible with electronic end position system.</p> <p>Automatic teach-in of the position: → "4.5 Setting the intermediate positions of the electronic end position system via the LCD monitor"</p>	A (teaching) 1 – UP SWITCH	A
OPEN TIME	<p>After opening, the door automatically travels in the DOWN direction after the set value has passed.</p> <p><b>NOTE:</b> Pressing the DOWN button during the open time starts the closing operation immediately. Pressing the UP or STOP button during the open time restarts the time. If an automatic closing operation is interrupted by the closing edge protective device, the open time is added to every new attempt. After 3 attempts, automatic closing is cancelled.</p>	OFF 1 – 3600 seconds	OFF
START WARN.	<p>The start-up warning is implemented before <b>every</b> run.</p>	OFF 1 – 10 seconds	OFF

Function	Description	Adjustment options	Factory setting
FORE-WARNING TIME	<p>The warning time is activated before automatic downward travel or closing through pulse operation.</p> <p><b>NOTE:</b> This time is added to the start-up warning</p>	OFF 1 – 300 seconds	OFF
AUT.CLOSE	<p>Automatic closing after the open time has elapsed.</p> <p>MOD 1: AUT.CLOSE from OPEN end position            MOD 2: AUT.CLOSE from Sect.OPEN end position            MOD 3: AUT.CLOSE from OPEN end position and Sect.OPEN end position            MOD 4: AUT.CLOSE from <i>all</i> door positions</p>	MOD 1 – MOD 4	MOD 1
FAST CL.	<p>Premature closing after passing through the light barrier.</p> <p><b>PREREQUISITE:</b>            Connection of a light barrier at pass through-height and setting of an open time &gt; 0.            With open time = 0 the door closes directly after passing through the light barrier.</p> <p>MOD 2: If the light barrier is passed through during the open time:            - The open time is cancelled after passing through the light barrier (system shuts immediately).            If passing through the light barrier occurs during opening:            - The programmed open time is ignored and the door closes directly.</p> <p>MOD 3: If the light barrier is passed through during the open time:            - The open time is cancelled after passing through the light barrier for a minimum duration of 2 seconds (personnel suppression).            If passing through the light barrier occurs during opening:            - The programmed open time is ignored and the door closes directly.</p> <p>MOD 4: If the light barrier is passed through during the open time:            - The open time is restarted after the light barrier has been passed through.            - During opening, the light barrier does not function.</p>	OFF MOD 2 – MOD 4	OFF
RELAY 1	<p>The relay can be assigned one of the possible relay modes.            Further explanations:            → “8.3 Explanations of the relay modes”</p> <p>MOD 1: (Red traffic light inside 1) forewarning - flashing, door running - illuminated            MOD 2: (Red traffic light inside 2) forewarning - flashing, door running - flashing            MOD 3: (Red traffic light inside 3) forewarning - illuminated, door running - illuminated            MOD 4: Pulse signal with UP command from inside            MOD 5: Fault message            MOD 6: OPEN end position            MOD 7: CLOSED end position            MOD 8: OPEN end position negated            MOD 9: CLOSED end position negated            MOD 10: Intermediate position UP            MOD 11: Intermediate position DOWN</p>	MOD 1 – MOD 13 MOD 17 – MOD 19 MOD 21 – MOD 31 MOD 34 – MOD 41 MOD 43 – MOD 46 MOD 48 – MOD 50 MOD 60 – MOD 62	MOD 6

Function	Description	Adjustment options	Factory setting
	<p>MOD 12: Intermediate position DOWN to end position DOWN</p> <p>MOD 13: Magnetic lock function</p> <p>MOD 17: SKS actuated or test error</p> <p>MOD 18: (Red traffic light 4) forewarning - flashing, door running - off</p> <p>MOD 19: Intermediate position UP to end position UP</p> <p>MOD 21: Test of the trap-in protection before opening (additional module required)</p> <p>MOD 22: Activation of transmission system radio 1 and 3, or testing light grid</p> <p>MOD 23: (Green traffic light) end position OPEN - illuminated, forewarning - OFF, door running - OFF</p> <p>MOD 24: Capacitor switching for sectional door drives 230V/1- (Actuation only via external coupling relay)</p> <p>MOD 25: Courtyard light function, 2 minutes illuminated after UP/ pulse - command</p> <p>MOD 26: Activation of transmission system radio 2</p> <p>MOD 27: Pulse signal after reaching UP end position</p> <p>MOD 28: Relay general OFF</p> <p>MOD 29: Door drives open</p> <p>MOD 30: Door drives closed</p> <p>MOD 31: Service, continuous signal after reaching the set service interval</p> <p>MOD 34: BMA signal (fire alarm signal active)</p> <p>MOD 35: Light barrier in function</p> <p>MOD 36: Locking cylinder slip door</p> <p>MOD 37: Testing stop signal transmission system radio 1 and 3</p> <p>MOD 38: Testing light grid 2 (input 2)</p> <p>MOD 39: Error LED</p> <p>MOD 40: Pulse signal with UP command from outside</p> <p>MOD 41: Test transmission system radio 4 in UP direction</p> <p>MOD 43: Drive moving</p> <p>MOD 44: (Red traffic light inside + outside) DOWN door movement from intermediate position DOWN - flashing UP door movement - off</p> <p>MOD 45: Closing edge in function</p> <p>MOD 46: Controller in operating mode ADJUSTMENT</p> <p>MOD 48: Door locking cylinder</p> <p>MOD 49: Testing presence and movement sensors (NC)</p> <p>MOD 50: Crash sensor is active</p> <p>MOD 60: (Red traffic light outside 1) forewarning - flashing, door running - illuminated</p> <p>MOD 61: (Red traffic light outside 2) forewarning - flashing, door running - flashing</p> <p>MOD 62: (Green traffic light outside) OPEN end position - illuminated, forewarning/door running - off</p>		
TL REST	<p>Switch traffic lights</p> <p>MOD 1: off in standby position</p> <p>MOD 2: on in standby position</p> <p>MOD 3: off after 5 minutes when in standby position</p>	MOD 1 - MOD 3	MOD 1

Function	Description	Adjustment options	Factory setting
SKS	<p>MOD 1: OSE (photo sensor)            MOD 2: 8.2kΩ (electric contact strip)            MOD 3: DW (pressure wave strip) as NC with testing            MOD 4: Light grid OSE without testing            MOD 5: Light grid SSR or PNP with testing            MOD 6: Light grid SSR or PNP without testing            MOD 7: 2-wire OSE (photo sensor with 2 connection wires)            MOD 8: BEA sensor with test output (connection plans on inquiry)</p> <p><b>NOTE:</b>            MOD 4, MOD 5 and MOD 6 must be set manually when using a light grid.            – Without addition of the open time (if programmed) after interruption of the light grid during the automatic closing.            – Without switch-off of the function AUTOMATIC CLOSING after 3 interruptions in succession.</p>	A (teaching) MOD 1 – MOD 8	A
DW TEST	<p>Activation and deactivation of the test function for the connected pressure wave strip.            Only appears when setting parameter SKS = MOD 3.            MOD 1: Test OFF            MOD 2: Test ON</p>	MOD 1 – MOD 2	MOD 2
DW-POINT	<p>Point at which the connected pressure wave strip (XP74 / ⊕-47) is tested.            Only appears when setting parameter SKS = MOD 3.            Setting in increments (only AWG), starting from bottom limit switch-off point.            In the case of systems with mechanical limit switches, the supplementary limit switch DOWN serves as a DW-Point.</p>	0 – 1000	20
SKS FUNC.	<p>MOD 1: Stop + reversing            MOD 2: Stop + rev for 2 seconds</p>	MOD 1 – MOD 2	MOD 1
SKS REV	<p>MOD 1: Stop + reversing                      between end position OPEN and reversing point                      Stopp between reversing point. and end position CLOSED                      → for vertically closing doors            MOD 2: Stop + reversing                      between end position OPEN and reversing point                      No action                      between reversing point. and end position CLOSED                      → for vertically closing doors with leading light barrier            MOD 3: Stop + reversing                      between end position OPEN and end position CLOSED                      → for horizontally closing doors and systems with mechanical limit switches without pre-limit switch</p> <p><b>NOTE:</b>            In the case of systems with mechanical limit switches the supplementary limit switch DOWN serves as reversing point.</p>	MOD 1 – MOD 3	MOD 1
REVERSE OFF	<p>Reversing point.            Point at which the reversing of the door is switched off.            Only appears with systems with an electronic end position system (AWG). Setting in increments, starting from bottom limit switch-off point. In the case of systems with mechanical limit switches, the supplementary limit switch DOWN serves as reversing point.</p>	A (teaching) 1 – 1000	50

Function	Description	Adjustment options	Factory setting																														
LIGHT BARR. 1	<p>Light barrier 1, with or without testing, mounted in passage area of the door.</p> <p>Connection to XB50 / XP63 / XP74. The respective system connected is automatically detected and taught</p> <p>→ Wiring diagrams “3.9 Connection light barrier 1” on page 14</p> <p>MOD 1: 2-wire-system (Marantec) with testing            MOD 2: 3-wire-system NPN without testing            MOD 3: 3-wire-system PNP without testing</p> <p>MOD 4: 3-wire-system NPN with testing            MOD 5: 3-wire-system PNP with testing</p> <p>4-wire-system NC contact without testing            4-wire-system NC contact with testing</p> <p><b>NOTE:</b>            If a 3- or 4-wire-system is operated with testing, the respective MOD (4 or 5) must be set manually.            The test is carried out cyclically in the OPEN end position and before each hazardous movement in the CLOSED direction.</p>	A (teaching) MOD 1 – MOD 5	A																														
LB FUNC. 1	<p>Function of the light barrier 1 in passage area of the door.</p> <table border="0"> <thead> <tr> <th></th> <th><b>DOWN door movement</b></th> <th><b>UP door movement</b></th> </tr> </thead> <tbody> <tr> <td>MOD 1:</td> <td>Stop + reversing</td> <td>No action</td> </tr> <tr> <td>MOD 2:</td> <td>Stop + rev</td> <td>No action</td> </tr> <tr> <td>MOD 3:</td> <td>STOP</td> <td>No action</td> </tr> <tr> <td>MOD 4:</td> <td>STOP</td> <td>STOP</td> </tr> <tr> <td>MOD 5:</td> <td>Stop + reversing</td> <td>Ride-along suppression (UP door movement only possible if the light barrier is clear).</td> </tr> <tr> <td>MOD 6:</td> <td>No action</td> <td>Stop + reversing</td> </tr> <tr> <td>MOD 7:</td> <td>No action</td> <td>Stop + rev</td> </tr> <tr> <td>MOD 8:</td> <td>No action</td> <td>Stop</td> </tr> <tr> <td>MOD 9:</td> <td>Ride-along suppression (DOWN door movement only possible, if the light barrier is clear).</td> <td>Stop + reversing</td> </tr> </tbody> </table> <p><b>Ride-along suppression OPEN (MOD 5):</b>            The intermediate position CLOSED is set to the value end position CLOSED + 600.            If the system is between end position CLOSED and intermediate position CLOSED, the door cannot be opened as long as the light barrier is interrupted.</p> <p><b>Ride-along suppression CLOSED (MOD 9):</b>            The intermediate position OPEN is set to the value end position OPEN - 600.            If the system is between end position OPEN and intermediate position OPEN, the door cannot be closed as long as the light barrier is interrupted.</p> <p><b>NOTE:</b>            No testing of the light barrier before the hazardous movement in OPEN direction.</p>		<b>DOWN door movement</b>	<b>UP door movement</b>	MOD 1:	Stop + reversing	No action	MOD 2:	Stop + rev	No action	MOD 3:	STOP	No action	MOD 4:	STOP	STOP	MOD 5:	Stop + reversing	Ride-along suppression (UP door movement only possible if the light barrier is clear).	MOD 6:	No action	Stop + reversing	MOD 7:	No action	Stop + rev	MOD 8:	No action	Stop	MOD 9:	Ride-along suppression (DOWN door movement only possible, if the light barrier is clear).	Stop + reversing	MOD 1 – MOD 9	MOD 1
	<b>DOWN door movement</b>	<b>UP door movement</b>																															
MOD 1:	Stop + reversing	No action																															
MOD 2:	Stop + rev	No action																															
MOD 3:	STOP	No action																															
MOD 4:	STOP	STOP																															
MOD 5:	Stop + reversing	Ride-along suppression (UP door movement only possible if the light barrier is clear).																															
MOD 6:	No action	Stop + reversing																															
MOD 7:	No action	Stop + rev																															
MOD 8:	No action	Stop																															
MOD 9:	Ride-along suppression (DOWN door movement only possible, if the light barrier is clear).	Stop + reversing																															
LB FUNC. 2	<p>Function of the light barrier 2 in passage area of the door.</p> <p>Only appears when setting parameter INPUT 1 = MOD 15.</p> <p>Connection only as NC contact via programmable input 1 (XB99 / 9-B9).</p> <p>Selection mode analogous to the settings under LB FUNC. 1</p>	MOD 1 – MOD 9	MOD 1																														

Function	Description	Adjustment options	Factory setting
LB POINT	<p>Between end position CLOSE and LB point, the light barrier 1 (XB50 / XP63 / XP74) is not evaluated. Setting in increments, starting from bottom limit switch-off point. Only appears with systems with an electronic limit switch.</p> <p><b>NOTE:</b> At the first approach during ADJUSTMENT, this point is automatically detected, provided that light barrier 1 is mounted in the door frame and remains interrupted during the closing travel from this point to the end position CLOSED.</p>	A (teaching) 1 - ES AUF	A
RADIO	<p>Configuration of the internal radio system in conjunction with the plug-in radio module → "3.15 Connection of radio module (pluggable)"</p> <p>MOD 1: OPEN - STOP - CLOSE - STOP - OPEN ... (sequential control) MOD 2: Sect. OPEN MOD 3: OPEN MOD 4: CLOSED MOD 5: Delete single radio, set MOD 5 and then operate the hand-held transmitter to be deleted. MOD 6: Completely delete memory</p>	MOD 1 - MOD 6	MOD 1
IMPULS	<p>Selection of a function that should be assigned to pulse button (input 1 - MOD 17 - XB99 / 9-B9).</p> <p>MOD 1: UP - STOP - DOWN - STOP - UP ... (sequential control) MOD 2: UP when door is stationary / no action during UP movement Stop and run open with DOWN movement MOD 3: UP when door is stationary / STOP with door movement MOD 4: UP when door is stationary / no action with door movement MOD 5: UP when door is stationary / CLOSE from OPEN end position</p>	MOD 1 - MOD 5	MOD 1

Function	Description	Adjustment options	Factory setting
INPUT 1	<p>Selection of a function that should be assigned to input 1 (XB99 / 9-B9).</p> <p>MOD 1: Button Sect. UP ..... <b>NO</b>            MOD 2: Switch Sect. UP ..... <b>NO</b>            MOD 3: Switch auto CL..... <b>NO</b>            MOD 4: External CLOCK (permanent UP)..... <b>NO</b>            MOD 5: Switch BMA 3 (Sect. opening) ..... <b>NO</b>            MOD 6: Switch BMA 1 (emergency closing) ..... <b>NO</b>            MOD 7: Switch BMA 1 (emergency closing) ..... <b>NC</b>            MOD 8: Switch BMA 2 (emergency opening) ..... <b>NO</b>            MOD 9: Switch BMA 2 (emergency opening) ..... <b>NC</b>            MOD 10: Button ventilation function (Sect. opening) ..... <b>NO</b>            MOD 11: Button automatic closing ..... <b>NO</b>            MOD 12: Laser scanner (height detection) ..... <b>NO</b>            MOD 13: Switch BMA 3 (Sect. opening) ..... <b>NC</b>            MOD 14: Slip door locking (limit switch)..... <b>NO</b>            MOD 15: Light barrier 2 ..... <b>NC</b>            MOD 16: Forewarning switch ..... <b>NO</b>            MOD 17: Impuls button ..... <b>NO</b>            MOD 18: Crash sensor ..... <b>NC</b>            MOD 19: Lock operation commands via LCD monitor ..... <b>NC</b>            MOD 22: Monitoring an external load contactor ..... <b>NO</b>            MOD 25: External clock (part-open)            MOD 26: STOP button..... <b>NO</b>            MOD 30: UP switch inside ..... <b>NO</b>            MOD 31: UP switch outside..... <b>NO</b>            MOD 32: DOWN switch ..... <b>NO</b>            (only active with functioning closing edge protective device            and functioning light barrier 1. No function in dead-man's            operation.)</p>	<p>MOD 1 – MOD 19            MOD 22            MOD 25 – MOD 26            MOD 30 – MOD 32</p>	<p>MOD 1</p>
INPUT 2	<p>Selection of a function that should be assigned to input 2 (XP74 / ⊕-45).</p> <p>OFF: NOT active            MOD 2: Safety switching with resistance evaluation ..... <b>xx Ω</b>            MOD 3: Switching strip – active in UP direction ..... <b>8.2 kΩ</b>                    Stops and reverses with actuation            MOD 4: Switching strip – active in UP direction ..... <b>8,2 kΩ</b>                    Stop and run clear (2 sec.) with actuation            MOD 6: Radar movement detector (height detection)..... <b>NO</b>            MOD 7: Light grid 2 (SSR / PNP) with testing..... <b>NC</b>            MOD 9: Safety element – STOP with deviation ..... <b>OSE</b>            MOD 10: Switching strip – active in UP direction ..... <b>OSE</b>                    Stops and reverses with actuation            MOD 11: Switching strip – active in UP direction ..... <b>OSE</b>                    Stop and rev (2 sec.) with actuation            MOD 12: Light grid 2 (OSE) ..... <b>OSE</b></p> <p>With first commissioning and after a reset, input 2 is set to A – self-teaching once.            When a resistance value is detected:            – MOD 2 (safety input) is activated automatically.            – The measured value is stored and monitored as a reference for the connected safety-related components.            – Individually connected closing edge protective device 8.2 kΩhm (MOD 3/4) must be activated manually in this case.            If no resistance value is detected:            – The input deactivates automatically.            – OFF appears in the display.            – The input must be manually activated.</p>	<p>A (teaching)            OFF            MOD 2 – MOD 4            MOD 6 – MOD 7            MOD 9 – MOD 12</p>	<p>A</p>

Function	Description	Adjustment options	Factory setting
RUNNING-TIME	Monitoring the maximum running time of an UP or DOWN movement. During the teach-in run, the runtime of the door is learned automatically. If the deviation is 20 % (in both directions), a runtime error appears. After automatic teach-in, the runtime can be changed manually.	A (teaching) OFF 1 – 300 seconds	A
REVERS.TIME	Motor standstill time with each direct change of direction. The reversal time when the safety edge is activated during the closing movement is one quarter of the set time.	100 – 5000 milliseconds	300
LIMIT SW.	Selection of the end position system to be evaluated.  MOD 1: Absolute value encoder (AWG) MOD 2: Mechanical limit switches (MEC) MOD 4: Absolute value encoder (AWG) with negative pulses MOD 5: Absolute value encoder (AWG) + mechanical limit switch DOWN (NC) with standard installation MOD 6: Absolute value encoder (AWG) + mechanical limit switch DOWN (NC) with special installation with left rotating field  <b>MOD 4 (optional)</b> For very slowly rotating drives (e.g. sliding gate drive, high limit switch ratio, FC operation) with special installation with left rotating field. Here, the negative AWG pulses are not recognised because the transmission rate is too low. MOD 4 compensates for this.  <b>MOD 5+6 (optional):</b> Here an additional external mechanical limit switch is set to query the lower end point in order to compensate for tolerances caused by the door mechanism and/or the door curtain. As soon as the mechanical limit switch is actuated, the lower end position is considered reached, regardless of the information from the absolute encoder.	A (teaching) MOD 1 – MOD 2 MOD 4 – MOD 6	A
SELF LOCK	Selection between pulse operation and manual operation (dead man) with or without evaluation of closing edge safety device (SKS) and light barrier system (LB).  MOD 1: Pulse operation for OPEN + CLOSE with SKS and LB With defective safety equipment, switch over to manual operation. MOD 2: Manual operation for OPEN + CLOSE with SKS and LB MOD 3: Manual operation for CLOSE, pulse operation for OPEN, with SKS and LB MOD 4: Manual operation for OPEN, pulse operation for CLOSE, with SKS and LB MOD 5: Manual operation for OPEN + CLOSE without SKS and LB MOD 6: Manual operation for CLOSE, pulse operation for OPEN, without SKS and LB MOD 7: Manual operation for OPEN + CLOSE with SKS and LB STOP upon reaching the intermediate position CLOSE. By pressing the button again, continued travel to end position CLOSED is possible. MOD 8: Pulse operation for OPEN + CLOSE with SKS and LB With defective safety equipment, switch over to manual operation only via circuit board button MOD 9: Manual operation for OPEN + CLOSE with SKS and LB With defective safety equipment, operation only via circuit board button.	MOD 1 – MOD 9	MOD 1

Function	Description	Adjustment options	Factory setting
POWER	<p><b>Automatic power monitoring</b> (Monitoring of the rotational speed) Fault message in the event of the door being difficult to move or blocked. Adjustment of the sensitivity for OPEN direction. A value for the force (rotational speed) will be displayed during opening. With the power monitoring active, the value must be set to a lower value than the lowest value shown during the door travel. The greater the difference to the lowest displayed value, the less sensitive the reaction of the power monitoring. The power monitoring is only activated if the numeric value is set.</p>	OFF 1 – 999	10
RESET MSBUS	<p>All assigned MS BUS addresses are reset. After a controller restart, re-addressing of all connected MS BUS devices takes place.  For detailed information refer to the manual for the MS BUS device.</p>	OFF ON	OFF
RESTART	With activation of the function, the controller is restarted.	OFF ON	OFF
FACTORY SET.	<p>Selection of the parameter set that should be reset with a RESET.</p> <p>MOD 5: Marantec S → Drives in dead man operation MOD 7: Marantec S → Drive series STAW with increased switch-on duration MOD 31: Marantec S → Dead-mans function, not resettable MOD 99: Marantec S → Standard</p> <p>Modes not listed are for non-applicable special functions or customised parameter sets.</p>	MOD 5 MOD 7 MOD 31 MOD 99	MOD 99
RESET	<p>Reset control parameters to the pre-selected factory settings.</p> <p>MOD 2: Part reset 2 (everything apart from end positions / recognised end position system) MOD 3: Complete reset (everything is reset to factory settings)</p>	OFF MOD 2 – MOD 3	OFF
PIN no. 2	<p>Input and selection of a PIN code for programming a service interval. After inputting the PIN code, the second programming level opens. Afterwards, a service interval can be entered via the SERVICE parameter. Input level 2 disappears again after the voltage is switched off, or automatically after 10 minutes. A change to the PIN code can only take place in the second programming level.</p>	0 – 9999	1111
SERVICE	<p>OFF: Service display not active</p> <p>Setting a service interval. After the set load cycles are complete, a service message is issued (LED / LCD). If a relay output is programmed with MOD 31: – The respective relay switches (permanent input). Only appears after activation of input level 2 via parameter PIN no. 2.</p>	OFF 0 – 99950	OFF

Function	Description	Adjustment options	Factory setting
EXPERT MENU	<p>Activation and deactivation of expert setting. In the factory setting OFF, only a limited choice of parameters appears in INPUT mode. If this parameter is set to ON, it is possible to call up and set all input menu parameters.</p> <p>OFF: Limited number of parameter settings:</p> <ul style="list-style-type: none"> <li>- Menu language</li> <li>- INC.P.OP</li> <li>- OPEN TIME</li> <li>- FOREWARNING</li> <li>- FAST CL.</li> <li>- SKS REV</li> <li>- REVERS- POINT.</li> <li>- RADIO</li> <li>- EINGANG 1</li> <li>- SELBSTHALT</li> <li>- EXPERT MENU</li> </ul> <p>ON: Access to all parameters as listed in Chapter 8.2.</p>	OFF ON	OFF

## 8.3 Explanations of the relay modes

### A. Traffic light functions

MOD	Description	CLOSED end position	OPEN end position	Forewarning	Door movement
MOD 1	Red traffic light inside 1	ON / OFF <sup>1</sup>	OFF <sup>2</sup>	Flashing	Illuminated
MOD 2	Red traffic light inside 2	ON / OFF <sup>1</sup>	OFF <sup>2</sup>	Flashing	Flashing
MOD 3	Red traffic light inside 3	ON / OFF <sup>1</sup>	OFF <sup>2</sup>	Illuminated	Illuminated
MOD 18	Red traffic light inside 4	OFF	OFF	Flashing	OFF
MOD 23	Green traffic light inside	OFF	Illuminated <sup>2</sup>	OFF	OFF
MOD 44	Red traffic light inside + outside	OFF	OFF	OFF	Flashing <sup>3</sup>
MOD 60	Red traffic light outside 1	ON / OFF <sup>1</sup>	OFF <sup>2</sup>	Flashing	Illuminated
MOD 61	Red traffic light outside 2	ON / OFF <sup>1</sup>	OFF <sup>2</sup>	Flashing	Flashing
MOD 62	Green traffic light <sup>4</sup>	OFF	Illuminated <sup>2</sup>	OFF	OFF

<sup>1</sup> Depending on the parameter TL REST.

<sup>2</sup> With active two-way control: Depending on the UP command inside or outside.

<sup>3</sup> From intermediate position DOWN to DOWN, also after stop command. Only in CLOSE direction.

### B. Position messages

MOD	Description	Remarks
MOD 6	OPEN end position	The relay closes the contact when the door is in the OPEN end position.
MOD 7	CLOSED end position	The relay closes the contact when the door is in the CLOSED end position.
MOD 8	Not OPEN end position	The relay closes the contact when the door is not in the OPEN end position.
MOD 9	Not CLOSED end position	The relay closes the contact when the door is not in the CLOSED end position.
MOD 10	Intermediate OPEN position (Sect. OPEN)	The relay closes the contact when the door is in the intermediate OPEN position (Sect. OPEN).
MOD 11	Intermediate CLOSED position (Sect. CLOSED)	The relay closes the contact when the door is in the intermediate CLOSED position (Sect. CLOSED).
MOD 12	Intermediate position CLOSE to end position CLOSE	The relay closes the contact when the door is in the range between the CLOSED end position and the intermediate CLOSED position (Sect. CLOSED).

MOD	Description	Remarks
MOD 19	Intermediate position OPEN to end position OPEN	The relay closes the contact when the door is in the range between the OPEN end position and the intermediate OPEN position (Sect. OPEN).

### C. Pulse signals

MOD	Description	Remarks
MOD 4	Pulse with OPEN command from inside	The relay closes the contact for 1 second if the door receives an OPEN command from inside. It is possible to realise light actuation with this pulse for example.
MOD 27	Pulse after reaching OPEN end position	The relay closes the contact for 2 seconds if the door reaches the OPEN end position. It is possible to open a downstream cabinet with this pulse for example.
MOD 40	Pulse with OPEN command from outside	The relay closes the contact for 1 second if the door receives an OPEN command from outside. It is possible to realise light actuation with this pulse for example.

### D. Error messages

MOD	Description	Remarks
MOD 5	Fault message	The relay opens the contact if a STOP command or an error is present. All errors of chapter 9 lead to relay actuation.
MOD 17	Closing edge protective device SKS 1-2 actuated	Monitoring SKS1 (XP74 / ⊕ ⊖-47), SKS2 (X4/11-12) and SKS2 (XP74 / ⊕ ⊖-45). The relay opens the contact if one of the closing edge protective devices SKS 1-2 is actuated. An error with one of the closing edge protective devices or a faulty test is displayed via MOD 5.
MOD 35	Light barrier	Analogous to the light barrier input (XB50 / XP63 / XP74), switches the applied signal on as a message. Relay ON: Light barrier signal is OK Relay OFF: Light beam interrupted or light barrier defective
MOD 39	Error LED	The relay always closes the contact if the internal error LED 2 (red) lights up.
MOD 45	Closing edge protective devices SKS 1-2 OK	Monitoring SKS1 (XP74 / ⊕ ⊖-47) and SKS2 (XP74 / ⊕ ⊖-45) Relay ON: All closing edge protective devices are OK Relay OFF: At least one closing edge protective device is actuated or defective

## E. Movement signal

MOD	Description	Remarks
MOD 29	Door drives open	Active with movement in the OPEN direction.
MOD 30	Door drives closed	Active with movement in the CLOSE direction.
MOD 43	Door drives open or closed	Active with all movement (Actuation of a motor brake).

## F. Functions for external accessories

MOD	Description	Remarks
MOD 13	Magnetic lock function	The relay closes before every door movement. The relay is opened in the standby position. A delay time of 0.5 seconds is set before every door movement.
MOD 21	Test of the trap-in protection	The relay generates a test signal upon reaching the CLOSED end position and awaits actuation of the stop circuit as a response to the test signal.
MOD 22	Activation of transmission system radio 1 and radio 4, test of light grid 1	The relay generates a test signal upon reaching the OPEN end position and awaits actuation of the switching strip input as a response to the test signal.
MOD 24	Capacitor switching	With every operation command, the relay is closed for approx. 1 second. This relay is used to add an additional start capacitor required for alternating current applications to ensure safe starting of the motor. For series STAW with increased switch-on duration.  <b>NOTE:</b> The relay output may be wired with max. 30 V DC / 4 A. An external coupling relay is required to control the capacitor.
MOD 25	Courtyard light function	With each OPEN command, the relay is closed for 2 minutes and can therefore be used to control a lighting system.
MOD 26	Activation of transmission system radio 2 and radio 4	Before every CLOSE command, the transmission system radio is activated with a pulse. The duration of activation must be set on the transmission system. As a result of this activation, travel in the CLOSE direction is delayed by approx. 0.5 seconds.
MOD 28	Relay OFF	The relay is switched off as a general rule, the contact is always open.
MOD 36	Pneumatic cylinder for locking the slip door (threshold-free door system)	With every OPEN command the relay is activated and controls a pneumatic cylinder that mechanically locks the slip door of the door. The locking position of the cylinder is queried via a limit switch. Only after this limit switch is released (via input 1 - MOD 14) does the door start to move. The relay remains active until the lower end point is reached again. In ADJUSTMENT mode the relay is permanently active.
MOD 37	Testing the stop signal via transmission system radio 1 and radio 3	The relay generates a test signal upon reaching the OPEN end position and awaits an interruption of the stop circuit as a response to the test signal.

MOD	Description	Remarks
MOD 38	Test of light grid 2 (8.2 kΩ), connection via input 2 (XP74 / ⊕-47)	The relay generates a test signal upon reaching the OPEN end position and awaits an interruption at input 2 as a response to the test signal.
MOD 41	Activation transmission system radio 4 in OPEN direction	The relay generates a test signal upon reaching the CLOSED end position and awaits an interruption at input 2 as a response to the test signal.
MOD 48	Pneumatic cylinder for locking the door	With every OPEN command, the relay is activated and controls a pneumatic cylinder that mechanically locks the door. The locking position of the cylinder is queried via a limit switch. Only after this limit switch is released (via input 1 - MOD 14) does the door start to move. The relay only remains active until the motor stops, no matter whether in a defined end or intermediate position or at an arbitrarily chosen point along the door travel path. In ADJUSTMENT mode the relay is permanently active.
MOD 49	Testing presence and movement sensors (NC)	The relay generates a test signal each time before closing travel and awaits an interruption of the closing edge input as a response to the test signal.
MOD 50	Crash sensor is active	The door system crash sensor has been activated (connection to XB99 / 9-B9, programmable input 1 - MOD 18). As long as the crash sensor is active, the relay is also activated. A vehicle (e.g. forklift truck) may have driven into the closed door.

## G. Input-dependent messages

MOD	Description	Remarks
MOD 34	BMA signal	Switches with an active fire alarm system. Follows the signal at input 1 with setting MOD 5-9 / 13. In this case, input 1 is fed with a control signal from the fire alarm system and, depending on the setting, the door opens or closes to an end or intermediate position.

## H. System messages

MOD	Description	Remarks
MOD 31	Service	The relay is active after reaching the programmed service interval. Only after the service interval is reset or redefined does the relay drop out again. → "8.2 INPUT operating mode" on page 37
MOD 46	ADJUSTMENT operating mode	The relay is active if the control is in the ADJUSTMENT operating mode.

## 8.4 Explanations of the inputs:

### A. Functions input 1

MOD	Description	Remarks
MOD 1	SECT. OPEN button	By pressing the button (input 1), the door opens to the intermediate OPEN position (SECT. OPEN).
MOD 2	SECT. OPEN switch	Closed: All OPEN commands lead to intermediate OPEN position (SECT. OPEN). Open: All OPEN commands lead to the OPEN end position.
MOD 3	AUT.CLOSE switch	Closed: No automatic closing. (Open time stops, if open time > 0). Open: Automatic closing is active (if open time > 0).
MOD 4	External CLOCK (permanent OPEN) in OPEN position	The door opens as soon as the contact closes and remains in the OPEN position (maintain open time) until the contact opens. Then the door drives closed automatically (only with open time > 0). This function can be cancelled by actuating the CLOSE button. The door drives CLOSED.
MOD 5	Switch BMA 3 (Sect. opening) NO	Control function with an active fire alarm system. Open: Normal function. Closed: Sect. opening of the door. The intermediate OPEN position (Sect. OPEN) is approached from both directions, irrespective of the current door position.  BUTTON: No function. LB / SKS: Door stops and moves clear (only in CLOSE direction), after 5 seconds renewed closing. STOP: Interruption of the emergency closing for the duration of activation.
MOD 6	Switch BMA 1 (emergency closing) NO	Control function with an active fire alarm system. Open: Normal function. Closed: Emergency closing of the door.  BUTTON: No function. LB / SKS: Door stops and moves clear, after 5 seconds renewed emergency closing. STOP: Interruption of the emergency closing for the duration of activation.
MOD 7	Switch BMA 1 (emergency closing) NC	Control function with an active fire alarm system. Closed: Normal function. Open: Emergency closing of the door.  BUTTON: No function. LB / SKS: Door stops and moves clear, after 5 seconds renewed emergency closing. STOP: Interruption of the emergency closing for the duration of activation.
MOD 8	Switch BMA 2 (emergency opening) NO	Control function with an active fire alarm system. Open: Normal function. Closed: Emergency opening of the door.  BUTTON: No function. LB / SKS: No function. STOP: Interruption of the emergency opening for the duration of activation. No automatic closing after deactivation of the BMA signal.

MOD	Description	Remarks
MOD 9	Switch BMA 2 (emergency opening) NC	Control function with an active fire alarm system. Closed: Normal function. Open: Emergency opening of the door.  BUTTON: No function. LB / SKS: No function. STOP: Interruption of the emergency opening for the duration of activation. No automatic closing after deactivation of the BMA signal.
MOD 10	Button ventilation function NO	Sect. opening of the door. By pressing an additional button at input 1, the intermediate CLOSED position (Sect. CLOSED) is approached from both directions, independent of the current door position.
MOD 11	AUTOMATIC CLOSING button	1. Actuation: No automatic closing, open time is stopped. 2. Actuation: Automatic closing is active again if open time > 0. 3. Actuation: No automatic closing, open time is stopped. ...
MOD 12	Laser scanner (height detection)	Only in conjunction with input 2 (MOD 6). → See explanations for input 2
MOD 13	Switch BMA 3 (Sect. opening) NC	Control function with an active fire alarm system. Closed: Normal function. Open: Sect. opening of the door. The intermediate OPEN position (SECT. OPEN) is approached from both directions, irrespective of the current door position.  BUTTON: No function. LB / SKS: Door stops and moves clear (only in CLOSE direction), after 5 seconds renewed closing. STOP: Interruption of the emergency closing for the duration of activation.
MOD 14	Slip door locking	Monitoring limit switch for the pneumatic locking system of slip doors. The limit switch must have confirmed the correct locking within 10 seconds after an OPEN command, otherwise an error message is issued and the door stops. This function acts on relay mode 36.
MOD 15	Light barrier 2 NC	If a second light barrier is connected in the passage area of the door, this system can be programmed via the parameter LB FUNC 2 in the INPUT. Only connection of light barriers with potential-free NC contact.
MOD 16	Forewarning switch	Closed: Start-up warning and forewarning are inactive (even if both times > 0). Open: Start-up warning and forewarning are active (only if both times > 0). → "8.2 INPUT operating mode"
MOD 17	Impuls button outside	Pressing the button moves or stops the door. - Function and direction of the movement depend on the IMPULS parameter setting in the input menu. → "8.2 INPUT operating mode" / Parameter IMPULS - With active two-way control, this pulse command is treated as an external signal.
MOD 18	Crash sensor NC	Query of a crash sensor as NC contact. If the crash sensor was actuated once, only renewed door travel is possible - after pressing and holding the STOP button for more than 5 seconds, or - switching the supply voltage off and back on.

MOD	Description	Remarks
MOD 19	Switch block operation commands NC	Closed: No restrictions. Open: It is no longer possible to use the (+) and (-) buttons on the LCD monitor and the motherboard to issue operation commands in AUTOMATIC mode.
MOD 22	Monitoring an external load contactor	In a control version with external load contactor (motor power > 1.5 kW / 5 A) the auxiliary contacts of the load contactor (NO) are connected and monitored here.
MOD 25	External clock CLOSED (part-open) in Sect. OPEN position	The door opens to the Sect. OPEN position as soon as the contact closes and remains in the Sect. OPEN position until the contact opens. A programmed open time is stopped. Then the door drives closed automatically (only with open time > 0). This function can be cancelled by actuating the CLOSE button. The door then drives closed immediately.
MOD 26	STOP button	Pressing the button stops the door. In the same way as the STOP cover switch.
MOD 30	UP switch inside	Pressing the button opens the door to the OPEN end position. The internal traffic light switches to green.
MOD 31	UP switch outside	Pressing the button opens the door to the OPEN end position. The external traffic light switches to green.
MOD 32	DOWN switch	Pressing the button closes the door to the CLOSED end position. Only active with functioning closing edge protective device and functioning light barrier 1. No function in dead-man's operation.

## B. Functions input 2

MOD	Description	Remarks
OFF		Not active.
MOD 2	Safety switching with resistance evaluation	With first commissioning and after a reset, input 2 is set to A (self-teaching) once. When a resistance value is detected: <ul style="list-style-type: none"> <li>- MOD 2 (safety input) is activated automatically.</li> <li>- The measured value is stored and monitored as a reference for the connected safety-related components.</li> </ul> → "3.14 Safety input per EN 12453" on page 20 Deviation of the measured value leads to an error message.  If a safety element is subsequently added or removed, the resistance measurement must be performed again. For this purpose the parameter INPUT 2 must be manually reset to A (self-teaching) and the supply voltage must be switched off and on again. Renewed measurement then takes place.  If no resistance value is detected with first commissioning or after a reset: <ul style="list-style-type: none"> <li>- The input deactivates automatically.</li> <li>- OFF appears in the display.</li> <li>- The input must be manually activated.</li> </ul>
MOD 3	Switching strip OPEN (8.2 kΩ)	Switching strip active in OPEN direction. Stop and reversing to the CLOSED end position upon actuation of the switching strip.

MOD	Description	Remarks
MOD 4	Switching strip OPEN (8.2 kΩ)	Switching strip active in OPEN direction. Stop and close for 2 seconds (rev) with actuation of the switching strip.
MOD 6	Radar movement detector (Height detection) NO	The function is coupled with input 1 (MOD 12 – laser scanner). The upstream laser scanner detects the height of the vehicle. The connected radar motion detector generates an OPEN command when activated. <ul style="list-style-type: none"> <li>- A tall vehicle (HGV) is detected by the laser scanner. The laser scanner switches input 1 (MOD 12) to ON. The radar motion detector detects the vehicle and triggers the door movement. The door is moved to the OPEN end position.</li> <li>- A low vehicle (car) is detected by the laser scanner. The laser scanner switches input 1 (MOD 12) to OFF. The radar motion detector detects the vehicle and triggers the door movement. The door is moved to the intermediate OPEN position (SECT. OPEN).</li> </ul> All other OPEN commands (via XB50, XB11, XB72) always move the door to the OPEN end position. The function of input 1 (MOD 12) is then irrelevant.
MOD 7	Light grid 2 (SSR / PNP) with testing	Behaves like light grid 1 (SKS MOD 4 – 6). <ul style="list-style-type: none"> <li>- Light grid active in CLOSE direction.</li> <li>- Stops and reverses with actuation of the light grid.</li> </ul> Form of reversing (reverse / rev) is accepted.
MOD 9	Safety element (OSE)	STOP the system with actuation.
MOD 10	Switching strip OPEN (OSE)	Switching strip active in OPEN direction. Stop and reversing to the CLOSED end position upon actuation of the switching strip.
MOD 11	Switching strip OPEN (OSE)	Switching strip active in OPEN direction. Stop and close for 2 seconds (rev) with actuation of the switching strip.
MOD 12	Light grid 2 (OSE)	Behaves like light grid 1 (SKS MOD 4 – 6). <ul style="list-style-type: none"> <li>- Light grid active in CLOSE direction.</li> <li>- Stops and reverses with actuation of the light grid.</li> </ul> Form of reversing (reverse / rev) is accepted.

## 8.5 DIAGNOSIS operating mode / error memory



Display	Meaning	Condition
UPPER SWITCH	OPEN end position	OFF: End position reached. ON: End position not reached.
LOWER SWITCH	CLOSED end position	OFF: End position reached. ON: End position not reached.
UP-SWITCH	Command button / input OPEN	ON: Button is actuated / input is active. OFF: Button not actuated / input not active.

Display	Meaning	Condition
DOWN-SWITCH	Command button / input CLOSE	ON: Button is actuated / input is active. OFF: Button not actuated / input not active.
INPUT 1	Programmable INPUT 1 (XB99 / 9-B9)	ON: Input 1 is active. OFF: Input 1 is not active.
INPUT 2 / SKS OPEN 2 / SAFE. 2 (optionally)	Programmable INPUT 2 (XP74 / ⊕-45)  Input dependent on MOD selected at the programmable input.  INPUT 2 with MOD 5-7 SKS OPEN 2 with MOD 3-4 SAFE. 2 with MOD 2	ON: Input 2 is active. OFF: Input 2 is not active. -: Not activated.
SKS	Closing edge protective device 1 (DW, 8.2 kΩ or photo-sensor) or light grid 1 (PNP or photo-sensor) (XP74 / ⊕ ⊖-47) CLOSE direction	ON: System is closed. OFF: System is interrupted (fault).
DURCHF.-LS	Light barrier 1 (XB50 / XP63 / XP74)	ON: Light barrier signal is OK. OFF: Light beam interrupted or light barrier defective.
LIGHT BARR. 2	Light barrier 2 Connection at input 1 (Input 1 - MOD 15 - XB99 / 9-B9)	ON: Light barrier signal is OK. OFF: Light beam interrupted or light barrier defective.
SAFETY CIRC.	Safety circuit 1 Emergency stop systems of door system	ON: Safety circuit is closed. OFF: Safety circuit is interrupted.
STOP	Command button STOP (cover keypad)	ON: Button is not actuated. OFF: Button is actuated.
ROT FIELD	Shows the currently set rolling direction of the drive	RIGHT: Setting for a right rotating field. LEFT: Setting for a left rotating field.
CYCLE	Door cycle counter	Display of the door cycles that have run through: 1 x OPEN + 1 x CLOSE = 1 cycle Counting only takes place when the end switch-off points have each been reached.
SERVICE	Service alarm function Setting via parameter SERVICE and PIN no. 2	OFF: Service display not active. 0 - 99999: Service display is active. Display of the remaining door cycles up to the service message.
AWG	Position information of the absolute value encoder	Display of the currently transferred value.
C.STOP	HALT/STOP counter	Shows how often the door was stopped. Either through activation of a safety device, in case of direct direction reversal by a run command or by a direct STOP/HALT command.
C.OPENED	Counter for top end position	Shows how often the top end position was approached.

Display	Meaning	Condition
C.O.BTN	Counter for OPEN commands	Number of all incoming OPEN commands through command devices, sensors and safety devices (e. g. light barrier).
ERROR ... COUNT CYCLE	<p>Controller error memory.</p> <p>The error messages of the controller can be read out here with information about frequency and cycle.</p> <p>Use the [+] and [-] keys on the LCD monitor to scroll through the list of various error messages.</p> <p>→ "9.1 Fault display on the LCD monitor"</p> <p>Deletion of the error memory: Press the buttons [+] and [-] simultaneously for approx. 2 seconds.</p> <p>Each error message must be individually deleted.</p>	<p>The display changes in 2-second intervals between</p> <ul style="list-style-type: none"> <li>- the fault description,</li> <li>- the frequency of occurrence, and</li> <li>- the information on which cycle the fault arose most recently.</li> </ul> <p>Only errors that have already occurred appear in the list.</p>

The following messages can be read from the error memory, but are not displayed in the AUTOMATIC operating mode:

Display	Meaning	Condition
POWER ON	Counter for switching the supply voltage off and back on again.	Counts up by actively switching the supply on and off, or with power failures.
ERROR SUPP. VOLT.	Counter for the occurrence of deviations in the supply voltage.	Overvoltage and undervoltage are detected and counted.
RESTART	Restart counter	Display of the restarts executed. Caused by detection of undervoltage, change of the end position system, change to the motor parameters, or after a RESET of the controller.

## 9. Fault display and remedial measures

### 9.1 Fault display on the LCD monitor

Fault / message	Cause	Rectification
System does not react.	- No voltage present.	- Check power supply for the drive and controller.
Door drives to the CLOSED end position upon actuation of the OPEN button. Door drives to the OPEN end position upon actuation of the CLOSE button.	- Rotating field has been incorrectly connected.	- Check rotating field and establish right rotating field if necessary.

Fault / message	Cause	Rectification
FAULT - X	internal software or hardware error.	<ul style="list-style-type: none"> <li>- RESET via circuit board button:</li> <li>→ "6.7 RESETTING the controller without LCD monitor"</li> </ul>
SAFETY CIRC.	<ul style="list-style-type: none"> <li>- The safety circuit is interrupted.</li> <li>XR51 / 15-R5 Safety circuit controller EMERGENCY STOP, Safety switch</li> <li>XV32 / 4+8 Safety circuit drive AWG</li> <li>XV36 / 4+8 Safety circuit drive MEC</li> <li>XB50 / 5-B5 Stop button external</li> </ul>	<ul style="list-style-type: none"> <li>- Check safety circuit, locate interruption and eliminate problem.</li> </ul>
ERROR RUNTIME	<ul style="list-style-type: none"> <li>- The programmed running time has been exceeded.</li> </ul>	<ul style="list-style-type: none"> <li>- Check the path of the door and running time.</li> <li>- Re-programme the running time if necessary.</li> </ul>
ERROR AWG	<ul style="list-style-type: none"> <li>- Signal transmission between absolute value encoder and controller is interrupted or faulty.</li> </ul>	<ul style="list-style-type: none"> <li>- Check cable and connector and replace if necessary.</li> </ul>
TERM SWITCH FAIL	<ul style="list-style-type: none"> <li>- The door is located outside the programmed end position range.</li> <li>- The end positions are not yet programmed.</li> </ul>	<ul style="list-style-type: none"> <li>- Reset the door in the programmed range via the emergency operation.</li> <li>- Program the end positions first.</li> </ul>
ERROR REVOLUTION	<ul style="list-style-type: none"> <li>- The power monitoring has triggered.</li> </ul>	<ul style="list-style-type: none"> <li>- Check door for mechanical impairments.</li> </ul>
ERROR DIRECTION	<ul style="list-style-type: none"> <li>- The present rotating field is not clockwise rotating.</li> </ul>	<ul style="list-style-type: none"> <li>- Check rotating field and change if necessary.</li> <li>→ "4.1 Checking the output drive direction of rotation / travel direction"</li> </ul>
ERROR SKS CLOSE	<ul style="list-style-type: none"> <li>- Closing edge protective device 1 defective in CLOSE direction → (XP74 / ⊕-47).</li> </ul>	<ul style="list-style-type: none"> <li>- Check closing edge protective devices and spiral cable.</li> </ul>
ERROR SKS OPEN 2	<ul style="list-style-type: none"> <li>- Closing edge protective device 2 defective in OPEN direction → (XP74 / ⊕-45) input 2.</li> </ul>	<ul style="list-style-type: none"> <li>- Check closing edge protective devices and spiral cable.</li> </ul>
ERROR STOP. 2	<ul style="list-style-type: none"> <li>- A fault has occurred at safety input (XP74 / ⊕-45 - MOD 2) (slack rope switch, push door sensor, fall protection switch).</li> </ul>	<ul style="list-style-type: none"> <li>- Check all components at the safety input and replace if necessary.</li> </ul>
ERROR SKS-TEST	<ul style="list-style-type: none"> <li>- The test of the connected pressure wave strip was unsuccessful.</li> </ul>	<ul style="list-style-type: none"> <li>- Check DW switch, spiral cable and rubber profile.</li> <li>- Check DW-POINT setting.</li> </ul>
	<ul style="list-style-type: none"> <li>- The test of the transmission systems radio 1 - 4 failed.</li> </ul>	<ul style="list-style-type: none"> <li>- Check transmission system radio.</li> <li>- Check relay MOD setting for transmission system.</li> <li>→ "F. Functions for external accessories" on page 49</li> </ul>
ERROR LIGHT BAR.	<ul style="list-style-type: none"> <li>- The connected light barrier exhibits a permanent fault.</li> <li>→ (XB50 / XP63 / XP74)</li> </ul>	<ul style="list-style-type: none"> <li>- Check light barrier (function and alignment).</li> <li>- Check cabling.</li> </ul>
ERROR LIGHT BAR. 2	<ul style="list-style-type: none"> <li>- The connected light barrier exhibits a permanent fault.</li> <li>→ (XB99 / 9-B9) Input 1</li> </ul>	<ul style="list-style-type: none"> <li>- Check light barrier (function and alignment).</li> <li>- Check cabling.</li> </ul>

Fault / message	Cause	Rectification
ERROR LB TEST	- The test of the light barrier failed.	- Check light barrier (function and alignment). - Check cabling.
ERROR STOP-TEST	- The test of the slip door switch (8.2 kΩ) failed. -> input 2	- Check slip door switch.
ERROR TRAPIN	- The test of the trap-in protection (auxiliary module) failed. -> Relay MOD 21	- Check light barrier (function and alignment). - Check cabling.
ERROR CYLINDER	- The monitoring limit switch of the locking system for threshold-free slip doors has not switched within 10 seconds of the input of an OPEN command.	- Check limit switch of the cylinder.
ERROR MSBUS	- The communication between the controller and connected MS BUS module is interrupted.	- Check cable and connectors and replace, if necessary.
ERROR 24 V	Under-voltage - Mains voltage too low - Mains voltage dropped out - Internal short circuit	- Check power supply. - Check bridge XN88 position.
	- Short circuit command devices / internal	- Check command devices
ERROR 24 V EXT	- The voltage supply 24 V DC (XP74 +/- and XB50 +/-) was switched off due to excessive load from external consumers.	- Reduce the number of connected consumers. - Limit current draw to max. 200 mA through the selection of other components.
ERROR POWERSEGM.	- The load contactor or a relay is defective.	- The circuit board must be replaced.

**After rectifying the cause of the error, the power supply to the control must be turned off once and/or the control must be restarted (> INPUT menu > parameter RESTART > ON) in the event of the following errors:**

- ERROR DIRECTION
- ERROR REVOLUTION
- ERROR RUNTIME
- TERM SWITCH FAIL

## 9.2 Error message via LED indicator

**LED H1 (green, main circuit board)**

Fault / error message	LED indicator	Remarks
No operating voltage	Off	No power supply present.

**LED H2 (red, main circuit board)**

Fault / error message	LED indicator	Remarks
SAFETY CIRC.	Flashes 1 x	Safety circuit is interrupted. - Check safety circuit, localise interruption and rectify problem.
ERROR AWG	Flashes 2 x	Signal transmission between absolute value encoder and control interrupted and/or broken down. - Check the cable and socket connections and replace, if necessary.
TERM SWITCH FAIL	Flashes 3 x	The system is outside the programmed end position range or the end positions are not yet programmed. - Program the end positions first. - Move the door/gate back into the programmed area using the emergency operation facility.
ERROR DIRECTION	Flashes 4 x	The rotating field present is not a clockwise rotating field. - Check the rotating field and change the direction, if necessary. → "4.1 Checking the output drive direction of rotation / travel direction"
ERROR REVOLUTION	Flashes 5 x	The power monitoring has been triggered. - Check the door for any mechanical impairment or damage.
ERROR RUNTIME	Flashes 6 x	The programmed running time has been exceeded. - Check the path of the door and the running time. - Re-programme the running time, if necessary.
ERROR MSBUS	Flashes 9 x	Communication error between the control and the installed MS BUS end device. - Check the cable and socket connections and replace, if necessary.
SERVICE	Flashes 10x	The programmed service interval has been reached. - Reset or redefine service interval. → "8.2 INPUT operating mode" / Parameter SERVICE
ERROR POWERSEGM.	Flashes 11x	The load contactor or a relay is defective. - The circuit board must be replaced.
ERROR STOP	Continuous illumination, travel no longer possible.	- An error has occurred at the safety input (XP74 / ⊕-5-MOD 2). - Check all components at the safety input and replace if necessary.
ERROR SKS	Continuous light Travel only possible in deadman mode	Closing edge safety device faulty in OPENING or CLOSING direction. - Check the closing edge safety device and the spiral cable and, if necessary, check the RADIO transmission system.
ERROR LIGHT BAR	Continuous light Travel in CLOSING direction only possible in deadman mode	The installed photocell indicates a permanent fault. - Check photocell (function and alignment). - Check cabling.

## 10. Maintenance

### 10.1 Service

The CS 265 controller is maintenance-free.

### 10.2 Testing

The CS 265 controller must be checked at least once yearly.

#### **WARNING!**

##### **Life-threatening danger due to electric shock!**

Touching live parts can lead to an electric shock, burns or death.

- Disconnect the controller from the power supply before testing.
- Check the system to ensure there is no voltage.
- Secure the system to prevent the power being turned back on.

#### **ATTENTION!**

##### **Property damage due to improper checking of the controller!**

In order to avoid damage to the controller, drive and door, observe the following points:

- Testing must only be carried out by trained, qualified and authorised persons.
- Worn or faulty parts must be replaced or disposed of correctly.
- Only approved original parts may be installed.
- The test results must be documented in the log book for the door system.
- Check all electrical cables and the housing for damage. A defective cable must be replaced immediately.

## 11. Declaration of conformity

in accordance with Directive 2006/42/EC (Machinery)  
in accordance with Directive 2014/30/EU (EMC)  
in accordance with Directive 2011/65/EU (RoHS)

Marantec Legden GmbH & Co. KG,  
Neue Mühle 4,  
D - 48739 Legden

We hereby declare that the product cited below

Product designation: **Controller for industrial doors**  
Type designation: **CS 265**

is intended exclusively for incorporation in a door system and has been developed, designed and produced in accordance with the following directives:

Machinery Directive 2006/42/EC  
Annex 1: 1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.2, 1.2.3, 1.2.4.2, 1.2.5, 1.2.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.9, 1.5.1, 1.5.2, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.5.8, 1.5.9, 1.5.10, 1.5.11, 1.5.13, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.7.1.1, 1.7.1.2, 1.7.2, 1.7.3, 1.7.4.3.

EMC Directive 2014/30/EU Electromagnetic Compatibility  
RoHS Directive 2011/65/EU Hazardous substances in electrical appliances  
LV Directive 2014/35/EU Low voltage, per Annex I part 1.5.1 of 2006/42/EC

Applied standards:

EN 12453:2017 + A1:2021 Doors – Safety in use of power-operated doors: Requirements and test methods  
EN ISO 13849-1:2015 Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design  
EN ISO 13849-2:2012 Safety of machinery – Safety-related parts of control systems – Part 2: Validation  
EN 60335-1:2012 / A15:2021 Safety of household and similar electrical appliances – Part 1: General requirements  
EN 60335-2-103:2015 Safety of household and similar electrical appliances – Part 2-103: Particular requirements for drives for gates, doors and windowss  
EN IEC 61000-6-2:2019 Electromagnetic compatibility (EMC). Part 6-2: Generic standards – Immunity standard for industrial environments  
EN 61000-6-3:2007 + A1:2011 Electromagnetic compatibility (EMC). Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments  
EN 55014-1:2017 Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission

EN 55014-2:2015

Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard

The relevant technical documentation has been compiled in accordance with Annex VII, part B of the Machinery Directive (2006/42/EC).

We shall transmit this information in electronic form, in response to a justified request by the market surveillance authorities, in a timely manner.

Person authorised to compile the technical documentation is the undersigned.

The logic unit with safety function is only intended for connection to or installation in a gate or door system, in order to form a complete machine in accordance with the above-mentioned directive. This product must therefore not be put into service until the complete machine/system into which it is incorporated is compliant with the provisions of the aforementioned directives. Any change to this product that we have not approved will void this regulation.

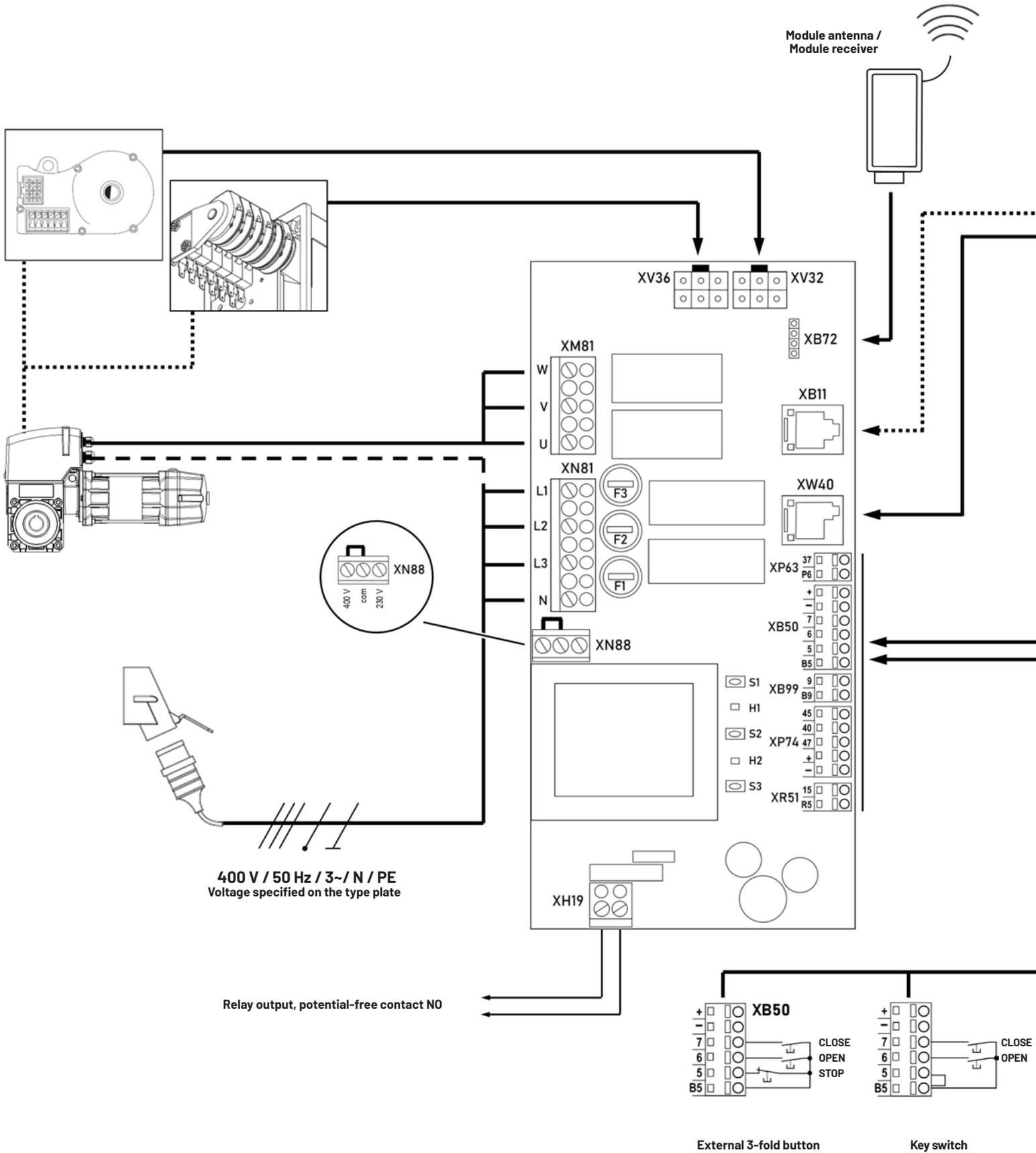
Legden, 01.02.2025



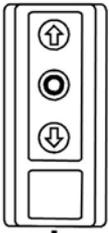
Michael Hörmann, General Manager



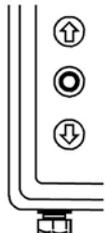
## 12. Overview of the connections



External button CS-I 15

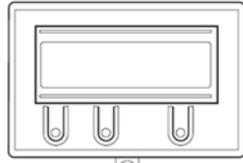


Cover switch CS

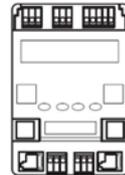


optionally

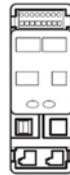
LCD monitor MS BUS



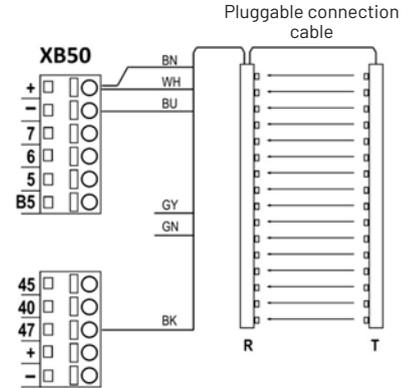
I/O module / GV module



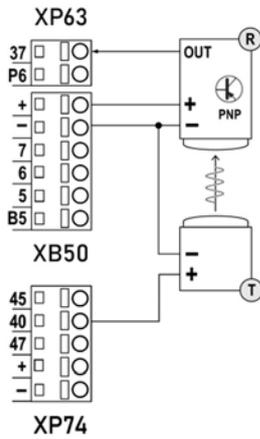
ES module



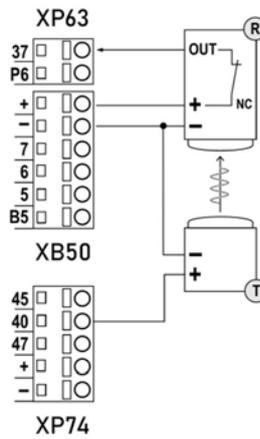
Light grid 1 (OSE / GridScan Pro)



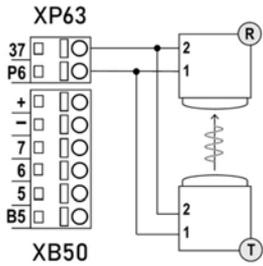
Light barrier 3-wire with testing



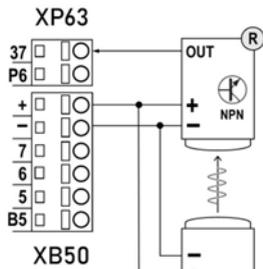
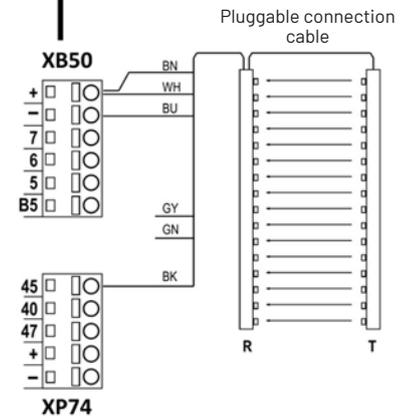
Light barrier 4-wire with testing



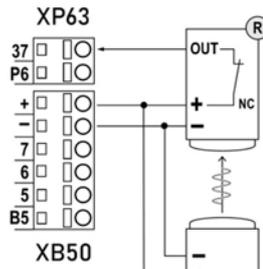
Light barrier 2-wire with testing



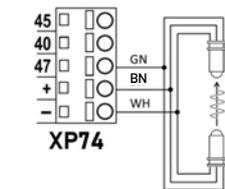
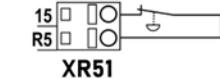
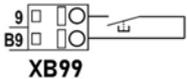
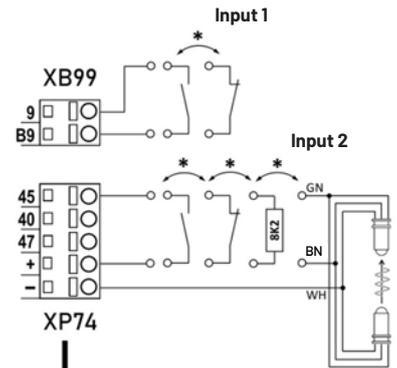
Light grid 2 (OSE / GridScan Pro)



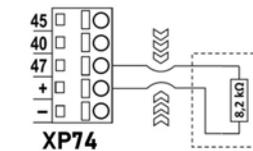
Light barrier 3-wire without testing



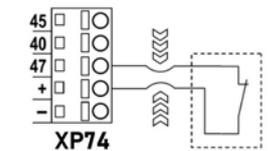
Light barrier 4-wire without testing



Closing edge protective device OSE



Closing edge protective device 8.2 kΩ



Closing edge protective device DW

