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User manual

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Translation of the original manual

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List of changes

Change	Location
Complete revision of all Sections and content	Entire document
New Section structure	Entire document
Revision of all graphics	Entire document

1 Safety

1.1 Presentation of warning signs

Various symbols are used in this guide for easier understanding:

NOTICE

Useful advice and information to ensure correct and efficient workflow of the system.

CAUTION

Against a potential hazardous situation that can lead to minor personal injury and property damage.

WARNING

Against a latent hazardous situation that can lead to severe injuries or death and cause substantial property damage.

DANGER

Against an imminent hazardous situation that can lead to severe injury or death.

DANGER

Against an imminent or latent hazardous situation that could lead to electric shock and cause serious injury or death.

1.2 Intended purpose of use

The system is designed exclusively for use as a pedestrian passage. The installation must only occur in dry areas. If there are deviations, then proper waterproofing and water drains will be required on site.

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 associated risk.

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

Interventions in or alterations to the installation performed by non-authorized maintenance technicians exclude the manufacturer's liability for consequential damages.

NOTICE

The operation of an automatic door in combination with a wicket door must only take place if the latter is in a secured position.

1.3 General hazards

The following section lists hazards that can be caused by the system even when used as intended.

To reduce the risk of malfunction, damage to property or injury to persons and to avoid dangerous situations, the safety instructions listed here must be observed.

The specific safety instructions in the other sections of this manual must also be observed.

DANGER

Electric Shock!

In case of contact with live parts, there is an immediate danger to life due to electric shock. Damage to or removal of the insulation or individual components can be life-threatening.

a) Before starting work (cleaning, maintenance, replacement) on active parts of electrical systems and equipment, ensure that all poles are voltage free and that this is maintained for the duration of the work.

b) Keep moisture away from live parts. This can lead to a short circuit.

c) Never bridge fuses or put them out of operation.

d) Do not connect the power supply until all work has been completed.

e) Have work on the electrical system performed by qualified personnel only.

DANGER

Serious or fatal injuries!

If safety devices of the fire protection system do not function properly, there is a risk of serious or fatal injuries.

a) Never disconnect the fire protection system from the power supply overnight.

b) Do not disassemble, put out of operation or manipulate safety devices.

c) Do not remove safety instructions on the system.

d) Never block, hold open or otherwise prevent fire doors from closing.

e) Have inspection, service and maintenance of the fire protection system carried out in accordance with locally applicable regulations or according to a maintenance contract.

f) Have the fire protection system checked and maintained according to the state of the art.

WARNING

Serious injuries and major material damage.

Incorrect mounting can lead to serious injuries and/or cause major material damage.

a) Observe and comply with all important instructions regarding safe assembly.

CAUTION

Risk of malfunctions, material damage or injuries!

Improper settings can lead to malfunctions, material damage or injuries.

a) Do not disconnect the system from the power supply overnight.

b) Settings should only be made by personnel qualified to do so.

c) Do not disassemble, put out of operation or manipulate safety devices.

d) Have faults rectified by specialist personnel or by personnel qualified to do so.

e) Have service and maintenance carried out according to locally applicable regulations or according to a maintenance contract.

CAUTION

Risk of malfunctions, material damage or injuries!

Insufficient or inattentive cleaning or care of the system can lead to malfunctions, material damage or injuries.

a) Check the sensors regularly for dirt and clean them if necessary.
b) Regularly remove dirt accumulations in the floor rail or under the floor mat.
c) Keep the system free from snow and ice.
d) Do not use aggressive or caustic cleaning agents.
e) Use road salt or loose chippings only conditionally.
f) Lay the floor mat without folds and flush with the floor.
g) Equipment required for cleaning purposes such as ladders or similar must not be leaned on or attached to the system.

CAUTION

Risk of material damage or injuries!

The door can open, close or turn unexpectedly. This may result in material damage or injuries.

a) No persons may be present in the opening area of the system.
b) Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.
c) Do not make any settings on the control unit when the system is in use.
d) Have faults rectified immediately by specialist or personnel qualified to do so.
e) Remove objects from the opening area.
f) Do not disassemble, put out of operation or manipulate safety devices.
g) Do not rush through a closing system.

CAUTION

Risk of bruising and severing of limbs!

If the system moves, careless behaviour can lead to serious injuries to limbs or severance of limbs.

a) Do not reach in when parts of the system are moving.
b) Keep a distance when parts of the system move.
c) Do not bump into or touch the system when it is moving.
d) Do not open or remove protective covers during operation.
e) Do not permanently remove covers from the system.
f) Only carry out inspection, service, maintenance and cleaning when the system is stationary and switched off.

CAUTION

Risk of material damage or injuries!

If safety devices are not functioning, manipulated or put out of operation, there is a risk of material damage or injuries that can lead to death.

a) Never disable or manipulate safety devices.
b) Have inspection, service and maintenance of the safety devices carried out according to local regulations or according to a maintenance contract.

CAUTION

Risk of malfunctions, material damage or injuries!

If unauthorised persons use the system, there is a risk of malfunction, material damage or injuries.

a) Children under 8 years of age may only use the system under supervision.

b) Children must not play, clean or maintain the system.

c) Persons with limited physical, sensory or mental abilities as well as persons with insufficient knowledge or experience may only use the system under supervision or must have received and understood instructions to do so.

NOTICE

The country-specific regulations must be observed and complied with.

NOTICE

To avoid malfunctions, moving objects such as flags or parts of plants must not be allowed to enter the detection range of the sensors.

NOTICE

The installation must be inspected during the function and safety check for imbalance and signs of wear or damage to cables, springs and fastening parts.

The equipment must NOT be used if repair or adjustment work needs to be carried out.

NOTICE

Before work can be started, persons must be barred from the system and the danger area.

1.4 State of technology

The system has been developed in accordance with the state of the art and recognized safety regulations and, depending on the options and dimensions, meets the requirements of the Machine Directive 2006/42/EC as well as EN 16005.

Nevertheless, hazards to the user may arise if the system is not used as intended.

NOTICE

Installation, commissioning, inspection, maintenance, and repair work must only be conducted by qualified, trained and authorized technicians.
After commissioning or repair work, fill in the check list and give it to the customer for safe keeping.
We recommend obtaining a service agreement.

1.5 Personal protective equipment

Personal protective equipment is used to protect persons from adverse effects on health. Personnel must wear personal protective equipment during the various work activities on and with the system.

Personal protective equipment is explained below:

Hearing protection is used to protect the hearing from noise. As a rule of thumb, hearing protection is compulsory from when normal conversation with other people is no longer possible.

The head protection serves to protect against falling and flying parts and materials. It also protects the head from bumping into hard objects.

Protective goggles protect the eyes from flying parts, dust, splinters or splashes.

Protective gloves are designed to protect hands from friction, abrasions, punctures or serious injury and from burning caused by contacting hot surfaces.

Safety shoes protect the feet from crushing, falling parts and slipping on surfaces. The puncture resistance of the shoes ensures, that pointy objects do not penetrate the foot.

The high-visibility vest is used to make the personnel stand out and therefore to be seen. With improved visibility and attention, the high-visibility vest protects personnel in busy work areas from collisions with vehicles.

Depending on the place of work and the working environment, the protective equipment varies and must be adapted accordingly. In addition to protective equipment for specific work, the work site may require other protective equipment (for example a harness).

In hygiene-protected areas, special or additional requirements of personal protective equipment may be required. These requirements must be considered when choosing personal protective equipment. If there is any uncertainty regarding the choice of personal protective equipment, the safety officer must be consulted at the place of work.

1.6 Spare parts and liability

Reliable and trouble-free operation of the door is only guaranteed when using parts that were recommended by the manufacturer. The manufacturer declines any liability for damages resulting from unauthorized modifications to the door or the use of parts that are not permitted.

2 General information

2.1 Purpose and use of the instructions

These instructions are an integral part of the system and enable efficient and safe handling of the system. In order to ensure proper functioning, the instructions must be accessible at all times and kept in the immediate area of the system.

Although only the male form has been chosen for reasons of better legibility, the information refers to members of both sexes.

The operator must have read and understood the manual before starting any work. The basic requirement for safe working is to follow the safety instructions and the handling instructions. In addition, the local regulations and safety rules apply.

The manual can be handed over in extracts to instructed personnel who are familiar with the operation of the system.

The illustrations are for basic understanding and may differ from the actual presentation. Specific representations are contained in the drawings.

NOTICE

A replacement of the instructions is available from the supplier or on the website.

2.2 Copyright

The copyright of the instructions remain at:

It is prohibited to reproduce, distribute or use the manuals for purpose of competition without the written authorization of ASSA ABLOY.

Violation of the here stated copyrights will be prosecuted and fined with compensation of damage.

2.3 Product identification

The nameplate located on the door provides accurate identification of the product.

2.4 Manufacturer

ASSA ABLOY Entrance Systems AB

Lodjursgatan 10

SE-261 44, Landskrona

SWEDEN

2.5 Target groups

CAUTION

Risk of injury!

If unqualified personnel work on the system or are in the danger zone of the system, dangers may arise which can cause serious injuries and considerable material damage.

a) All work must be carried out by qualified personnel only.

b) Keep unqualified personnel away from danger areas.

This operating manual is intended for the target groups listed below:

– Operating entity of the system:
the person who is responsible for the technical maintenance of this system

– Operator of the system:
the person who operates the system every day and has been suitably instructed

2.6 Definition of terms

Term:	Explanation:
System	The term is also used in these instructions as a synonym for the product. Door operators, revolving doors, sliding doors, etc. are referred to as a system. If information in these instructions refers to a specific type, this is shown accordingly in the text.
User	Users are all persons who use the system.
System operator	The respective owner is referred to as the system operator, regardless of whether they operate the system as the owner or pass it on to third parties.
Authorized representative	The authorized representative takes over certain parts of the manufacturer's obligations about fulfilling the requirements of the Machinery Directive. In particular, the authorized representative may also place the system on the market and/or sign EC declarations of incorporation.
Qualified personnel	Qualified personnel are authorized and appropriately trained to perform the following work: – Disassembly, Assembly, Commissioning, Operation, Audit, Maintenance, Troubleshooting, Decommissioning The qualified personnel have several years of professional experience in the technical field, e.g., as mechanics or machine fitters. The qualified personnel are aware of the residual risks arising from the installation site and, due to their professional training, knowledge, and experience, can carry out the work assigned to them and to independently identify and avoid possible danger points.
Manufacturer	The manufacturer is whoever designs and/or builds machinery or incomplete machinery under the scope of the Machinery Directive.
Life phases	All phases of the system's condition and use are referred to as life phases. This applies from the time the system leaves the factory until it is disposed of.
Personnel	All persons who carry out activities on and with the system are referred to as personnel. Personnel can be, for example, the operator, the cleaning staff, or the security staff. The personnel meet the personnel qualifications required by the manufacturer.
Service technician	Experts and specialists or representative authorized by the manufacturer to perform commissioning, maintenance, and servicing.

3 Description

3.1 Functional description

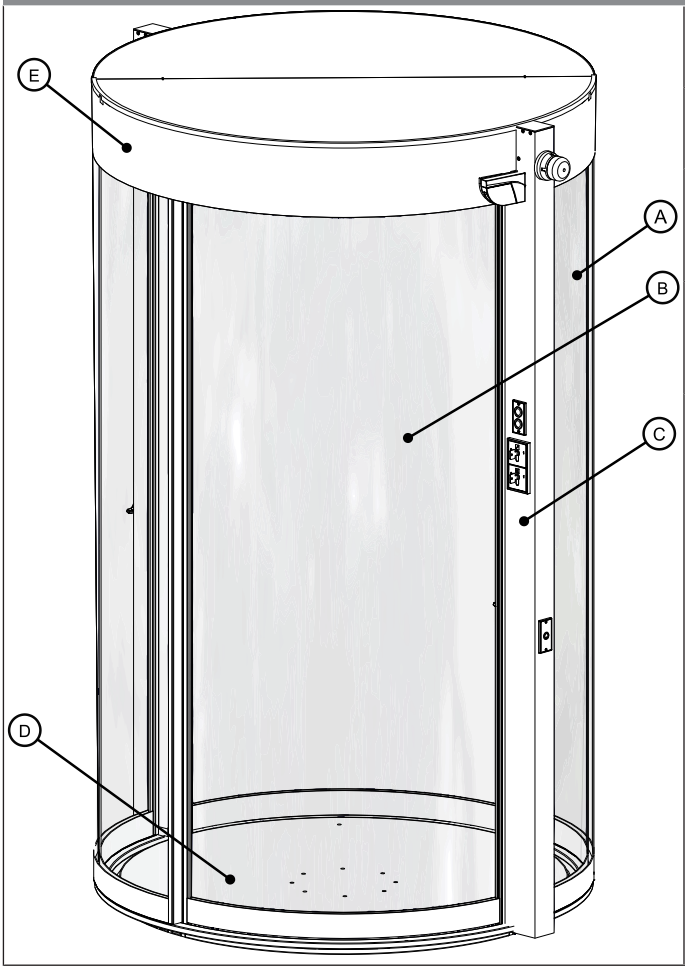
The main function of the door is to create a barrier between two areas. The door prevents the uncontrolled entry of a person from the public area into a secured area, from the secured area into the public area or in both directions of passage.

The door consists of an entrance door and an exit door. Both doors are designed as curved sliding doors and joined in a common door drum to one circular sliding door. The dimensions of the door are variable. The electronic components as well as the door drives are usually located in the canopy.

Free contact for the BMS (building management system) and a voice module are optional components.

The operating modes can be set via the operating unit (BDE-D). Additional operating modes such as cleaning and maintenance are designed as separate switches for safety reasons (optional).

3.2 Main mechanical components

Illustration		Description
	A	**Side part** Curved and fixed frame construction.
	B	**Door wing** Curved and movable frame construction.
	C	**Post** Vertical frame profile to accommodate operating elements.
	D	**Floor element** Depending on conditions and design, consisting of contact mat, finished floor, base and / or floor ring.
	E	**Bonnet** All-round cover with panel. Inside the bonnet, the drive and control system are installed, among other things.

3.3 Safety features and controls

3.3.1 Safety levels of the system

Security level: Low		
Description	**Equipment**	**Functionality**
Without sensor system to automatically monitor the number of persons. To be used as an airlock for separating people.	– Access by means of chip, iris recognition, etc.	– First door opens (e.g. after release by the access control system) – Second door opens as soon as the first door is closed again, – or the user re-authorises himself within the portal, e.g. by means of a card reader supplied by the customer, or – external signal from security staff

Security level: Middle		
Description	**Equipment**	**Functionality**
Monitoring of anti-tailgating. Prevents a second person from following an authorised person through the airlock unnoticed.	– 2-Zone pressure contact mat for monitoring the number of persons	– First door opens (e.g. after release by the access control system) – Second door opens as soon as the first door is closed again and the pressure contact mat detects only one person inside the portal

Security level: High		
Description	**Equipment**	**Functionality**
Monitoring of anti-piggybacking. Prevents a person from carrying another person without access rights through the airlock.	– 3D camera for monitoring the number of persons	– First door opens (e.g. after release by the access control system) – Second door opens as soon as the 3D camera mounted in the ceiling has ensured that only one person is inside the portal.

Security level: Superior		
Description	**Equipment**	**Functionality**
Monitoring of anti-tailgating and anti-piggybacking. On the one hand, prevents a second person from following an authorised person through the airlock unnoticed and, on the other hand, the Superior level prevents an authorised person from leading another person through the airlock who is not authorised to enter.	– 2-Zone pressure contact mat for monitoring the number of persons – 3D camera for monitoring the number of persons	– First door opens (e.g. after release by the access control system) – Second door opens as soon as the contact mat and the 3D camera mounted in the ceiling have ensured that only one person is inside the portal.

NOTICE

In addition to the automated security concepts, it is also possible to control access purely manually from the outside by security personnel.

3.3.2 Tailgaiting and Piggybacking

Tailgaiting:
Tailgating is when another person, whether an employee or not, passes through a secure door without the knowledge of the person in front who has received legitimate access through the secure door.

Piggybacking:
Piggybacking is when another person WITH the consent of the entitled person follows through the door. If someone hugs you or wears you on their back, this is called piggybacking. A 3-dimensional image transmission system is able to distinguish between two hugging persons and a tall person. Also the piggybacking of a person is reliably detected.

3.3.3 Conduct during a power failure

Without uninterruptible power supply (UPS)
The system could be installed without any type of emergency power supply (battery or UPS). In the event of a power failure, the electronics are switched off and the door remains in its current position. Nevertheless, at least one of the two doors should be able to be unlocked if both doors are closed and quipped with a bistable locking device so that no person can become trapped in the system. The use of a manual locking device is then possible. Special case: If one of the two doors is equipped with the currentless unlocked locking, it is possible that only one door remains closed and locked and no one can be locked in (fail-safe / fail-secure combination).

NOTICE

Without UPS or batteries, there is a danger of people being trapped inside during a power failure. We strongly recommend a mechanical emergency release for such cases.

With an uninterruptible power supply (UPS)
The system can also be equipped with an external UPS to maintain function in the event of a power failure. A signal could then be passed to the optional BMS to inform that the main power supply has been interrupted.

With batteries for emergency response
The system is equipped with batteries as standard to prevent people from being trapped in the event of a power failure. With the programming device, the respective door control can be set in such a way that in the event of a power failure, an emergency reaction is still carried out via the batteries. For example, it can be set so that in this case the door is always opened to the public side and locked to the secure side.

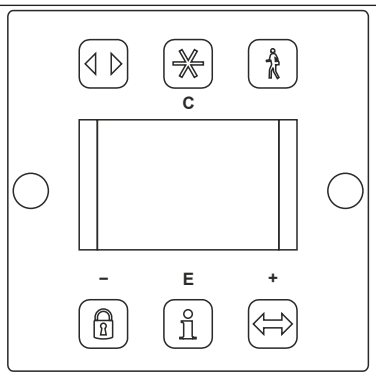
3.3.4 Conduct when power is restored

Restart after mains return
As soon as the main power supply is restored, the door goes back into operation. An automatic reset is performed. The door then switches back to the currently set operating mode.

3.3.5 Operating unit BDE-D

NOTICE

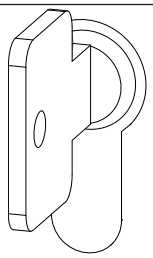
The BDE-D operating unit is an input and output unit for the operation and limited programming of the system. The display shows information about the system by means of symbols and text.



Adjustable operating modes and functions:

- Automatic
- Permanently open
- Locked
- One-way
- Airlock
  - Monitoring from outside to inside
  - Monitoring from inside to outside
  - Monitoring in both directions

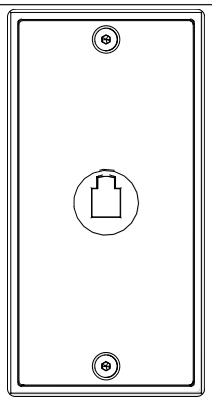
3.3.6 BDE-Lock key switch



The BDE-Lock key switch is used to lock or unlock the BDE-D control unit for the door.

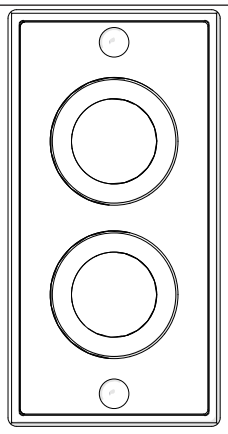
If the BDE-Lock key switch is turned to blocked, the operating unit is blocked - changes to the operating mode can only be made by unlocking the BDE-Lock key switch.

3.3.7 iPort



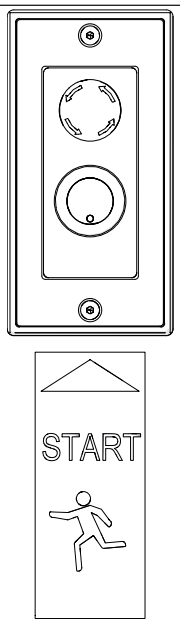
The iPort is an integrated connection for control and programming devices.

3.3.8 Signal light



The signal lights indicate the release status for the respective direction of passage. When the signal light is red, the system is blocked for the corresponding direction of passage, and when the signal light is green, the system is released.

3.3.9 Panic button



A panic button is integrated in the system. The door that was last used is opened again and the user can leave the system. The information about which door was last opened is stored in the control system as long as the mains voltage is applied.

3.3.10 Total open

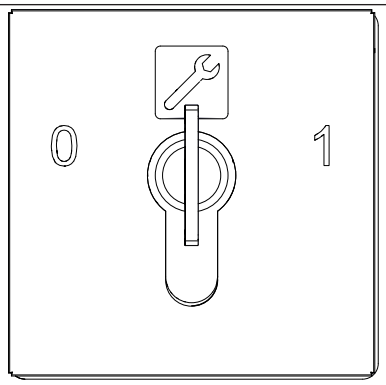
Total opening is an additional safety measure in case the building in which the system is installed has to be evacuated, for example, even when the door is not declared as an emergency exit. The input contact has the highest priority level and opens both doors. This function is also available if the airlock control is faulty or defective. This function directly controls an input of the sliding door control. Please note: The system has no approval for escape and rescue routes.

NOTICE

The total opening can only be effected by an external signal. Otherwise, both doors can also be opened (e.g. transport of goods deliveries) via the control panel with the operating mode “Door open” (doors permanently open).

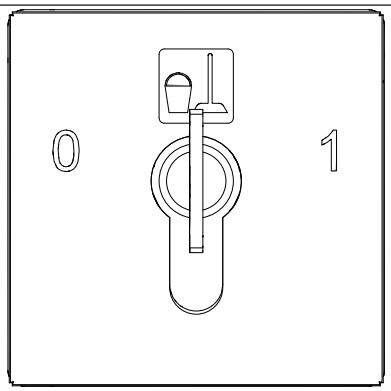
4 Options

4.1 Maintenance mode key switch



- The lighting in the system is switched on and the signal lights flash alternately red / green.
- In maintenance mode, only one door can be opened at a time.
- This mode has a higher priority than the “Technical Alarm” mode. In the event of a technical alarm, activating this mode allows the door to be opened to allow the technician access.

4.2 Cleaning mode key switch



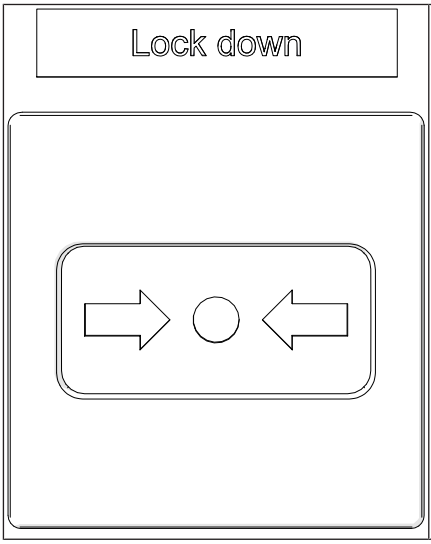
- The cleaning mode can be activated locally (with a separate key switch or remotely via a contact of the building management system (BMS). The cleaning mode can be activated in all operating modes.
- In cleaning mode, the access side is opened and at the same time it is ensured that the opposite door is closed.
- To enable access from both access sides, two key switches can optionally be used.

Example: Cleaning door with access from the inside of the building, activation by key switch on the safe side:

- Lighting is on.
- Signal lights are off.
- The door from the secured side is opened as soon as the door on the public side is closed and locked.
- As soon as the key switch is released again, the cleaning mode is exited.
- As soon as no one is in the facility, the door on the secured side closes.
- When both doors are closed, the cleaning mode is terminated and the preset operating mode is reactivated.

If the cleaning function is to be done from the public side, the positions of the doors are exactly reversed.

4.3 Lock-Down



To prevent someone from being locked in the system and to maintain the security of the building, there is a high priority input contact. With this function, one door is closed first before the opposite door is opened.

4.4 Flashing light

The flashing light can indicate various alarm messages.

4.5 Emergency release

A mechanical emergency release can be installed as an additional safety measure upon request. It would be possible to exit the door using this emergency release even if a system failure or power failure was to occur. By activating the emergency release during a power failure, the bistable lock will release and the door can be pushed open manually.

4.6 Voice module

An optional voice module (including a memory card with messages and a loudspeaker) guides the person through the single passage procedure. Different messages can be activated. “Please go in”, “Access denied, please go out"…. etc. These messages are stored on a SD card to facilitate the handling of the different texts and languages. Playing of each message can be activated or deactivated with the Service Display.

Standard messages are:

No.	Description	No.	Description
01	Technical alarm	09	Panic mode enabled
02	Please go in	10	Be careful door is closing
03	Please wait	11	Unauthorized entry, please go out
04	Please stand in the middle of the portal	12	Free (Reserved)
05	Please present authorization	13	Free (Reserved)
06	Access denied, please go out	14	Free (Reserved)
07	Access granted, please go out	15	Free (Reserved)
08	Duration cleaning mode over	16	Not a message (STOP signal)

4.7 User interface

Potential-free contacts (optional) to connect the door to an existing BMS and monitor the status of the system.

Example:			
No.	**Description**	**No.**	**Description**
01	In operation	09	Operating mode Locked
02	Technical and material malfunction	10	Operating mode Entry Monitoring
03	Break-in + sabotage + inspection flap	11	Operating mode Exit Monitoring
04	Access granted	12	Operating mode Entry / Exit Monitoring
05	Access denied + tailgating / piggybacking	13	Operating mode Open without monitoring
06	Mains monitoring	14	Operating mode Maintenance mode
07	Door locked safe side	15	Operating mode Cleaning mode
08	Door locked public side	16	Panic button activated

4.8 Deactivation of the monitoring sensor (Super User)

Temporary deactivation of the monitoring sensor (contact mat or 3D camera)

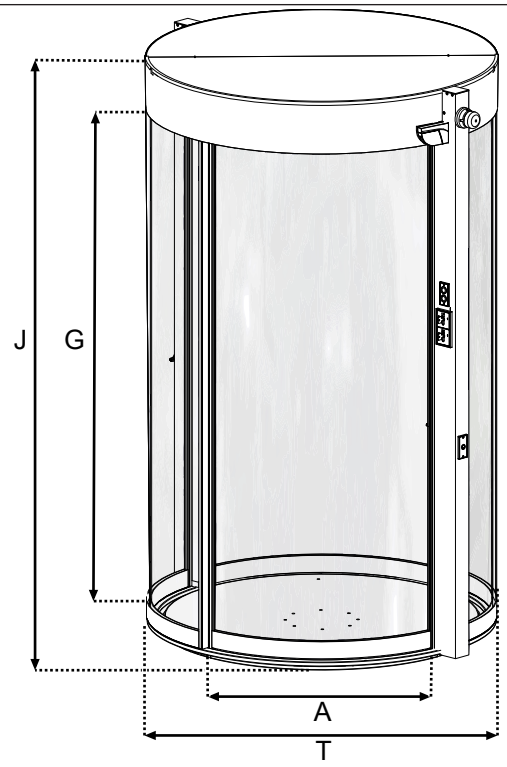
Deactivation of the monitoring sensor FOR ONE PASSAGE CYCLE is possible via an optional code card reader (public side or secure side) in all operating modes. The check that only one person can enter through the system in corresponding direction is deactivated.

This input can be activated via the BMS, externally from the security office or locally with a code card reader, with two exits:

- Exit 1: For persons using the airlock operation.
- Exit 2: For persons deactivating the monitoring sensor for one cycle, ex.: wheelchair users.

5 Specifications

5.1 Dimensions of the system



Abbreviation	Description	Version in mm		
A	Passage width	600	900	1100
G	Passage height	from 2100 to 3000		
J	Total height	from 2320 to 4000		
T	Total diameter			
	20 mm alu profile	1035	1455	1735
	30 mm alu profile	1090	1510	1790

5.2 Electrical specifications of the system

Mains voltage:	100-240V AC (STA 20) / 115V AC (series 5100)
Frequency:	50-60 Hz
Mains fuse:	16A circuit breaker with tripping characteristic C or K
Power consumption:	max.: 700 W
Control voltage:	24V DC (extra low voltage)
Fuse in the control:	T4A (depending on the door control)
Safety class:	1
Degree of protection:	IP 20

5.3 Electric lighting specifications

High power LED spots	
Transformer power supply	90-264 VAC
Frequency	50-60 Hz
Transformer secondary voltage	60 W
Capacity per LED/lamp	5.6 W
Protection class/Insulation class	2
Transformer degree of protection	IP 67

NOTICE

The power connection must be installed by a licensed electrician. Permanent wiring is to be employed as required by local codes.

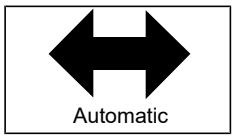
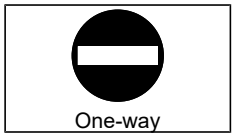
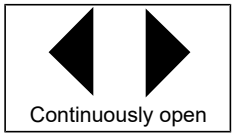
The power must be able to be shut off via a main switch or residual current circuit breaker (on-site).

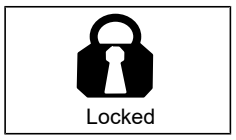
5.4 Environmental conditions

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

6 Operation

6.1 Operating modes

Key	Operating mode	Display symbol	Capacity
	Automatic		– Unobstructed access in both directions
	One-way		– Passage only possible from one direction
	Permanently open		– System remains open until another operating mode is selected.
	Airlock		– Basic state of the system in this operating mode: Both doors are closed or optionally locked. – The optional signal lights light up red inside and green outside (or red, adjustable with the service display). – The ceiling lights are switched on. – If an impulse is triggered by an access control, the user can enter the door. – As soon as presence is detected inside, or the door time has expired, the door closes (if no security sensors are activated). – If additional control is required inside the facility (such as fingerprint or facial recognition), the user must pass this check. – If the person has successfully passed all tests and is alone inside, the opposite door opens automatically. – Subsequently, the door closes (and optionally locks) if neither a person nor an object is detected or the door time has expired. – If entry is granted to another area, the signal lights change to green accordingly. – In all other cases (two persons, suspicious person or identity check failed), access is not granted. The door through which the user entered is opened again so that the facility can be left again (person and object). It is then closed again (and optionally locked). – In this mode, monitoring is activated in both directions (entry direction and exit direction are monitored).
	Airlock		– The system functions as in the “Monitoring from both directions” mode, except that monitoring is only activated for the entry direction. – Several people can leave the secured area at once (exit direction), as this does not require access authorisation. – The door is activated by motion detector, for example.

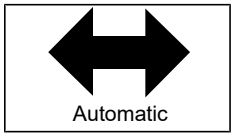
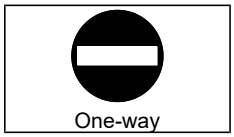
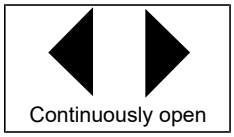
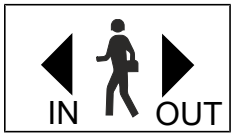
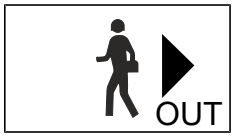
Key	Operating mode	Display symbol	Capacity
	Airlock		– The system functions as described in the operating mode “Monitoring from outside to inside”, only in the other direction (monitoring of the exit direction).
	Locked		– The system is closed and locked (if there is an interlock). – The system remains locked even in the event of a power failure.

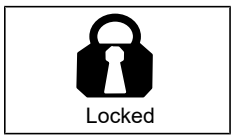
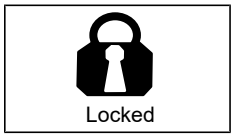
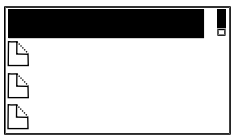
6.2 Menu

NOTICE

The keys on the operating unit are used to set the operating modes in the main menu and the system parameters in the submenu.

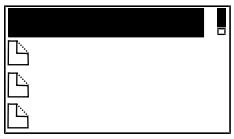
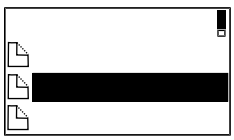
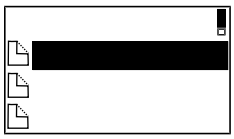
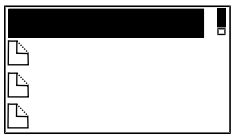
The functions of the keys differ from the main menu to the submenu.

Main menu				
Key	**Name**	**Operation**	**Capacity**	**Display example**
	Automatic	Press key 1 x	Automatic operation via sensors	
	One-way	Press key 2 x	One-way operation via sensors	
	Permanently open	Press key 1 x	Permanently open, sensors deactivated	
	Airlock	Press key 1 x	Monitoring from both directions	
		Press key 1 again	Monitoring from outside to inside	
		Press key 1 again	Monitoring from inside to outside	

Main menu				
Key	**Name**	**Operation**	**Capacity**	**Display example**
	Interlock	Press key 1 x	Door closed, sensors deactivated.	
		Press key 1 again	Door opens again, closes and locks again. Opening with key (optional) possible	
	Star	Without function	Without function	
	Info	Restart control unit Press the key for 5 seconds	Restart control unit	
		Restart hardware operating unit Press the key for 12 seconds	Restart hardware operating unit	
		Press key 2 x	Access to parameter menu	

NOTICE

The return from the submenu to the main menu takes place automatically 3 minutes after the last entry.

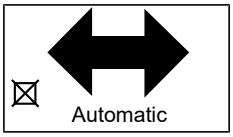
Submenu				
Key	**Name**	**Operation**	**Capacity**	**Display example**
E	Enter	Press the key 1 x to access the next submenu.	Select menu item (ex: error, status, parameter), confirm entry	
+	Plus	Press the key 1 x to move down.	Navigation down in the menu	
-	Minus	Press the key 1 x to move upwards.	Navigation upwards in the menu	
C	Clear	Press the key 1 x to return to the previous menu	Exit menu item without saving	

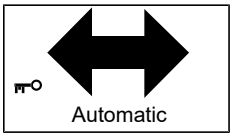
6.3 Performing a reset

Reset the control system				
Step	**Key**	**Operation**	**Capacity**	**Display example**
1.	E 	Press key for 5 seconds	Reset the control system	No Reset controller? Yes
2.	 C	Press key 1 x	Cancel reset	
	E 	Press key 1 x	Performing a reset	

Reset of the operating unit				
Step	**Key**	**Operation**	**Capacity**	**Display example**
1.	E 	Press key for 12 seconds	Reset the operating unit (connection is established)	

6.4 Lock the operating unit

Activate operation lock via keyboard				
Key			**Operation**	**Capacity**	**Display example**
			Press the key sequence as shown To deactivate, press the key sequence again	No settings can be made on the operating unit.	

Activating the operation lock with the key			
Prerequisite	**Operation**	**Capacity**	**Display example**
The desired operating mode is set.	Activate/deactivate the operating lock with the key	No settings can be made on the operating unit.	

7 Inspection and maintenance

Regular inspection and maintenance of the system by trained and authorized personal from the manufacturer, is the best guarantee for long life and trouble-free secure operation.

These control and maintenance operations are required at regular intervals, following the manufacturer's instructions and the relevant legal requirements.

7.1 General remarks

DANGER

Electric Shock!

In case of contact with live parts, there is an immediate danger to life due to electric shock. Damage to or removal of the insulation or individual components can be life-threatening.

a) Before starting work (cleaning, maintenance, replacement) on active parts of electrical systems and equipment, ensure that all poles are voltage free and that this is maintained for the duration of the work.

b) Keep moisture away from live parts. This can lead to a short circuit.

c) Never bridge fuses or put them out of operation.

d) Do not connect the power supply until all work has been completed.

e) Have work on the electrical system performed by qualified personnel only.

NOTICE

Specific inspections and maintenance may only be carried out by a specialist or a person trained for this purpose. The authorization of these persons is carried out exclusively by the manufacturer. The scope, result and time of the periodic inspections and maintenance must be recorded in an inspection book and a checklist. These documents must be kept by the operator.

NOTICE

The testing and/or servicing interval according to the manufacturer's specification is at least 1 to 2 times a year.

NOTICE

The recommended and planned spare and wear parts can be requested from your service centre.

According to current legislation, the operator of an automatic door system is responsible for its maintenance and safety.

With the care of the installation by the operator, accidents or defects can be avoided.

Testing

Type of test	Action
Visual inspection	Check door leaves, guides, bearings, limiting devices, sensors, and the securing of crushing and shearing points for damage.
Mechanical inspection	Check fastenings for tight fit.
Safety check (exit and escape routes)	Check sensors, safety devices, and monitoring devices for tight fit and damage.

Type of test	Action
Function testing	Check functioning of switches, operators, controllers, power or energy storage devices, and sensors. Also check the adjustment of the safety devices and the setting of all movement sequences including the end points.
Test run	Final overall review is carried out.

Servicing

Type of servicing	Action
Adjustment and cleaning	Clean and adjust bearings, sliding points, and power transmission. Check relevant fastening screws and retighten if necessary.

For documentation and information purposes, the testing and servicing work as well as the condition of the system are recorded in a test log book. The test log book must be kept for at least one year or until the next testing/servicing.

7.2 Operator duties

Personal protection requires compliance with the standards and guidelines for publicly accessible facilities.

The system operator is responsible for carrying out testing and servicing.

NOTICE

According to EN 16005 / DIN 18650, the system must be inspected by an expert before initial commissioning and subsequently according to the manufacturer's instructions or at least once a year

NOTICE

The installation must be inspected during the function and safety check for imbalance and signs of wear or damage to cables, springs and fastening parts.

The equipment must NOT be used if repair or adjustment work needs to be carried out.

CAUTION

Risk of malfunctions, material damage or injuries!

Insufficient or inattentive cleaning or care of the system can lead to malfunctions, material damage or injuries.

a) Check the sensors regularly for dirt and clean them if necessary.
b) Regularly remove dirt accumulations in the floor rail or under the floor mat.
c) Keep the system free from snow and ice.
d) Do not use aggressive or caustic cleaning agents.
e) Use road salt or loose chippings only conditionally.
f) Lay the floor mat without folds and flush with the floor.
g) Equipment required for cleaning purposes such as ladders or similar must not be leaned on or attached to the system.

Tasks system operator

Task	Personnel	Time of implementation	Entry in the inspection book
Maintenance and cleaning of the sensors for safety and triggering	System operator	Weekly, or as required	No
Function and safety check	System operator	Monthly	No
Function test for fire doors	System operator	Monthly, or according to country-specific standards and guidelines	No

Tasks of qualified person

The inspection is carried out according to the manufacturer's test instructions.

The inspection usually takes place at the same time as the maintenance of the system.

The inspection also checks whether no changes have been made to the system since the last inspection and whether it meets the current safety requirements.

Task	Personnel	Time of implementation	Entry in the inspection book
Acceptance test	Qualified person	After assembly of the door system ready for operation	Yes
Servicing	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes
Test (inspection)	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes
Test (inspection) for door systems in escape routes	Qualified person	2 x annually, or according to country-specific standards and guidelines	Yes
Testing of fire doors	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes
Testing (inspection) for fire doors	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes
Servicing for fire doors	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes

7.3 Monthly inspection work performed by the operator

The monthly tests and inspections of the individual components that must be conducted by the operator take little time and in particular, prevent accidents caused by improper handling of the door system. We recommend that you conduct the following inspections dependent on the model of the door.

Test / Inspection	Procedure	Expected results
Control elements visual inspection	– Check if labels are present	– Operating switches must not have any mechanical damage – Labels / symbols must be visible and legible
Contact mats and safety sensors function test	– Test the contact mats (if available) in all operating modes – Test the safety sensors in the interior and exterior passage ways – Test the safety sensors on the secondary closing edge (inside the portal)	– The contact mat must switch on in the operating mode Entrance, Exit and Entrance / Exit (with monitoring) – The safety sensors (when triggered) in the passage way must stop the door during the closing process – The safety sensors (when triggered) on the secondary closing edge must stop the door during the opening process

Test / Inspection	Procedure	Expected results
Lock function test	– Select LOCKED operating mode – Check that the lock is properly engaged by trying to push the door wings	– Door wings should not be able to be pushed open
Lighting function test	– Check that the lights are installed properly – Select another operating mode other than LOCKED	– Lights must be installed correctly – Lights must function properly
Floor covering visual inspection	– Check the floor covering (if available) for tripping hazards, unevenness, damages and dirt accumulation	– The floor covering must be free from tripping hazards, unevenness, damages and dirt accumulation

CAUTION

Risk of burning, hot surfaces!

a) Risk of burning hands when replacing components.

⇨ Allow components to cool for at least 5 minutes before replacement and wear safety gloves if necessary.

7.4 Cleaning and care

DANGER

Dangerous electrical voltage!

a) Risk of death by electric shock

⇨ Do not touch the drive system when the system is turned on.

⇨ Do not spray water into the drive.

NOTICE

Switch to cleaning mode with the optional key-switch or external contact before starting to clean / care. Wipe over all cleaned surfaces with a clean dry cloth.

CAUTION

Keep the door clean from dirt, leaves, snow and ice!

a) If heavily soiled, please contact a professional.

b) Do not use road salt or gravel in front of the entrance area or inside the system.

c) It is recommended to impregnate the safety strips and sensors with water repellent care products.

What	Interval	Cleaning agent
General parts	Weekly	Damp cloth, neutral to low alkaline, wetting agent solution / vinegar diluted with water.
Sensors / safety strips	Weekly	Synthetic cleaner
Floor mats	Weekly	Vacuum cleaner / carpet cleaner
Side panels / door wings	Weekly	Commercial glass cleaner

8 Malfunctions

8.1 Status displays

NOTICE

The status display shows information with status number and message in plain text. If there is more than one piece of information (e.g. malfunction), the number and the consecutive entry number are also displayed.

The next entry is called up by pressing the info key

Key	Operation	Capacity	Display example
E	Press key 1 x	Change of information if several messages are pending Return to main menu for 4 seconds, then display of information again	

8.2 Error displays

Key	Operation	Capacity	Display example
E	Press key 1 x	The current errors in the error display are shown as a list of error numbers without plain text display in decimal format. The error number is composed of the error source and the error number. Up to three error codes can be listed per display. If there are more errors, the number of displays and the current display number are also shown. The next page is called up by pressing the info key.	

8.3 Troubleshooting via the operating unit

Fault	Cause	Measure	Staff
Display shows a fault message.	Fault present	– Restart the control system via the operating unit. – Performing a reset	Operator
Door does not work.	No power connected.	– Check power connection	Operator
	Operating mode incorrectly selected.	– Check operating mode.	Operator
	Fault message on the operating unit display	– Restart the control system via the operating unit. – Performing a reset	Operator
	Defect	– Close door manually and notify service technician.	Operator
Fault message still present after restart.	Fault could not be rectified.	– Specialised personnel are required to rectify the fault.	Specialised personnel
		– Display and read out the system information about the door on the display. – Notify the service centre. – If necessary, close the door manually.	Operator

Fault	Cause	Measure	Staff
Signal tone every 5 seconds (only with optional battery pack)	No power available.	– Switch on main power,	Operator
	Mains fuse defective.	– Replace fuse.	Operator
	Fuse on power supply unit of drive defective.	– Replace fuse.	Specialised personnel

8.4 Tips on troubleshooting

NOTICE

If malfunctions that endanger the safety of individuals occur, the system must be turned off. It may not be turned back on until the problem has been resolved by a professional and the danger no long exists.

NOTICE

The following list shows faults and their causes along with possible remedies that the operator can carry out. If the remedies are unsuccessful, the operator must disconnect the system from the mains supply and call for service.

Faults	Remedies	Causes
System without function	– No mains supply – Short circuit – Door control defective – Motor damage – Control defective – Locking mechanism jammed	– Check mains supply, call in a specialist if necessary! – Remove obstacle – Connect service display and check condition – Call service
Door opens, but passage is not granted	– Monitoring sensor defective – Contact mat defective – Opposite door defective – Door position limit switch defective or not correctly positioned	– Check sensor or contact mat, replace if necessary – Call service
Optional announcement texts cannot be heard	– Voice module defective – Volume too low – Loose cable	– Check supply voltage at voice module – Adjust volume – Call service
System does not perform the desired function	– Control is defective or in undefined state – Door control defective – Fuse sensor defective or sensor triggered	– Disconnect the system from the power supply and reconnect the power supply (RESET) – Remove obstacle in the sensor’s protection area – Call service
Power failure	– Fuse has tripped – Fuse defective – Main switch switched off	– Check fuse – Check mains supply – Check main switch

9 Taking out of service and disposal

9.1 Decommissioning

When shutting down or taking out of service, the system is disconnected from the mains supply and any existing battery is unplugged.

NOTICE

After each temporary shutdown a new commissioning must be carried out.

9.2 Dismantling and disposal

NOTICE

All machine parts must be sorted by type of material and disposed according to local regulations and guidelines.

NOTICE

The door systems can be completely disassembled in reverse order.

The installation mainly consists of the following materials:

Aluminum:

- Linking profiles
- Gearbox, Drive panel
- Door leaves profiles and side profiles
- Various profiles and small parts

Steel / iron parts:

- Stainless steel casing, Floor panel, Box recess for floor installation
- Optional spacer or reinforcement profiles
- Gear components, springs
- Various small parts like fittings, covers, linking parts, etc.

Glass:

- Door leaves and side panels

Various electronic and electromechanical components:

- Sensors, control, and operator components
- Batteries and rechargeable batteries

Various plastics:

- Rollers
- Cable clips, coupling and linking parts
- Sealing profiles
- Casing of electromechanical components and sensors

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