

# Instruction manual

record system 20 TOS



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# 1 General

## 1.1 Target groups (User)

This user's guide is meant for the following users:

- Operators of the automatic sliding door system 20:  
The persons in charge of the technical maintenance of this door installation
- End-users of the door installation:  
The persons who use the door functions daily and have been appropriately trained

This manual explains how to operate the sliding door system 20. It is the basis for optimal functioning and gives instructions for troubleshooting. Excerpts of this document can also be given to the persons responsible for the daily operating of the door.

The operator should read this user's guide before commissioning the door and observe the safety instructions!



Please keep this document in a safe, convenient place beside the sliding door.

## 1.2 Door care

The entire door installation – including sensors and safety devices – can be cleaned with a damp cloth and commercially available cleaning agents (do not use abrasive cleaning agents or any solvent). First test the product selected on a non-visible spot. The floor tracks should be kept free of dirt.



### NOTICE

It is recommended to do this work in the operating mode  (Locked) or  (Continuously open) to avoid injuries through unintentional door movements.

## 1.3 Maintenance and regular inspection

Prior to carrying out the first commissioning and if required as well as in accordance with the applicable regulations - however at least **once a year** – a technical inspection by a skilled service technician or an authorised partner must take place. We recommend performing maintenance at the same time.

Any due maintenance is indicated on the display of the BDE-D control unit. The interval for the edition of this message is determined by the number of opening cycles and/or the expiry of a defined operating period.

Regular maintenance and inspection of the automatic door by trained personnel authorised by the manufacturer provides the best guarantee for a long service life and an error-free operation.

**We recommend the conclusion of a service contract with the respective service department in your region.**



### IMPORTANT

A listing of recommended spare parts is supplied in the annex and is also available on request at your service department.

## 1.4 Application range TOS 20



### ***NOTICE***

These instructions apply to the following drive of system 20:  
TOS 20

## 2 Safety instructions

### 2.1 State of the technology

The installation has been constructed with state of the art technology and recognized technical safety regulations. The system complies with the requirements of Machine Guideline 2006/42/EG as well as of DIN 18650.

Nevertheless, danger can arise if not used as intended.



#### **IMPORTANT**

Installation, maintenance and repairs must only be performed by qualified, trained and authorized technicians.

A risk assessment has been carried out for the whole installation.

### 2.2 Intended purpose of use

The installation is designed exclusively for normal service with automatic pedestrian sliding doors in dry rooms and must be installed indoors or on the inner side of a building. It can also be mounted on the outer side, if the customer provides for a proper sealing and if technical data are observed.

Any other application or use beyond this purpose is not considered to be an intended purpose. The manufacturer bears no liability for any resulting damage; the operator alone shall bear the responsibility.

The intended purposes also include observation of the operating conditions specified by the manufacturer, in addition to regular care, maintenance and repair.

### 2.3 General safety and accident prevention regulations



#### **WARNING**

Unexpected OPEN/CLOSE of the doors

- bruises and contusions through the door leaf
- No safety devices (sensors) should be removed or set out of order



#### **CAUTION**

Unexpected OPEN/CLOSE of the doors

- bruises and contusions through the door leaf
- No persons or objects allowed in the opening area/travel of the sliding doors



#### **IMPORTANT**

To avoid malfunctions, the system must **NOT** be separated overnight from the mains!

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## 2.4 Control of safety devices

Beside the maintenance carried out at regular intervals by a service technician or authorised person, it is recommended, for additional safety, that the operator regularly controls the essential elements of the door. You will find a check-list of the functions to be tested monthly at the end of this document.

## 2.5 Storage of the manual

After the installation of the system, the instructions should be stored in an accessible and dry place.

### 3 Operating instructions

The electronic control unit with display (BDE-D) has been designed to operate the automatic sliding door installation.

#### 3.1 Selection of operating modes (BDE-D)

The electronic control unit BDE-D is a user-friendly input and output device to control and customize (optional) the door operation. The LCD display with backlight gives information about the door status with symbols and clear text. Error messages are displayed as text.



Key	Operating mode	Symbol	Function
	Automatic	 Automatic	<ul style="list-style-type: none"> <li>Door opens unhindered from inside and outside</li> <li>Maximum opening with</li> </ul>
	Continuously open	 Cont. open	<ul style="list-style-type: none"> <li>Door remains open until another operating mode is selected</li> </ul>
	One-Way	 One-Way	<ul style="list-style-type: none"> <li>Door opens only in one direction (e.g. for shop closing time)</li> </ul>
	Locked	 Locked	<ul style="list-style-type: none"> <li>Door is closed and locked (if locking system has been installed)</li> <li>Door remains locked even in the case of power failure</li> </ul>
	Reduced opening width	 Automatic	<ul style="list-style-type: none"> <li>Door opens unhindered from inside or outside</li> <li>Reduced opening width</li> </ul>




#### NOTICE

Reduced opening width is also effective with the operating modes (One-Way) and (Continuously open).



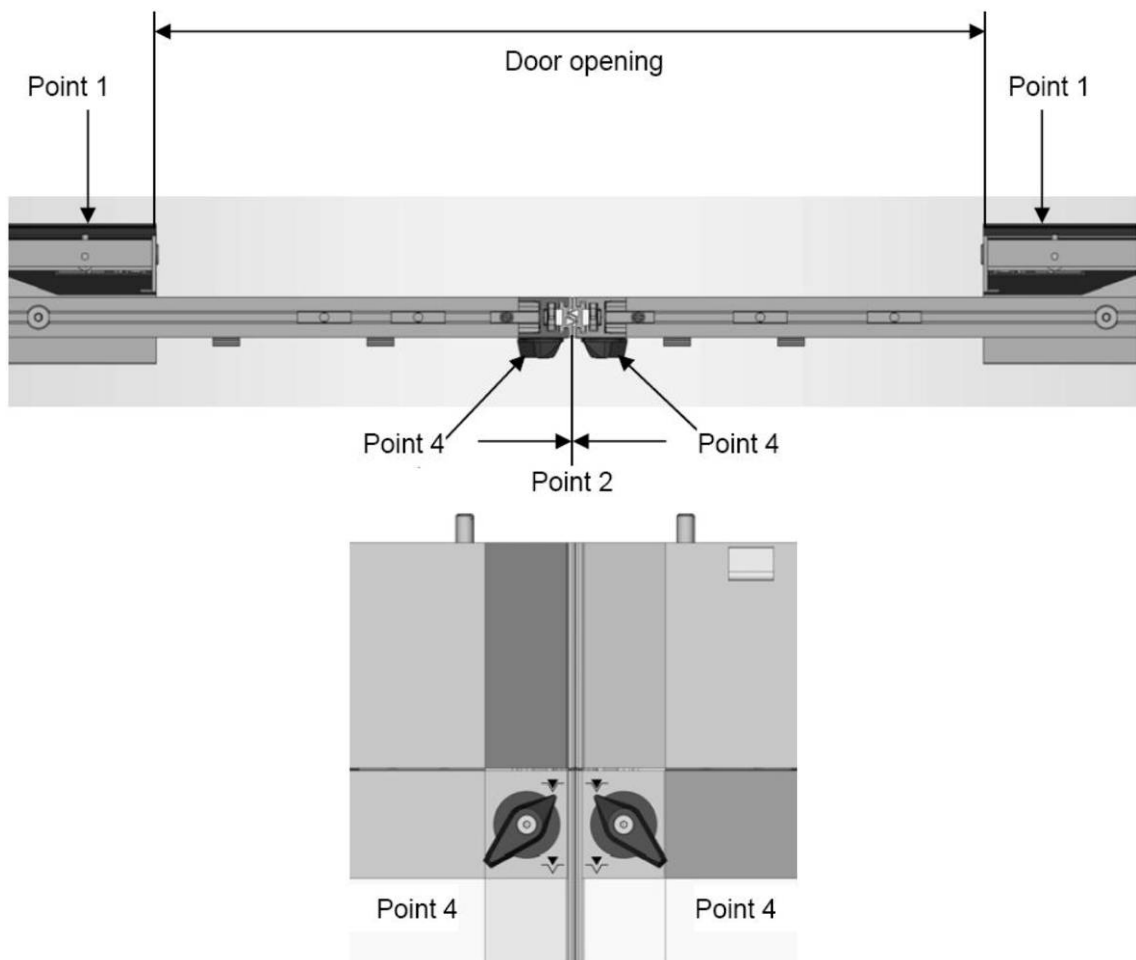
**3.2 Locking the door leaf and the swing-out side screen (TOS)**

In order to be able to guarantee the correct locking of the door leaf and the swing-out side screen, it is essential to meet the following points. Use mounting set 102-381641003.

1. The swing-out side screens must be completely pushed to the end stop.
2. The swing-out side screens must be completely closed (revolving and sliding movements).
3. Set the program switch on the control unit to the  locked position  
(causes the swing-out movement of the door leaf to be locked).
4. Turn both rotary switches (centre of door, above) to the closed position  
(causes the swing movement of the door leaf to be locked).

**3.2.1 Rotary switch and door leaf monitoring (optional)**

The door leaves and the rotary switches can be optionally monitored. The following assembly sets are required for this purpose:

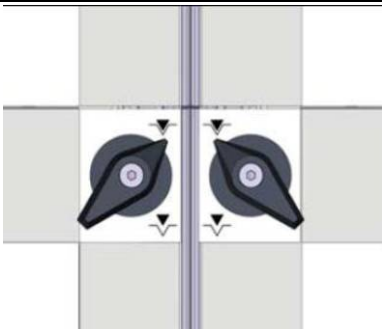


MS Rotary switch and door leaf monitoring 102-016447000

MS FEM0 with 1000 mm cable 102-020808482

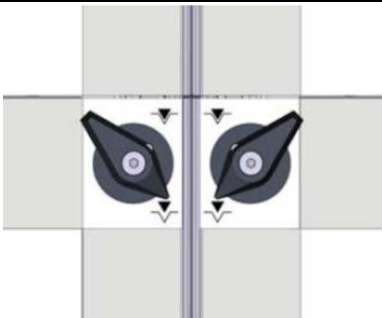
3.2.2 Possible error messages on the control panel

There are two operating modes that must be considered:

Operating mode "Locked"	
<p>If the operating mode is "Locked", the door leaves must be locked and they must not swing.</p> <p>The rotary switches must be to the "Closed" position.</p>	

If the rotary switches are not in the correct position, an error message is displayed on the control panel:


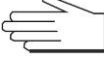




No.	Displayed text	Type	Comments and possible remedial action
29	TOS not locked	TOS with DV	TOS not locked Rotary switches not at "Locked" position Set the rotary switches to the "Locked" position

Operating mode "Automatic"	
<p>If the operating mode is "Automatic" then in an emergency, the door leaves must swing, so that they can be opened.</p> <p>The rotary switches must be set to the "Open" position.</p>	









If the rotary switches are not in the correct position, an error message is displayed on the control panel:

No.	Displayed text	Type	Comments and possible remedial action
30	TOS locked	TOS with DV	Automatic operation TOS locked Door is in manual mode Set the rotary switches to the "Open" position

### 3.3 Selection of special functions

Key	Function	Display	Description
	Manual mode	 Manual	<ul style="list-style-type: none"> <li>Press key twice</li> <li>Door opens/stops on 2nd key stroke</li> <li>Door can be manoeuvred by hand</li> </ul> <b>Back to operating mode</b> <ul style="list-style-type: none"> <li>Activation of the selected key (e.g. Automatic)</li> </ul>
	Manual mode	 Manual	<ul style="list-style-type: none"> <li>Press key for 2 seconds</li> <li>Door can be manoeuvred by hand</li> </ul> <b>Back to operating mode</b> <ul style="list-style-type: none"> <li>Activation of the selected key (e.g. Automatic)</li> </ul>
	Single opening	 Locked	<ul style="list-style-type: none"> <li>Door is closed and locked</li> <li>1 keystroke unlocks the door</li> <li>An opening/closing cycle is performed</li> <li>Once closed, door locks again</li> </ul>

### 3.4 Locking the control panel with the keyboard

Key sequence	Display	Description
<b>Locking the control unit</b>		
  	 Automatic	<ul style="list-style-type: none"> <li>Undesired manipulation of the control unit is hindered</li> <li>Panel is locked</li> <li>Locked status of the BDE-D is displayed</li> </ul>
<b>Unlocking the control unit</b>		
  	 Automatic	<ul style="list-style-type: none"> <li>Free selection of operating modes and special functions is ensured</li> </ul>

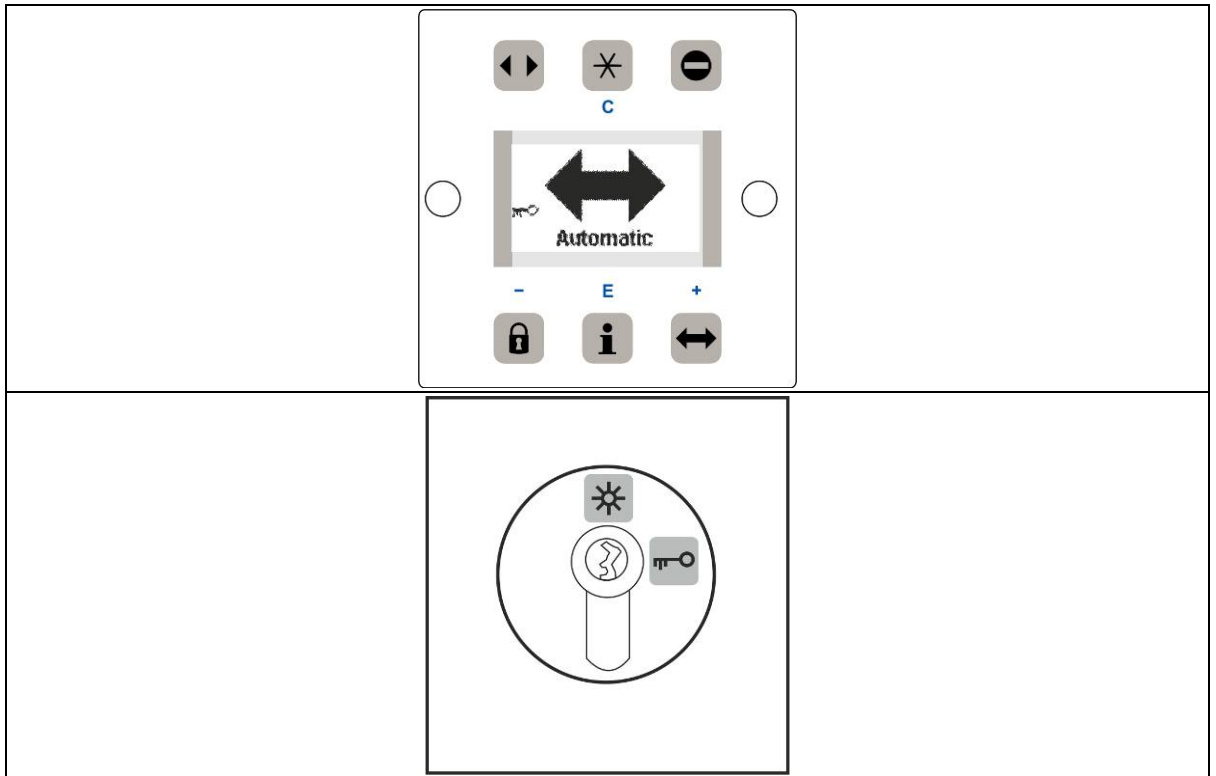


#### NOTICE

The installation remains in the mode of operation previously selected

**3.5 Locking the control unit with a key (option)**

The control panel BDE-D can be efficiently protected against unauthorised changes of operating mode by an additional key switch. This one is usually placed near the BDE-D.

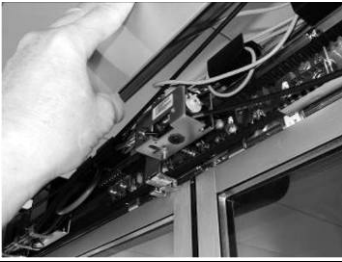

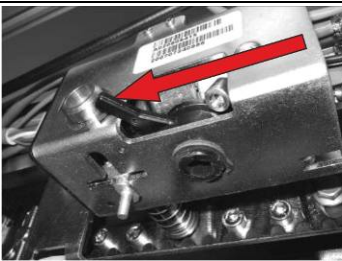
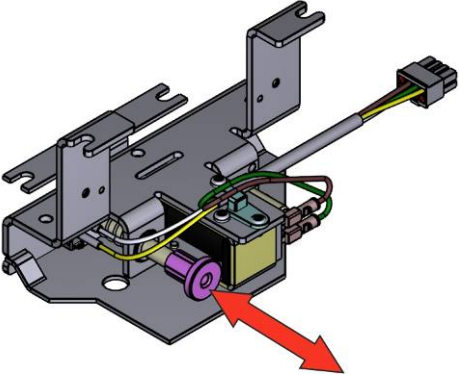



4 Manual opening and closing in case of failure

4.1 Manual opening (without manual unlocking device)

Initial situation:

Door is disconnected from the mains, blocked in closed position and locked.

	<ul style="list-style-type: none"> <li>Open the operator casing</li> </ul> <p>Note: If you pull near the hinges, it will help to open the casing</p>
	<ul style="list-style-type: none"> <li>Swivel out the red holding bar in order to keep the casing in open position</li> </ul>
 <p>System 20</p>	 <p>System 20-200</p>
<ul style="list-style-type: none"> <li>The locking system is provided with an unlocking lever</li> </ul>	<ul style="list-style-type: none"> <li>The locking system is provided with an unlocking pin. By <b>pulling</b>, it unlocks the door.</li> </ul>
	<ul style="list-style-type: none"> <li>Door unlocks and can be pushed open by hand</li> <li>Close the casing with a strong pressure on the area of the hinges</li> </ul>
<ul style="list-style-type: none"> <li>Turn the lever clockwise</li> </ul>	

## 4.2 Manual closing

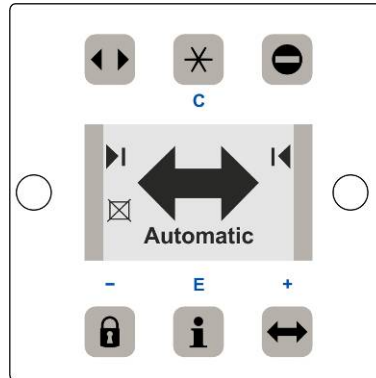
### Initial situation:

Electric power is supplied. Door remains blocked in open position.



### NOTICE

Depending on the kind of failure, the procedure for a manual closing will be different. Please follow the steps described below.



### 4.2.1 Manual closing - step 1

Key	Function	Display	Description
	Manual mode	 Manual	<ul style="list-style-type: none"> <li>Press key twice</li> <li>Door can be opened or closed by hand</li> </ul> <b>Temporary door operation</b> (e.g. in case of low temperature outside)
	Locked	 Locked	<ul style="list-style-type: none"> <li><b>Night locking</b></li> <li>Press <i>additionally</i> the locked key</li> <li>Slide the door by hand to the closed position</li> <li>Door is closed and locked ( if applicable)</li> </ul> <b>Inform the service point</b> (telephone number is displayed on the BDE-D)



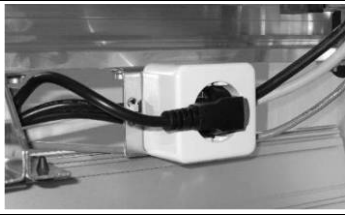
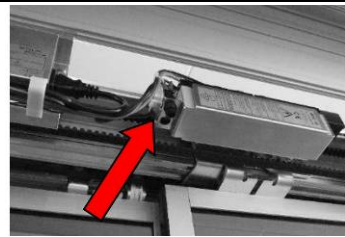


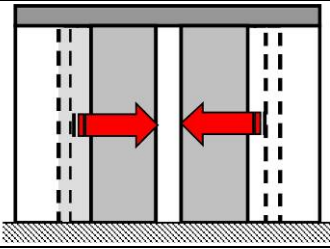
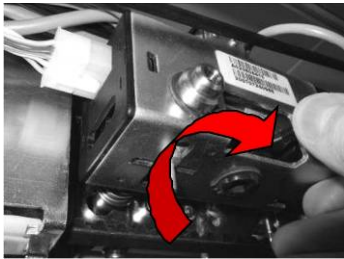
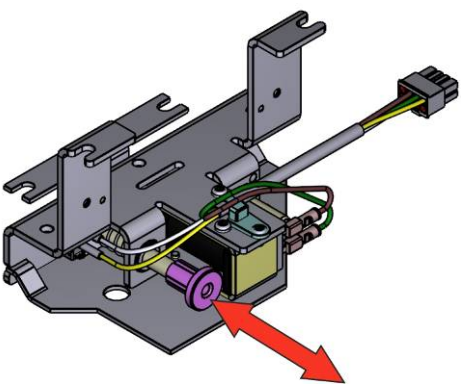
### NOTICE

If the door can not be moved by hand and locked, please follow the steps described as follows.

4.2.2 Manual closing - step 2

If the attempts to close and lock the door described under "step 1" have remained unsuccessful, it indicates a severe failure. Please proceed as follows:

		<ul style="list-style-type: none"> <li>▪ Set the door in manual mode with the control unit (see chapter "Manual closing - step 1)</li> <li>▪ Open the operator casing (swing open)</li> </ul> <p>Note: If you pull near the hinges, it helps open the casing</p>
		<ul style="list-style-type: none"> <li>▪ Swivel out the red holding bar in order to keep the casing in open position</li> </ul>
		<ul style="list-style-type: none"> <li>▪ Disconnect the installation from the power supply</li> <li>▪ The socket is located under the operator casing</li> </ul>
		<p><b>Installations with in-built emergency battery:</b></p> <ul style="list-style-type: none"> <li>▪ Unscrew additionally the battery fuse</li> <li>▪ The battery is located under the operator casing</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Slide the door by hand to the closed position</li> </ul>
 <p style="text-align: center;">System 20</p> <ul style="list-style-type: none"> <li>▪ Turn the unlocking lever clockwise and hold it in this position so that the door can close completely</li> <li>▪ Door will lock as soon as you release the unlocking lever</li> </ul>	 <p style="text-align: center;">System 20-200</p> <ul style="list-style-type: none"> <li>▪ The door locks, if you push in the unlocking pin.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Manually check that the door is properly locked</li> <li>▪ Leaving the building is only possible through a second exit</li> </ul> <p><b>Inform the service point</b> (telephone number is displayed on the BDE-D)</p>	



## 5 Operating door in emergency

In accordance with country-specific safety regulations (concept of emergency exit, etc.) the doors are fitted with an emergency opening device.

### 5.1 Emergency opening with current supply

By activating the emergency opening switch (optional), which must be placed beside the installation, the door will open as long as the operating mode Locked has not been selected. In this operating mode the door will remain locked.

To re-start the installation, the emergency opening switch must be reset by hand, either through a rotation or a pulling (different procedures depending on the version of the switch).

### 5.2 Emergency opening in case of power failure with auxiliary battery (Option)

- All functions of the door will be sustained if a battery is available and parameterized as “battery mode”.
- Emergency opening in case of power failure takes place via an auxiliary battery, which triggers a single opening of the door (except if function “locked” has been selected).
- The number of openings depend essentially on the weight of the door leafs and the state of the battery.
- In case of low battery, the last movement is selectable – either opening or closing.
- Unlocking the door is still possible with the jey-operated contact/switch (optional).

### 5.3 Emergency operating using Bowden cable (Option)

This device, available in several versions, is mounted inside and/or outside and allows the unlocking of the door, according to the procedure below.

#### 5.3.1 Available versions

The available versions are illustrated below. They are basically identical in their function.



102-020808512




102-020808757


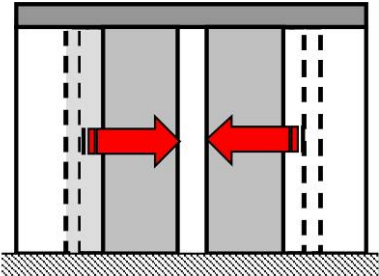

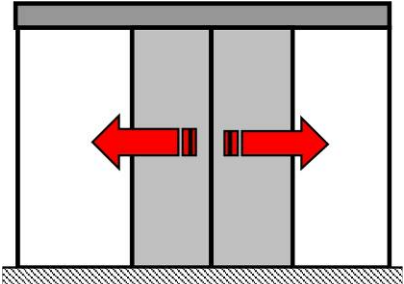


102-014102000

5.3.2 Procedure for an emergency opening

Emergency opening	
	<ul style="list-style-type: none"> <li>▪ Open the unlocking flap</li> <li>▪ Pulling the unlocking flap downward unlocks the door</li> <li>▪ Display on the BDE-D: Error no. 31 / Emergency stop</li> <li>▪ Door can be slid open by hand</li> </ul>

5.3.3 Closing and locking the door (TOS)

	<ul style="list-style-type: none"> <li>▪ Operate the emergency opening</li> <li>▪ This causes the locking device to be unlocked</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Slide the door by hand to the closed position</li> <li>▪ Keep the door leaves in the closed position</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Close the unlocking flap</li> <li>▪ The door is now locked</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Check by hand if the door is really locked</li> </ul>



**NOTICE**

Same procedure for the other actuators.

In case of an emergency, the door leaves can be swing-open if an MPV is installed instead of using the rotary switches.

## 6 Behavior in event of faults

In case of a failure or error, depending on which control panel is connected, different messages are displayed

### 6.1 Display on the control unit

- Status messages are displayed with status number and text.
- The display changes alternately from white to black.
- After 10 seconds, the telephone number of the relevant service centre is alternately displayed.

### 6.2 Possible troubleshooting

- Based on the status display some errors can sometimes be eliminated
- If you are not sure, please contact the relevant service centre
- Before you call, write down the data displayed on the BDE-D. This information provides the technician with important information for troubleshooting
- If several status messages are active at the same time, they are numbered: e.g. error 1 / 2
- Pressing the E-button permits to navigate from one error message to the next one

Which information?	Procedure	How displayed? (Example)
Status text and number	<ul style="list-style-type: none"> <li>▪ Is automatically displayed on the BDE-D</li> </ul>	
Software-Versions	<ul style="list-style-type: none"> <li>▪ Press the following button on the BDE-D for 2 seconds</li> </ul>	

### 6.3 Resetting the control module

In certain cases, failures can be repaired by resetting the control unit (STM). Proceed as follows:



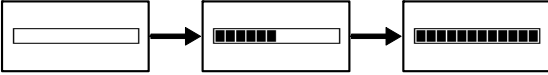

- Make sure that the operator casing is closed, and that nobody is obstructing the door or is approaching it, thereby triggering an opening.

		<b>Press &gt; 5 seconds</b>
	No	<b>No</b>
	Yes	<b>Reset control?</b> <b>Yes</b>

- The door will reset.
- After a reset takes place, the first door movement occurs at reduced speed.
- If an error ist still displayed on the control panel after a reset of the control module, please contact our service centre, **stating the error message**

6.4 Control unit BDE-D does not react

If the control panel does not react when the keys are pressed or if no message appears on the display, a reset of the control panel could eliminate the problem. Proceed as follows:

RESET HARDWARE BDE-D	
	Press E key > 12 seconds
	Display without any message
	Connection to control unit.....  Connection has been established (example) 

- After resetting, the control panel is again operational.
- If this is not the case, please inform our service centre.

## 7 Functions and safety check

### 7.1 General remarks

According to the legal provision in force, the operating entity of the automatic door is responsible for its maintenance and for the user's safety, as soon as the installation has been handed over.

The monthly inspection of single elements by the operator requires little time investment and reinforces the prevention of accidents caused by an inappropriate use of the door.

### 7.2 Power supply data product line 20

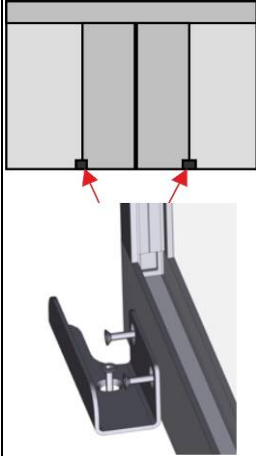
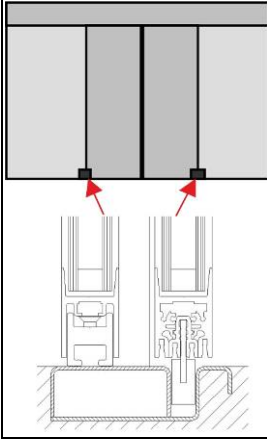
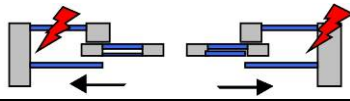
Mains voltage (230V)	100 – 240 VAC, 50 / 60 Hz
Rated power	140 VA

### 7.3 Environmental conditions

Temperature range	-15 to +50 C
Humidity range	Up to 85% rel. humidity, not condensing

### 7.4 Monthly check-up list (TOS)

Test / Control	Procedure	Result expected
Motion detector	<ul style="list-style-type: none"> <li>Walk at normal speed towards the door (from the inside and outside)</li> </ul>	<ul style="list-style-type: none"> <li>The sensor must cover the whole width of passage</li> <li>The door opens in time and at an appropriate speed to allow unhampered passage through the doorway</li> </ul>
Door leaf / Side screen	<ul style="list-style-type: none"> <li>Verify the state of the glazing</li> <li>Verify the state of the seals / profiles</li> </ul>	<ul style="list-style-type: none"> <li>No glass damage</li> <li>No seals torn off (preventing energy loss)</li> <li>The door is the "visiting card" of your company. Take care that it is maintained in a perfect condition</li> </ul>
Door leaf guides	<ul style="list-style-type: none"> <li>Check the door leaf guides</li> <li>These could be damaged by impacts (e.g. from trolleys)</li> <li>Door leaf guides can show exceptional signs of wear and tear due to intensive use as well as dirt</li> </ul>	<ul style="list-style-type: none"> <li>Door leaf must slide smoothly</li> <li>Bottom or vertical profiles show no scratch marks</li> <li>Door leaf guides must not produce any unusual noise during the opening/closing phase</li> </ul>

Test / Control	Procedure	Result expected
		
<p>Full width floor track (instead of single door leaf guides)</p> 	<ul style="list-style-type: none"> <li>▪ Set the door on manual mode (see chapter "Selection of special functions")</li> <li>▪ Clean the track from dirt, cigarette butts, etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Door leaf must slide smoothly</li> <li>▪ The movement of the door must not be hindered by dirt</li> </ul>
<p>Operator casing</p>	<ul style="list-style-type: none"> <li>▪ Check the attachment of the operator casing</li> </ul>	<ul style="list-style-type: none"> <li>▪ It must be completely closed and must correctly engage into the hinges</li> </ul>
<p>Protective screen (optional - country specific)</p> 	<ul style="list-style-type: none"> <li>▪ Check the mechanical state of the protective screen</li> <li>▪ Particularly check the closing mechanism</li> </ul>	<ul style="list-style-type: none"> <li>▪ A protective screen reduces risk of squashing and cutting</li> </ul>
<p>Swing-open movement</p>	<ul style="list-style-type: none"> <li>▪ Operating mode "Locked"</li> <li>▪ Rotary switches must be on "open" position or the MPV has to unlock in case of an emergency</li> </ul>	<ul style="list-style-type: none"> <li>▪ Unimpeded open/tilt of all door leaves</li> </ul>

**IMPORTANT**



After unlocking, the tilting door leaves have to be pressed back completely into the end position.

The tilting door leaves must be closed completely (tilting and slide movement).

No object should obstruct the tilting area.

## Contact

→ **Manufacturer**

agta record ltd – Allmendstrasse 24 – 8320 Fehraltorf – Switzerland  
tel. +41 44 954 91 91 – [info@agta-record.com](mailto:info@agta-record.com)

Distribution / Service Hotline:



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n°102-020111223 – Manufacturer: agatec ag – Allmendstrasse 24 – 8320 Fehraltorf – Switzerland