Installation manual
Servox Operating system

P1617049 2026-01

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Contents

1 Safety instructions

1.1 General Safety Information

- Use the door operator only under the conditions described in these instructions.
- Any other use is not correct and can be dangerous.
- The manufacturer is not responsible for damage caused by incorrect or unsafe use.
- If you do not follow these instructions, injury or damage can happen.
- Give these instructions to all future users and operators of the door operator.
- Use the door operator only when no maintenance or adjustment is needed.
- Disconnect the power supply before cleaning or maintenance.
- Use the door operator only when the full movement area is visible.
- During operation, make sure no person is in or enters the movement area.
- Do not walk or drive under the door while it is moving.
- Do not use the door operator to lift objects or people.
- Eep children away from the door area.
- Keep remote controls and other controls out of reach of children. This prevents accidental use.
- Only trained or authorized personnel must do maintenance and up-keep.
- Installation personnel must follow all standards. They must install the door operator correctly and follow local safety rules.
- Read and follow all safety instructions carefully.

1.2 Warnings – Symbols

Note: Technical information must be observed

Caution: Warns of a risk to a person / risk of injury

Warning: Warns of a risk to material / risk of damage

1.3 Safety information of operation

CAUTION: Do not put the door in operation until the following conditions are met:

- The door operator meets the Machinery Directive 2006/42/EC after assembly.
- The door complies with EN 12605, EN 12604, and DIN EN 13241-1.
- The door operator was assembled according to EN 12453, EN 12445, and EN 12635.
- All installed safety devices work correctly.
- An internal emergency release is installed for garages without a second access.
- If the door has a pass door, it has a safety device. This device prevents the door from starting when the pass door is open.
- The emergency release cannot get caught on vehicle parts (for example, roof structures).
- The installation follows national safety rules.
- Keep the instruction manual in a safe place.

1.4 Safety information for installation

NOTE

- The door must move easily. The door must work correctly. The door must be balanced as specified by the manufacturer.
- You must be able to open and close the door by hand without difficulty.
- Trained and qualified personnel must assemble the door.
- Only authorized and qualified personnel must do electrical installation work.
- Expert personnel must check and confirm that the building structure can support the door operator.

WARNING: Improper fastening of the door operator may cause personal injury or material damage.

- Select the mounting material based on the material of the supporting structure. The mounting must hold a minimum tensile force of 900 N.
- If these conditions are not met, the door operator can fall. The door can also move without control. This can cause injury or damage.
- When you install the door operator, use correct methods to prevent it from falling. Do this until the door operator is fully and safely attached.
- Follow all applicable health and safety rules during installation.

2 Description

2.1 Product Description

This door operator is intended for industrial overhead sectional doors only.

The door operator can be equipped with the following additional safety devices, such as:

- Photocells, Light curtains, Safety edges
- Radar
- Loop detector
- Remote control, Push buttons, Pull switches
- Traffic light, Warning light

The door operator is operated via the control unit.

You can choose different operating settings for the operator (e.g., automatic, semi-automatic or hold to run).

2.2 Technical Data

Model	**SV120-ISD**	**SV140-ISD**
Rated Voltage/Frequency	220-240V 50Hz	220-240V 50Hz
Motor power in KW	0.75	1.0
Fuse	10 A	10 A
Max output current on 24V	600 mA (auto fuse)	600 mA (auto fuse)
Rated output torque in Nm	100	120
Max output torque in Nm	120	140
Speed in RPM	5-50	5-50
Holding torque	700 Nm	700 Nm
Max cycles per hour	60c/h	60c/h
Max door area in ㎡	49	60
Diameter hollow shaft in mm	1" / 25.44 mm (max 5000 * 4200 mm max 300kg door weight)	
Emergency release	Chainhoist	
Limit setting of door travel	Absolute encoder	
Optional accessories	Main power switch, Extended function board, Remote control	

2.3 Default settings

Default speed:

- Closing speed: 17 rpm on the output shaft (~ 11cm/sec)*
- Opening speed: 34 rpm on the output shaft (~22 cm/sec)*

Maximum possible speed:

- Closing speed: 50 rpm on the output shaft (~ 33 cm/sec)*
- Opening speed: 50 rpm on the output shaft (33 cm/sec)*

*valid for standard lift. Other lifting options may vary.

WARNING: Changing the speed settings from the default values can influence the peak force according to EN 12453.

Do a peak force test after changing the speed values. This is a mandatory step before commissioning the door. ASSA ABLOY is not liable for any incident that occurs due to faulty speed settings.

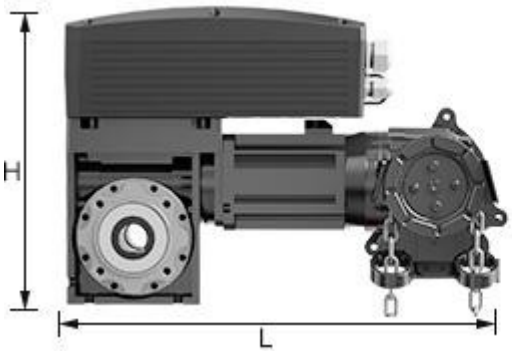
Safety – resistance protection (torque monitoring)

- Closing direction: level 3 resistance
- Opening direction: level 3 resistance

2.4 Appearance and dimensions

Model	**SV120-ISD**	**SV140-ISD**
Door operator L x W x H (mm)	385 x 200 x 280	415 x 200 x 280
Door operator packing L x W x H (mm)	450 x 300 x 200	450 x 300 x 200
Control box L x W x H (mm)	420 x 122 x 162	420 x 122 x 162
Control box packing L x W x H (mm)	550 x 140 x 180	550 x 140 x 180
Gross weight (kg)	16,22 kg	17,16 kg
Net weight (kg)	14,72 kg	16,66 kg

Motor



Control box

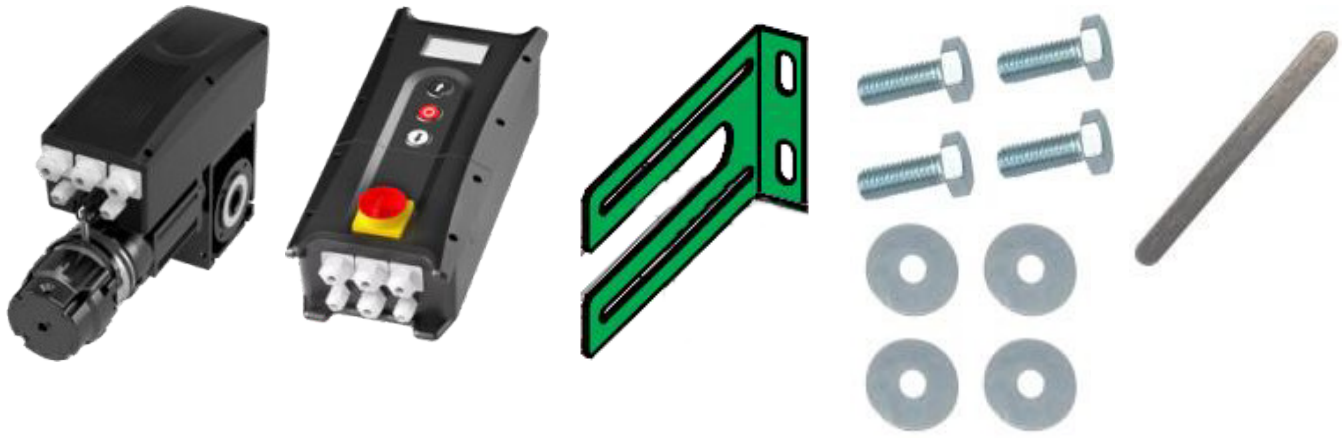
2.5 Proper Use

Proper use of this door operator includes and limits to:
- Use with balanced sectional doors, or sectional doors with spring-break protection or a safety catch.
- Obey the maximum dimensions in the technical data.
- Before you install the door operator, remove or deactivate any existing door locks.
- Do not use the door operator in areas with explosion risk.

The following actions are not allowed without written approval from the manufacturer and can cancel the warranty:
- Changes or modifications
- Use of non-original spare parts
- Repairs by persons not approved by the manufacturer

The manufacturer is not responsible for damage caused by:
- Technical problems with the door or changes in the structure during use
- Incorrect maintenance of the door
- Not following the operating instructions

2.6 Standard configuration



1	2	3	4	5

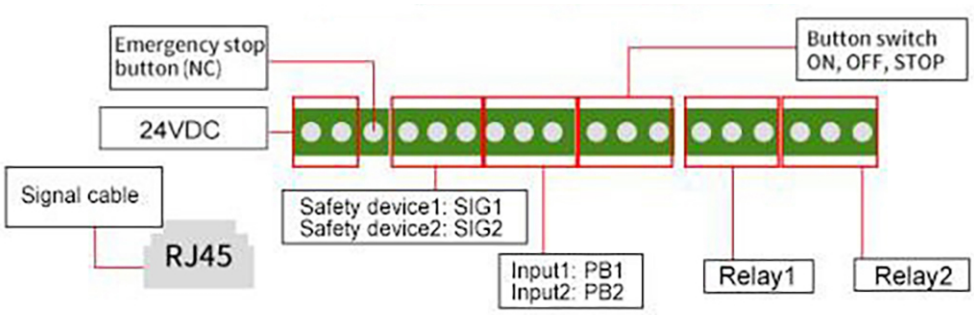
1	Door operator with emergency release (chain or crank)
2	Control unit with main switch
3	Torque bracket

4	Assembly material
5	Key for shaft

2.7 Table of components

	Servo door operator (for balanced sectional doors)
	Control unit with display and operation buttons
	Up, Stop and Down buttons
	CEE Plug
	Chain (for emergency release)

2.8 Layout of control unit



- 3 Safety device connections for light curtain, light barriers, photocell, safety edge, etc.
- 5input connection for radar, loop detector, push button, pull switch, wireless receiver, etc.
- 3output relays for traffic light, warning light, Electric Door-Lock

3 Installation

3.1 Preparation for installation

DANGER: Risk of electric shock that can cause injury or death.

When working with 230V AC electricity, follow these precautions:

- Stay away from live wires while the mains supply is connected.
- Disconnect the mains supply before making electrical connections, follow lock out, tag out, try out (LOTOTO) procedure. Ensure no one can reconnect the supply.
- Connect the mains supply only when required to complete the commissioning and setting up of the leveler.
- Turn the mains isolator to "0" before opening the lid of the control unit.

1. A specialized electrician must open or close the cover for the motor controller.
2. Determine the installation location of the door operator. Make sure that the door operator is installed 100% above the door drive shaft.

CAUTION: The emergency manual operation chain impairs normal operation of the control system.

Make sure that the emergency manual operation is disabled before operating the door with the electrical operator.

3. Install the torque bracket (3) as in Fig 1 with suitable fasteners for the wall type.
4. Fasten the fasteners with 900N torque per fastener.

5. Make sure that the drive shaft for the door can extend at least 135 mm (dimension A) in the door operator to be installed.

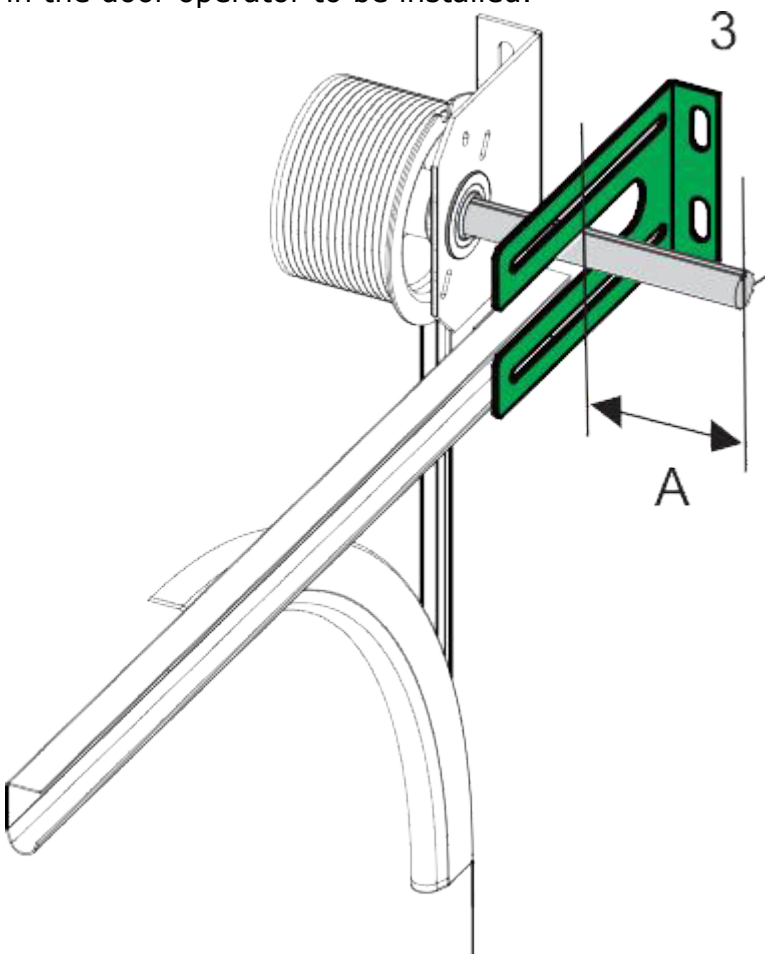


Fig 1

6. Install the key (3) in the groove of the drive shaft (2) for the door.
7. Fasten the key onto the shaft with the screw (1).

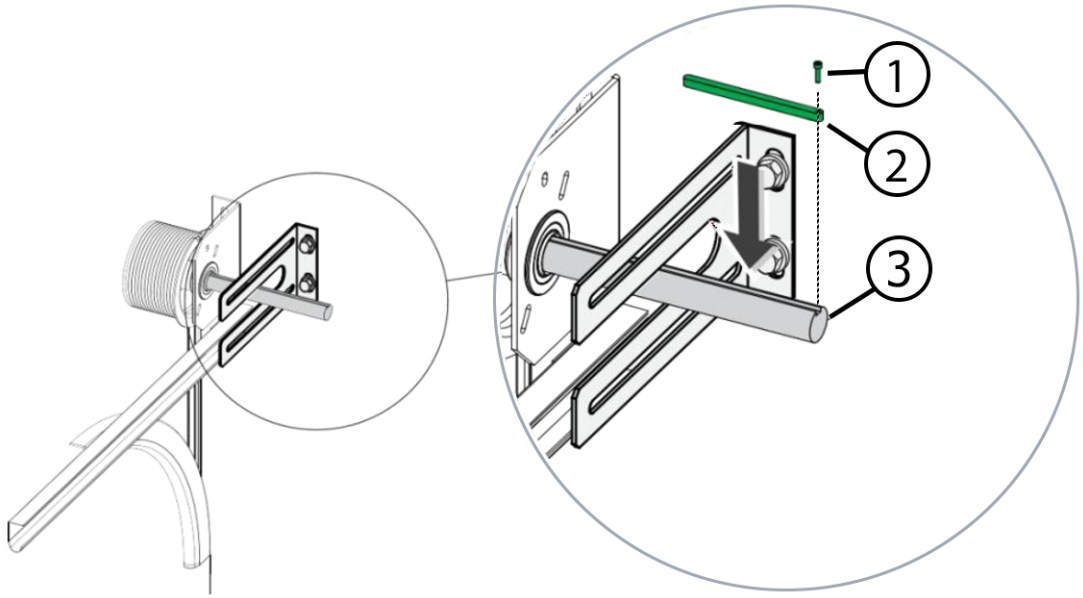


Fig 2

WARNING: The door operator is heavy. If it falls, it may cause personal injury and/or material damage.

Use a suitable hoist to bring the door operator up to the installation location.

8. During installation do not supply power to the door operator. Do not connect any plugs.
9. Set the drive shaft of the door operator to match the position of the anti-twist device (key, position 8 in Fig. 2). To do this, turn the transmission using the emergency operation.
10. Apply grease to the door drive shaft. This helps connect the door operator easily.
11. Slide the door operator onto the door drive shaft (1).

NOTE: It is possible to install the operator either horizontally vertically.

The installation and fixation of the screws works the same in both positions.

12. Attach the door operator with the four screws and washers (2). Fasten the screws with .... N torque.

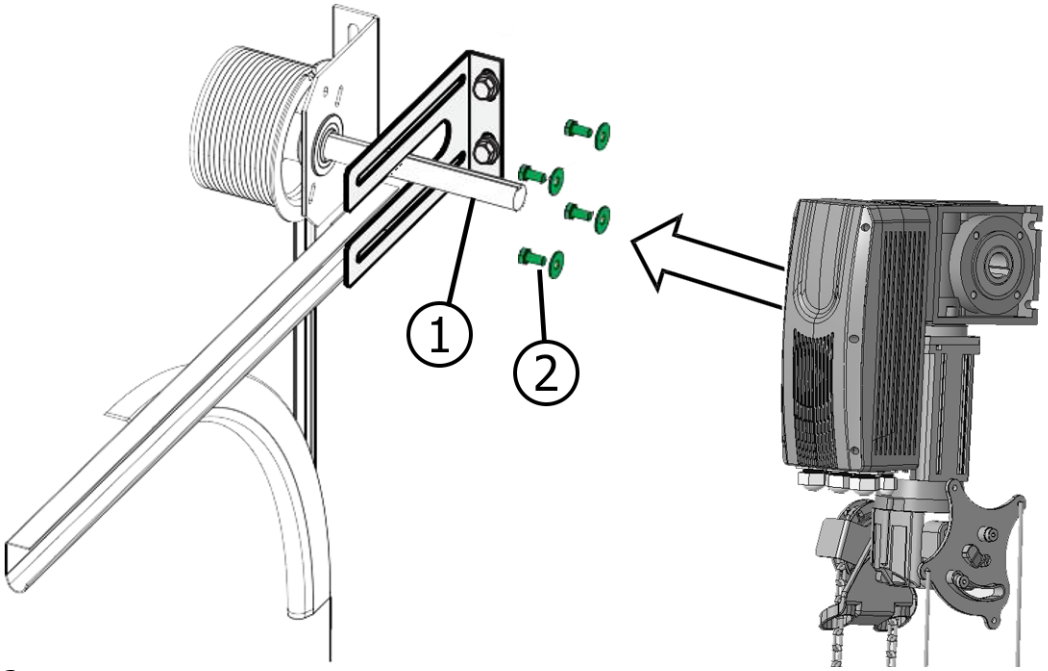
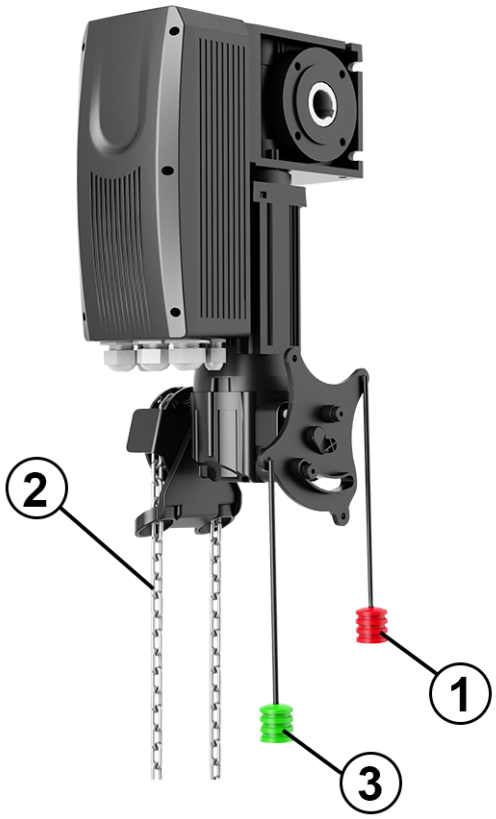


Fig 3

13. Install the emergency release cord.
14. To activate the emergency release, pull the red emergency release cord (1). You will hear a click. The chain wheel (2) will turn slightly.

15. To deactivate the emergency release, pull the green emergency release cord (3). You will hear a click. The chain wheel (2) will turn slightly.



WARNING: Risk of personal injury when operating the emergency release device while the power supply is still connected and the door can be operated electrically.

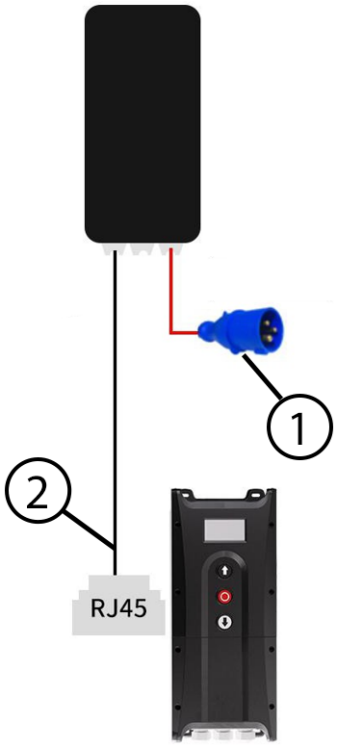
Disconnect the power supply to the operator before operating the emergency release device.

16. Test the emergency chain operation by activating it with the red cord and pulling the chain to open or close the door.
17. If the test is passed, the door can be commissioned.

4 Wiring

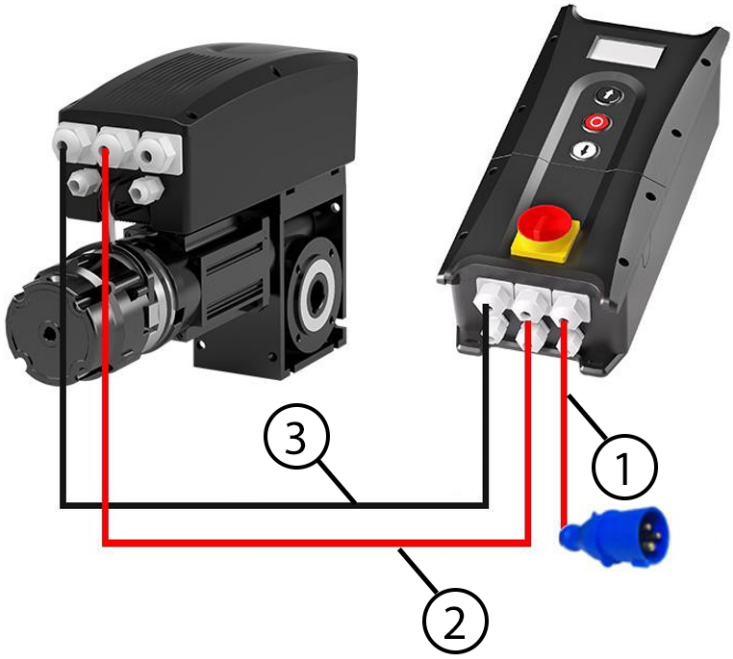
4.1 Control box without main power switch

1. Connect the CEE power plug directly to the motor (1).
2. Connect the RJ45 signal cable between the control unit and the motor (2).



4.2 Control box with main power switch

1. Connect the CEE power plug to the control unit (1).
2. Connect the power cable between the control unit and the motor.
3. Connect the RJ45 signal cable between the control unit and the motor (3).



4.3 Additional accessories wiring guideline

OBSERVE THE MAXIMUM 24V OUTPUT

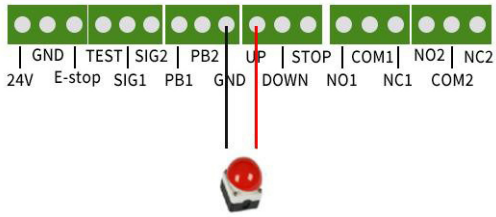
The maximum power of the 24V output is ... mA. Do not exceed this maximum when connecting additional accessories.

4.3.1 Button (the wiring diagram shows the door opening button)

Different buttons or switches can be used to control the opening and closing actions of the door.

Wiring:

- Select port "UP" for the button to open the door.
- Select port "DOWN" for the button to close the door.
- Select port "STOP" for the button to stopping the door.



4.3.2 Light Curtain

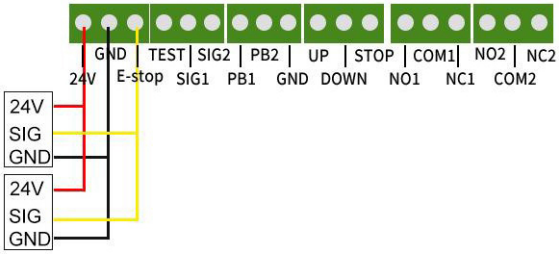
The light curtain serves as an external safety device. During the wiring process, you have the option to select from "SIG1", "SIG2", or "SIG3" ports. This selection should be made in accordance with the manufacturer's instruction manual.

To set up the light curtain in the software:

1. In the menu select "Safety Device".
2. Select the respective "SAFETY1", "SAFETY", or "SAFETY3" based on your earlier selection.
3. Select "Light Curtain".

Wiring:

- Select port "24V" to typically connect the power supply's positive pole and the COM/ common.
- Select port "SIG" to generally wire to the normally closed signal.
- Select port "GND" to generally connect to the power supply's negative pole, or to 0V, or to GND.



4.3.3 Safety Edge

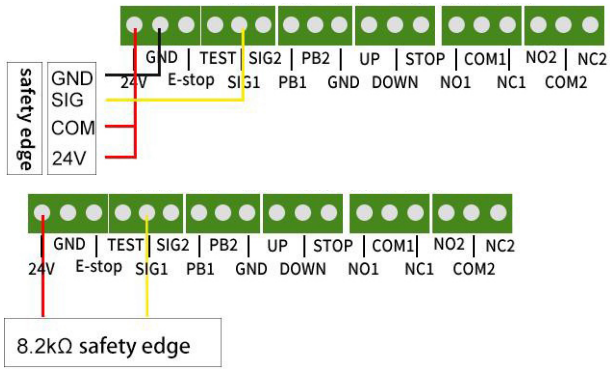
The safety edge is an additional safety feature installed at the bottom of the door. During the wiring process, you have the option to select from "SIG1", "SIG2", or "SIG3" ports. This selection should be made in accordance with the manufacturer's instruction manual.

To set up the safety edge in the software:

1. In the menu select "Safety Device".
2. Select the respective "SAFETY1", "SAFETY", or "SAFETY3" based on your earlier selection.
3. Select "Light Curtain".

Wiring:

- Select port "24V" to typically connect the power supply's positive pole and the COM/ common.
- Select port "SIG" to generally wire to the normally closed signal.
- Select port "GND" to generally connect to the power supply's negative pole, or to 0V, or to GND.



4.3.4 Photocell

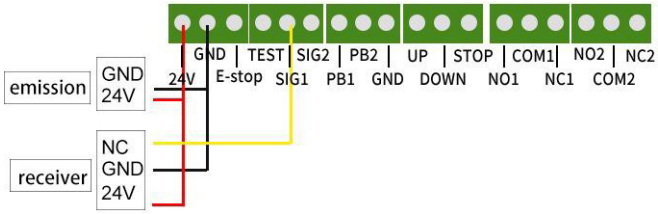
The photocell serves as an external safety feature. During the wiring process, you have the option to select from "SIG1", "SIG2", or "SIG3" ports. This selection should be made in accordance with the manufacturer's instruction manual.

To set up the safety edge in the software:

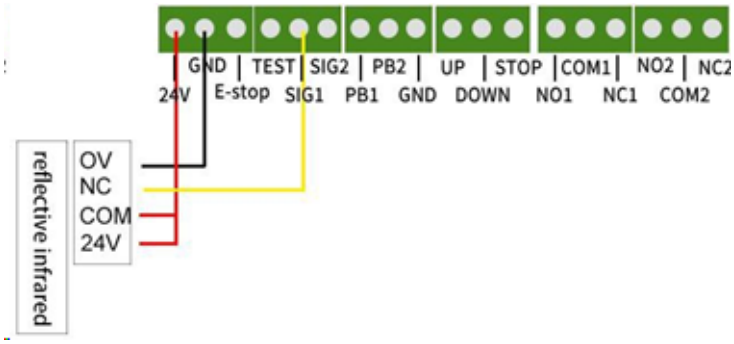
1. In the menu select "Safety Device".
2. Select the respective "SAFETY1", "SAFETY", or "SAFETY3" based on your earlier selection.
3. Select "Photocell".

Wiring:

- Select port "24V" to typically connect the power supply's positive pole and the COM/ common.
- Select port "SIG" to generally wire to the normally closed signal.
- Select port "GND" to generally connect to the power supply's negative pole, or to 0V, or to GND.



Retro-reflective photocells



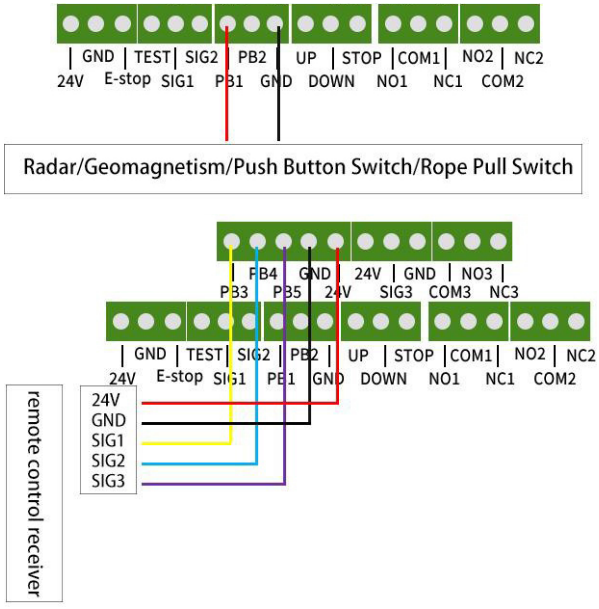
4.3.5 Radar / Loop Detector / Push Button / Pull Switch / Wireless Remote Receiver

An input device can be used for object detection to operate door opening. During the wiring process, you may select from the "PB1", "PB2", "PB3", "PB4", or "PB5" ports, following the guidelines in the manufacturer's instruction manual.

To set up the object detection / input in the software:

1. In the menu select "Input/Output".
2. Select "Input".
3. Select "PB1" or "PB2".

Alternatively you can adjust the settings through the menu "Input/Output" → "Wireless Channel".

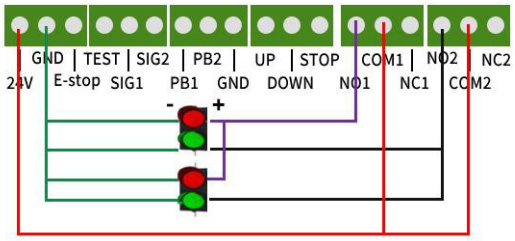


4.3.6 Traffic light

Install a red and green light for entrance and exit indication. Connect the power and wiring as shown in the diagram.

To configure the functionality of these lights, navigate through the menu options as follows:

1. Select "Input / Output".
2. Select "Output Port".



Examples:

The green light is always on at the open end position, the red light is always on during operation, and the red light is always on at the close end position.

Green light setting steps:

1. Select "Input / Output".
2. Select "Output Port".
3. Select "Port 1".
4. Select "Limit control".
5. Select "Open end position".

Red light setting steps:

1. Select "Input / Output".
2. Select "Output Port".
3. Select "Port 2".
4. Select "Limit control".
5. Select "Non-open end position".

4.3.7 Airlock

The connection of two door openers as depicted in the diagram allows for an interlocking function: it is possible for both doors to be simultaneously in a closed state, but they are not designed to be open concurrently. Only one door can maintain an open state at a given time. Thus, the full closure of one door is a prerequisite for the opening of the other door. The functionality of this setup can be configured by navigating through the following menu options: "Input Output" → "Output Port" and "Input Port".

To setup the Airlock, navigate through the menu options as follows:

1. Select "Input / Output".
2. Select "Output port".
3. Select "Port 1"
4. Select "Limit control".
5. Select "Non-close end position limit.
6. Select "Input / Output".
7. Select "Input Port".
8. Select "Port 1"
9. Select "Stop".

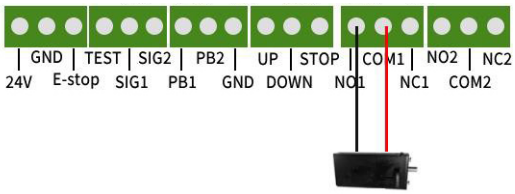
Note: Before setting, close the two door openers to the close end position limit, and the setting steps of the two door openers are the same.

4.3.8 Electric Door-Lock

In instances where the door is equipped with an electronic lock, the output port can be utilized to automate the control of the electronic door lock's opening and closing mechanism. The connection should be made following the diagram provided.

To setup the electric door lock, navigate through the menu options as follows:

1. Select "Input / Output".
2. Selet "Output Port".
3. Select "Port 1" or "Port 2".



5 Programming the operator

CAUTION: Incorrect configurations could potentially lead to personal injury or material damage.

Only trained or authorized professionals are allowed to make changes to the motor settings.

To navigate the menus in the control unit, use the Up and Down buttons to scroll up and down through the menu options and to increase or decrease a value. Use the Stop button to enter a menu or to store a value and proceed to the next.

Navigate up in the menu.
Increase the value of the current digit.

Navigate down in the menu.
Decrease the value of the current digit.

Enter the menu currently highlighted.
Store the selected value of the current digit.

5.1 Quick Setting

Upon the initial power-up or under default factory settings, the door operator will automatically enter the quick setup mode. Follow the guidance provided on the display screen to perform direction check, travel limit setting, speed setting and safety device setting. Once these steps have been followed as directed, the basic setup for the door operator will be completed.

If automatic working mode is required, connect an external safety device and enter the "Safety Device" menu to make corresponding settings.

1. Select the preferred language.
2. Press the STOP button to confirm.

	Language Selection
1	中文
2	ENGLISH
3	DEUTSCH
4	NEDERLANDS
5	FRANCAIS

3. To check the direction of the door, press either the UP or DOWN button to move the door and observe if the door is moving in the correct direction.
4. Press the stop button to enable selecting a value.
5. Use the UP and DOWN buttons to select the correct answer.
6. Press the STOP button to confirm.

	Check Direction
1	Direction OK
2	Direction Wrong
3	Cancel

7. Use the UP or DOWN button to select Confirm.
8. Press the STOP button to confirm.

Apply Change	
1	Confirm
2	Cancel

9. Press and hold the UP or DOWN button to move the door leaf to the lower end limit position.

Close End Position
Position 123

10. Use the UP or DOWN button to select 1 Confirm.
11. Press the STOP button to confirm.
12. Press and hold the UP or DOWN button to move the door leaf to the fully opened end limit position.

Open End Position
Position 123

13. Use the UP or DOWN button to select 1 Confirm.
14. Press the STOP button to confirm.
15. Set the opening speed, acceleration time and decelaration time for the UP direction:

Up Direction 1/3	Up Direction 2/3	Up Direction 3/3	Apply Change
Opening Speed	Acceleration Time	Deceleration Time	1 Confirm
……..RPM	…….ms	……..ms	2 Cancel

16. Set the opening speed, acceleration time and decelaration time for the DOWN direction:

Down Direction 1/3	Down Direction 2/3	Down Direction 3/3	Apply Change
Closing Speed	Acceleration Time	Deceleration Time	1 Confirm
……..RPM	…….ms	……..ms	2 Cancel

IT IS UNCLEAR WHAT THE NEXT STEP MEANS

Close Manually
Open End Position

5.2 Main Menu

To enter the Main Menu, press and hold the STOP button and DOWN button for 3 seconds.

Enter the password "11113" using the UP and DOWN buttons. Press the STOP button after setting every position in the password.

After setting the last position in the password press the STOP button to confirm. The system will navigate to the main menu.

Note: The password cannot be changed.

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions

Main Menu	
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Set-tings
	Exit Menu

5.3 Speed Setting

WARNING: Risk of personal injury or property damage if the motor speed is set too high.

Any motor settings, in particular the operating speed, may only be changed by trained or authorized professionals. Make sure to keep the control unit password protected, to prevent unauthorized access to the parameter menus.

To adjust the door opening and closing speed:

Use the UP and Go to Speed settings and press the STOP button. Select the Up Direction or Down direction and press the STOP button.

	Main Menu
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

	Speed Settings
1	Up Direction
2	Down Direction
	Back

Enter the RPM (rounds per minute) using the UP or DOWN button. Press the STOP button to store the RPM setting.

Up Direction 1/3
Opening Speed
▶ ⬆ …..RPM ⬇

Set the time in miliseconds where the motor runs slowly at the start of the cycle, before it goes full speed.

Up Direction 2/3
Ramp up to fast speed
▶ ⬆ .....ms ⬇

Set the time in miliseconds where the motor runs slowly at the end of the cycle.

Up Direction 3/3
Stop within
▶  …..ms


Select 1 Confirm and press the STOP button to store all the settings for the UP direction. Repeat the same procedure for the Down direction.

Apply Change?	
1	CONFIRM
2	CANCEL

5.4 Resistance protection

Use this menu to set the resistance protection. This feature allows the operator to stop or reverse the door when it detects an abnormal operating force. During closing that normally indicates an obstruction in the door opening. During opening it could indicate or a blockage, forgotten lock. In all cases it could also indicate a broken spring or cable. Make sure to set the closing sensitivity so that the maximum closing force does not exceed 400 N according to EN 12453. Default setting is level 3 for both opening and closing direction.

To program the resistance protection, first select the settings in the menu, then run the resistance automatic learning cycle.

NOTE

It is impossible to set the resistance protection, if the safety devices are not installed or deactivated. Make sure the safety devices are installed and activated.

5.4.1 Setting the resistance protection level

Navigate to the Resistance protection menu.

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

▸◉

Safety Devices	
1	SAFETY1
2	SAFETY2
3	SAFETY3
4	Resistance Prot.
<-	Back

▸◉

Resistance prot.	
1	Down direction Disable
2	Up direction Disable
<-	Back

Setting the down direction resistance protection. When selecting Level 1-5 resistance, select the reverse mode; full for fully opening the door or partial reverse for half-open after an obstacle detection.

Down Direction	
1	Disable
2	Level 1 resist-ance
3	Level 2 resist-ance
4	Level 3 resist-ance
5	Level 4 resist-ance
6	Level 5 resist-ance

Reverse Mode	
1	Full reverse
2	Partial reverse
3	Stop

Setting the Up direction resistance protection. The default setting is "Disable" meaning the door stops when encountering resistance.

Up Direction	
1	Disable
2	Level 1 resist-ance
3	Level 2 resist-ance
4	Level 3 resist-ance
5	Level 4 resist-ance
6	Level 5 resist-ance

Apply Change?	
1	Confirm
2	Cancel

After setting the resistance protection and closing the menu, the software will start resistance automatic learning. This process must be completed to succesfully set the resistance protection. If you stop the procedure, it is necessary to redo the full procedure of setting the resistance protection.

5.4.2 Down direction resistance automatic learning

1. First the operator tries to identify the direction.

Resistance Learn
Dir Detection

2. If the door is not in the upper limit position, press the Up button to operate the door to the upper limit position.

Door Running
To upper limit

3. The display shows "Start Torque Learn". Press the Down button to operate the door to the fully closed position. The operator measures the torque difference between normal closing and touching the floor.

Start Torque Learn
Press Close button

4. The display shows "Close Torque OK". Press the STOP button to finalize the procedure. If also Up Direction resistance protectin is enabled, the system will continue with that procedure.

Close Torque OK
Press [STOP] Exit

5.4.3 Up direction resistance automatic learning

1. First the operator tries to identify the direction.

Resistance Learn
Dir Detection

2. If the door is not in the lower limit position, press the Down button to operate the door to the lower limit position.

Door Running
To lower limit

3. The display shows "Start Torque Learn". Press the Up button to operate the door to the fully opened position. The operator measures the torque difference between normal closing and touching the buffers.

Start Torque Learn
Press Open button

4. The display shows "OpenTorque Learned". Press the STOP button to finalize the procedure.

Open Torque Learned
Press [STOP] Exit

5.4.4 Relearning the resistance protection after making changes

- If you make any of the following modifications in the system, it will be necessary to redo the resistance protection setting:Adjustment of the closing speed, ramp up time, stop time (you only need to redo the closing resistance protection)
- Adjustment of the openng speed, ramp up time, stop time (you only need to redo the openng resistance protection)

Speed changed
Relearn resistance

- Adjustment of the limit position (you need to redo the opening and closing resistance protection)

Position changed
Relearn resistance

5.5 Safety Devices:

The control unit provides three connection ports for external safety devices (such as infrared sensors, light curtains, and safety edges): SAFETY1, SAFETY2, SAFETY3

WARNING: Operating a door without any installed safety devices may cause accidents that inflict personal injury or material damage.

Do not commission or operate the door without having installed at least one safety device.

Example flow of setting an untested safety edge.

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

Safety Devices	
1	SAFETY1
2	SAFETY2
3	SAFETY3
4	Resistance Prot.
	Back

Type	
1	Off
2	Safety-Edge
3	Retractable Photocell
4	Photocell
5	Light curtain
6	Stop-Switch

Test Mode	
1	Untested
2	8K2 resister
3	8K2 Pneumatic
4	Pulsed (3Wire/ OSE)
5	4-Wire:Active Test (+)
6	4-Wire:Active Test (-)
	CANCEL

Active Direction	
1	Down
	CANCEL

Reverse mode	
1	Full Reverse
2	Partial Reverse
3	Stop

Apply change?	
1	CONFIRM
2	CANCEL

1. Configuring the Safety Edge: It is important to determine the type of safety edge before configuration.
   - For an 8.2KΩ safety edge, navigate to the safety edge strip option first, then proceed to choose 8.2k resistor under test mode.
   - For a pneumatic safety edge, navigate to the safety edge strip option first, then proceed to choose untested under test mode.
   - For a wireless pneumatic safety edge, navigate to the safety edge strip option first, then proceed to choose untested under test mode.
   - For a Retractable Photocell, navigate to Retractable Photocell option first, then proceed to choose pulse (3-wire/OSE) under test mode.

2. Configuring the photocell:
   - Navigate to the photocell option and then proceed to choose untested under test mode.
3. Configuring the Light Curtain:
   - Navigate to the light curtain option and then proceed to choose pulse (3-wire/OSE) under test mode.

5.5.1 Setting SAFETY 2 or other safety devices

For SAFETY 2 or other safety devices, re-do the configuration similarly as shown in above example. Pay attention to the :

- Must use NC mode safety devices.
- If you only connect 1 single channel photocell, CDO will not work. Must connect 1 single channel photocell and another 1 safety edge or 1 light curtain.
- "Stop-Switch" can be used to set door-in-door function.

5.6 Automatic closing

CAUTION: Automatic closing causes risk of personal injury or material damage if no safety device is installed

Make sure to install a mandatory photocell before activating "automatic closing". Do a functional test of the safety devices before you commission the door.

Example:

"Closing on pass": Upon passage of a pedestrian or object through the open door, the door automatically closes. This is triggered by the activation of the infrared sensor when something passes through the door, which then initiates a countdown to close the door.

	Main Menu
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

▸ **Automatic Close**

1	Timed Close
2	Close on pass
	Back

▸ **Closing Delay**

1	Enable
2	Disable

▸ **Closing Delay**

Close door seconds after pass-through

▸ **Apply Change?**

1	CONFIRM
2	CANCEL

The function "Timed Close" is programmed similar.

5.7 Door Positions

In this menu you define the following parameters:

- Rotation direction of the motor (depending on your installation, it has to be changed)
- "Closed" and "Open" position of the door
- Position of partial opening
- Position of hiding photocell (e.g. at fast acting doors)
- Pre-End Position

To check the door direction, press and hold the UP or DOWN button and observe the operating direction. If the operating direction aligns with the key direction, select "Direction OK". If they are inconsistent, select "Direction Wrong".

	Main Menu
1	Speed Settings

▸ **Door-Positions**

1	Check Direction

▸ **Check Direction**

1	Direction OK

Main Menu	
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Set-tings

Door-Positions	
2	Closed End position
3	Open End position
4	Partial Open Pos.
5	Blank Light barrier
6	Pre-end position
7	Door Pwd Setup

Check Direction	
2	Direction Wrong
3	Cancel

5.7.1 Closed End Position (Door closed)

Press and hold the "UP" or "DOWN" button to move the door to the desired Closed Endposition.

Door-Positions	
1	Check Direction
2	Closed Endposi-tion
3	Open Endposition
4	Partial Open Pos.
5	Blank Light barri-er
6	Pre-end position
	Back

Closed Endposition
▶ ⬆ Position 123
⬇

Apply Change?	
1	CONFIRM
2	CANCEL

5.7.2 Open End position (Door open)

In the " Open Endposition" menu, repeat the steps as described above.

5.7.3 Partial Open Position

Press and hold the "UP" or "DOWN" button to move the door to the desired partially opened position.

Door-Positions	
1	Check Direction
2	Closed Endposi-tion
3	Open Endposi-tion
4	Partial Open Pos.
5	Blank Light bar-rier
6	Pre-end position
	Back

Partial Open Pos.	
1	Enable
2	Disable
	Back

Partial Open Pos.
▶ ⬆ Posi- ⬇ tion 123

Apply Change?	
1	CONFIRM
2	CANCEL

Press and hold the "Up" or "Down" button to move the door to the highest opening position you need.

5.7.4 Blanking the light barrier

If you have a very fast acting door, it might be needed that you switch off the light barrier at a certain door position in order to avoid malfunction in obstacle detection by the photocell.

CAUTION: Blanking the light barrier might cause safety hazards

Before blanking the light barrier, ensure that a second safety device (light curtain, safety edge etc.) is installed.

In the Blank light barrier menu, press and hold the "UP" or "DOWN" button to move the door to a safe position where you want to disable the light barrier.

Door-Positions	
1	Check Direction
2	Closed Endposi-tion
3	Open Endposition
4	Partial Open Pos.
5	Blank Light barri-er
6	Pre-end position
	Back

Safety Device	
1	SAFETY1
2	----
3	----
	Back

Blanking	
1	Enable
2	Disable
	Back

Blank Light bar-rier
Position
123

Apply Change?	
1	CONFIRM
2	CANCEL

5.7.5 Pre-end position

When the safety edge surpasses this position, the logic of the obstruction switches from reverse to stop. This prevents safety edge of certain fast-reacting doors from reversing back when they impact the ground.

In the "Pre-end position" menu, press the "UP" or "DOWN" button to adjust the response distance of the safety edge strip.

Door-positions	
1	Check Direction
2	Closed Endposition
3	Open Endposition
4	Partial Open Pos.
5	Blank Light barrier
6	Pre-end position
	Back

Pre-end posi-tion
Position 123

Apply Change?	
1	CONFIRM
2	CANCEL

5.8 Operation Mode

You can choose between 3 different operation modes:
- Manual UP and DOWN (Hold to run mode)
- Automatic UP and DOWN
- Semi Automatic (automatic UP, hold to run DOWN)

CAUTION: Automatic up/down mode imposes risks if no safety devices are installed and enabled.

If you choose Automatic UP/DOWN mode, do confirm that you have installed safety device (at least 1safety edge, or 1 light curtain, or 1 photocell + 1 safety edge / light curtain).

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

Operation Mode	
1	Manual UP/DOWN
2	Automatic UP/ DOWN
3	Semi-Automatic
<-	Back

Apply Change?	
1	CONFIRM
2	CANCEL

5.9 Inputs/Outputs

The control unit has 3 protentional free relays contacts/ 5 GENERAL INPUTS, which can be used for different applications during door movement or when the door reached one of the endpositions.

You can choose in the menu how the relays should react.

Furthermore, the relays contacts can be used for the realization of red-green traffic light connections,warning light, eclectic Door-lock and Airlock.

5.9.1 Outputs

Example: Warning light just blinking while door closing (connect to NO1& COM1 on RELAY1).

For the programming of relays 2+3 you redo the steps above.

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

Inputs / Outputs	
1	Relay Outputs
2	Inputs
3	Radio channels
4	Stop button logic

Relay outputs	
1	Relay 1
2	Relay 2
3	Relay 3
	Back

Relay Function	
1	Off
2	Door- Movement
3	Endposition
4	Electrical Door-Lock
5	Radio Remote
6	Fault Indication
	Back

Main Menu	
1	Opening
2	Closing
3	Both directions

During Movements	
1	Blinking
2	Relay On

Pre-Run Delay	
1	Closing
2	Seconds

Apply Change?	
1	CONFIRM
2	CANCEL

5.9.2 Inputs

External devices can be connected to the input port (PB1, PB2). These devices can control the action of the door operator with their output signal.

Example: Control door opening with input signal (connect to GPI01 & COM on GENERAL INPUTS)

Inputs / Outputs	
1	Relay Outputs
2	Inputs
3	Radio chan-nels
4	Stop button logic
	Back

Inputs	
1	Input PB1
2	Input PB2
	Back

GPIN Function	
1	Off
2	Impulse
3	Open
4	Open to part.position
5	Close
6	Stop

Apply Change?	
1	CONFIRM
2	CANCEL

5.9.3 Radio Channels

The GPI03, GPI04, GPI05 ports on the control unit circuit board can be connected to a wireless remote-control receiver. This connection allows for wireless remote control of the door opening. These ports can also be connected to a radar or loop detector for wireless door operation, or can function similarly to the GPI01 or GPI02 ports, allowing for the connection of switch signal controls for door operation. Refer to the setup steps for the "GPI01 or GPI02" ports for further guidance.

5.9.4 Stop button logic

Here you can choose the control logic for the "Stop" button of the switch, whether it should be normally open or normally closed. If you choose normally closed, this port must be short-circuited for the door machine to operate normally.

5.10 Service

In the service menu you can show up all information that is related to the door and operator. You can define service intervals, store service contacts etc.

	Main Menu
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

	Service
1	System Information
2	Door Information
3	Service Done
4	Service Contact
5	Service Interval
6	Error Log

1. "System Information": shows model of control unit and software release
2. "Door information": Shows total number of door cycles and cycles from and until next service
3. "Service done": Here you confirm that you made service
4. "Service contact": Here you can store a service contact and phone number
5. "Service interval": Here you define the no. of cycles for next service
6. "Error Log" Shows the recent error the system encountered.

5.11 Language

5.11.1 Choose the menu language

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Out-puts
7	Service
8	Language
9	Factory Setting
10	Advanced Set-tings

Language	
1	中文
2	ENGLISH
3	DEUTSCH
4	NEDERLANDS

Apply Change?	
1	CONFIRM
2	CANCEL

5.11.2 Factory Setting

If you restore to factory settings, all previous settings will be erased. Upon re-powering the device, quick setup or other configurations can be performed.

Main Menu	
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Out-puts
7	Service
8	Language
9	Factory Setting
10	Advanced Set-tings

Factory Setting	
1	CONFIRM
2	CANCEL

5.12 Protecting the control unit with a password

MAKE SURE THE END-USER STORES THE PASSWORD IN A SAFE AND SECURE PLACE

The password prevents unauthorized people making changes to the operator programming. Make sure the end-user is made aware of the importance of keeping this password secure and secret.

Setting the password protection

To set the password, go to Door-positions and then Door Pwd Setup.

	Main Menu
1	Speed Settings
2	Safety Devices
3	Automatic Close
4	Door-positions
5	Operation Mode
6	Inputs / Outputs
7	Service
8	Language
9	Factory Setting
10	Advanced Settings

	Door-Positions
1	Check Direction
2	Closed End position
3	Open End position
4	Partial Open Pos.
5	Blank Light barrier
6	Pre-end position
7	Door Pwd Setup

If the password is never set before, the display will show "Set Password".

	Door Pwd Setup
1	Set Password
2	Disable Pwd
<-	Back

If the password was already set before, the display will show "Change Password".

	Door Pwd Setup
1	Change Password
2	Disable Pwd
<-	Back

1. To set or change the password, select menu 1. The password is a combination of four digits 0-9.
2. Start with the first digit and use the Up and Down buttons to select the desired number.
3. Press the STOP button to proceed to the second digit.
4. Repeat until all four digits are created.
5. Press the STOP button to store the password.
6. Select the number of seconds for the delay before the control unit locks. A value between 5 and 300 seconds is possible.

Set Password	Lock time	Apply Change?	
1234	5-300 seconds	1 Confirm	Lock door Pwd Saved
		2 Cancel	

Unlocking the control unit with the password

If no any error display or any safety chain error display, the buttons on the control box will be locked after 5s when the door stops under any operation mode(Manual UP/DOWN, Automatic UP/DOWN, Semi-Automatic).

Door Body Lock
STOP

Press UP or DOWN button to enter password you have set to unlock the button.

Enter Unlock Pwd
1234

If the display show the below message, the password is wrong, and the control box remains locked.

Wrong PIN

If the display shows below message, the control box gets unlocked.

PIN OK

To disable the password, select "Disable Pwd" in menu "Door-positions" and select Confirm.

Door Pwd Setup		Apply Change?		
1	Set Password	Confirm		Lock door Pwd Cleared
2	Disable Pwd	<-	Cancel	
<-	Back			

Reset the password

In an event where you forgot the password, press and release the Up and Down buttons simultaneously 3 times. When succesful, the display will show below message.

Lock door Pwd Cleared

6 Error codes

Error code	Error description	Solution
4	The door is stuck	Check if the motor is jammed and if the door is damaged and stuck.
5	Door operation	Check if the encoder is abnormal.
7	The door is stuck	Check if the motor is seized and if the door is damaged and stuck.
8	Invalid configuration	Power cycle or replace the motherboard (EEPROM chip damaged)
13	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
14	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
15	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
16	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
17	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
18	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
19	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
20	System halted	Power cycle or replace the motherboard (EEPROM chip damaged)
32	Frequent rebounds	Inspect the door and infrared sensors.
33	Overcurrent 1	IGBT module abnormality, restart or replace the driver board.
34	Overcurrent 2	IGBT module abnormality, restart or replace the driver board.
35	CRC error	Initial parameter verification error, restart.
36	Motor overspeed	Motor speed abnormal, restart
37	Motor overload	Load too heavy, restart or replace the motherboard
38	Counting error	Motor running distance calculation error, restart
39	Pulse error	Clock pulse anomaly, restart. Gear ratio parameter setting error, for debugging purposes.
40	Gear error	Will not occur at customer site.
41	Abnormal IU current	IU loop current abnormal, restart or replace the driver board.
42	Abnormal IV current	IV loop current abnormal, restart or replace the driver board.
43	ABZ fault	Encoder ABZ disconnected, replace the encoder
44	CPLD fault	CPLD read/write abnormality, for debugging purposes

Error code	Error description	Solution
45	Overvoltage	Input voltage too high, check mains input or potential damage to the voltage module on the driver board
46	Undervoltage	Input voltage too low, check mains input or potential damage to the voltage module on the driver board, restart to see if it recovers
47	Damaged discharge resistor	Resistor not connected or damaged, replace the resistor
48	Regeneration circuit abnormality	The load is too heavy, running for a long time. Reduce the load.
49	Missing phase	It will only trigger an alarm with three-phase power supply.
50	Momentary pause alarm	Restart or replace the driver board.
51	Power failure	The power supply has been unplugged.
52	Overheating	The mainboard is in overheating protection
53	Encoder error	The encoder is malfunctioning, replace the encoder.
54	Low battery voltage warning	Replace the battery.
55	Battery failure	Replace the battery, or there is an abnormality in the driver board interface.
56	Motor fault code error	Motor code setting issue, for debugging purposes.
57	IO error	For debugging use
58	Motor safety chain alarm	Manual emergency stop triggered. Restart after handbrake recovery to resolve the anomaly.
59	Motor serial port malfunction	Motor serial communication abnormal, check the network cable
60	Encoder abnormality	Replace the battery or there is an encoder error.
65	Safety edge 1	Replace the safety device or check if the settings are incorrect.
66	Photocell sensing edge 1	Replace the safety device or check if the settings are incorrect.
67	Fixed infrared 1	Replace the safety device or check if the settings are incorrect.
68	Light curtain 1	Replace the safety device or check if the settings are incorrect.
69	Stop switch 1	Replace the safety device or check if the settings are incorrect.
70	Safety edge 2	Replace the safety device or check if the settings are incorrect.
71	Photocell sensing edge 2	Replace the safety device or check if the settings are incorrect.
72	Fixed infrared 2	Replace the safety device or check if the settings are incorrect.
73	Light curtain 2	Replace the safety device or check if the settings are incorrect.

Error code	Error description	Solution
74	Stop switch 2	Replace the safety device or check if the settings are incorrect.
75	Safety edge 3	Replace the safety device or check if the settings are incorrect.
76	Photocell sensing edge 3	Replace the safety device or check if the settings are incorrect.
77	Fixed infrared 3	Replace the safety device or check if the settings are incorrect.
78	Light curtain 2	Replace the safety device or check if the settings are incorrect.
79	Stop switch 2	Replace the safety device or check if the settings are incorrect.
80	Serial port error	Check the network cable (signal cable) connection.
96	Wall-mounted safety chain	Check if the wall-mounted safety chain is disconnected.