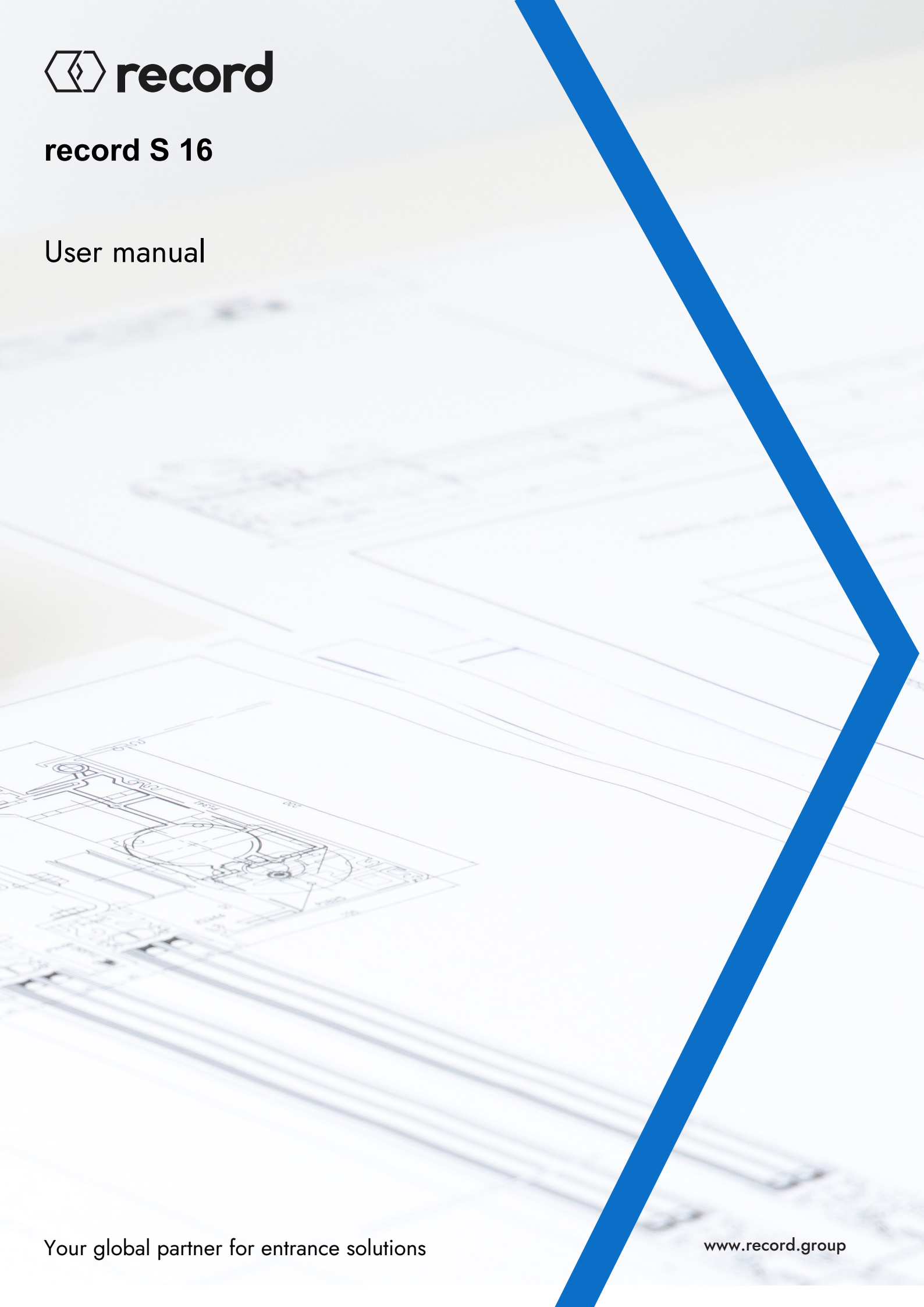
record

record S 16

User manual



Your global partner for entrance solutions

www.record.group

Document identification

Article nr.:	121-006454430
Version:	2.1
Publication date:	01/08/2022

Translation of the original manual

Table of contents

Table of contents

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.

IMPORTANT

Specific details which are essential for trouble-free operation of the system.

IMPORTANT

Important details which must be read for proper function 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.

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.

IMPORTANT

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

IMPORTANT

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

CAUTION

Risk of malfunctions, material damage or injury due to improper settings!

a) Improper settings can lead to malfunctions, material damage or personal injury.

⇨ Do not disconnect the system from the power supply overnight.

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

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

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

⇨ 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 due to insufficient or missing cleaning or care!

a) Insufficient or inattentive cleaning or care of the system can lead to malfunctions, damage to property or injury to persons.

⇨ Check the sensors regularly for dirt and clean them if necessary.

⇨ Regularly remove dirt accumulations in the floor rail or under the floor mat.

⇨ Keep the system free from snow and ice.

⇨ Do not use aggressive or caustic cleaning agents.

⇨ Use road salt or loose chippings only conditionally.

⇨ Lay the floor mat without folds and flush with the floor.

⇨ 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 injury due to unforeseen opening, closing or turning of the door!

a) The door can open, close or turn unexpectedly. This may result in damage to property or injury to persons.

⇨ No persons may be present in the opening area of the system.

⇨ Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.

⇨ Do not make any settings on the control unit when the system is in use.

⇨ Have faults rectified immediately by specialist or personnel qualified to do so.

⇨ Remove objects from the opening area.

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

⇨ Do not rush through a closing system.

CAUTION

Risk of bruising and severing of limbs!

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

⇨ Do not reach in when parts of the system are moving.

⇨ Keep a distance when parts of the system move.

⇨ Do not bump into or touch the system when it is moving.

⇨ Do not open or remove protective covers during operation.

⇨ Do not permanently remove covers from the system.

⇨ Only carry out inspection, service, maintenance and cleaning when the system is stationary and switched off.

CAUTION

Danger of material damage or injury due to non-functioning safety devices!

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

⇨ Never disable or manipulate safety devices.

⇨ Have inspection, service and maintenance of the safety devices carried out according to local regulations or according to a maintenance contract.

CAUTION

Danger of malfunctions, damage to property or risk of injury if used by unauthorised persons!

a) If unauthorised persons use the system, there is a risk of malfunction, damage to property or injury to persons.

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

⇨ Children must not play, clean or maintain the system.

⇨ 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.

DANGER

Danger to life due to electric current!

a) 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.

⇨ Before starting work 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.

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

⇨ Never bridge fuses or put them out of operation.

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

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

DANGER

Danger to life due to non-functioning safety devices of the fire protection system!

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

⇨ Never disconnect the fire protection system from the power supply overnight.

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

⇨ Do not remove safety instructions on the system.

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

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

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

1.4 State of technology

This system was developed using state of the art technology and officially recognized technical safety regulations. The system, depending on its options and diameter, comply with the requirements of the Machine Guidelines 2006/42/EG as well as EN 16005 and DIN 18650 (D).

Nevertheless, danger may arise if not used as intended.

IMPORTANT

Installation, commissioning, inspection, maintenance and repair work may 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.

2.2 Copyright

Subject can change without prior notice.

Differences between product and manual are thereby possible.

2.3 Product identification

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

2.4 Manufacturer BLASI GmbH

BLASI GmbH Automatic Door Systems

Carl-Benz-Str. 5-15

D-77972 Mahlberg

Germany

Telephone: +49 7822-893-0

Fax: +49 7822-893-119

2.5 Target groups

CAUTION

Risk of injury if personnel are insufficiently qualified!

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 damage to property.

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

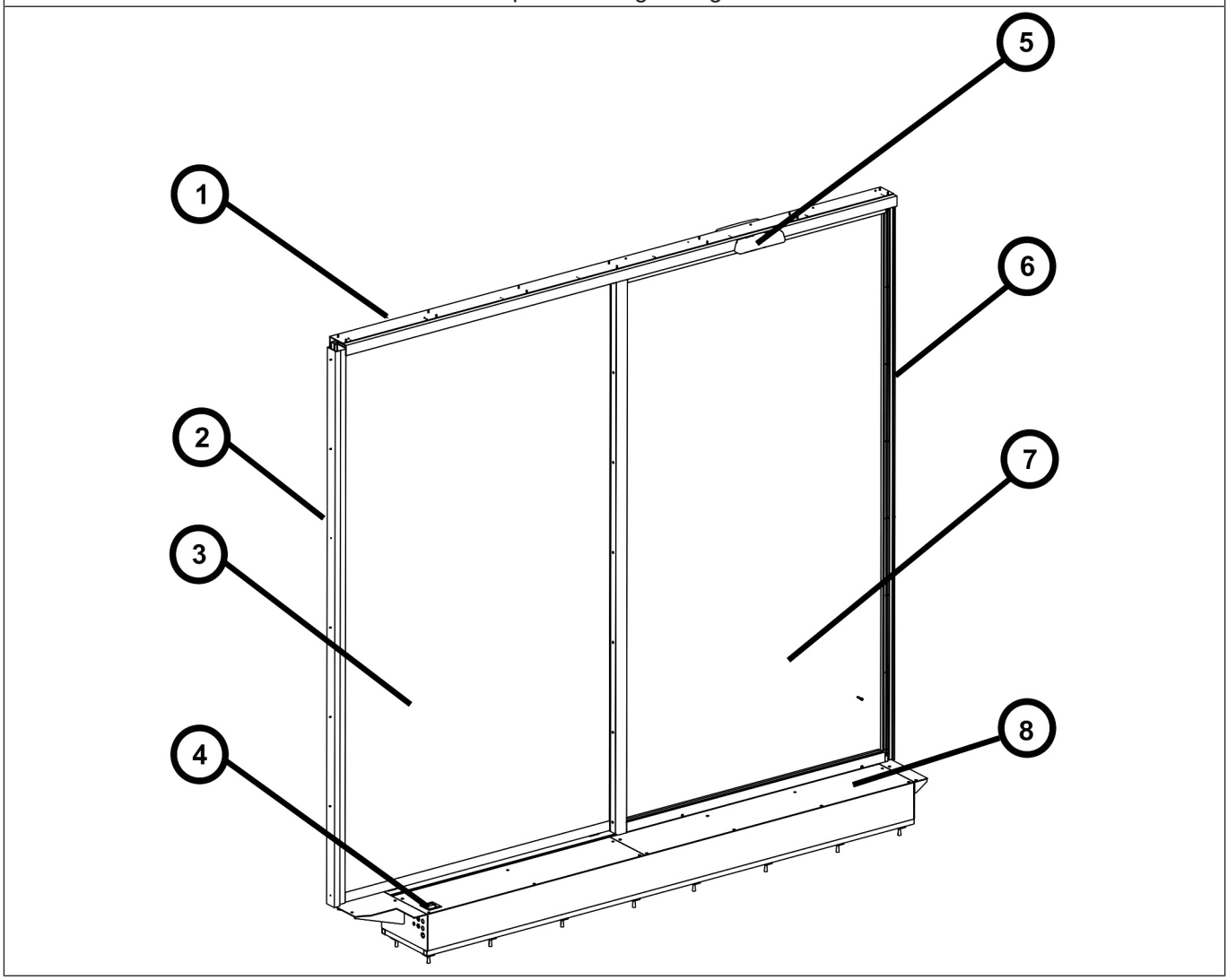
2.6 Definition of terms

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 with regard to 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, are able to 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 General view

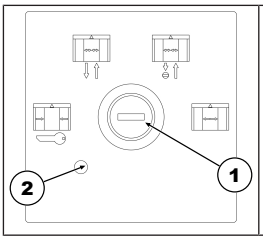
Example of 1-wing sliding door



Pos	Components	Pos.	Components
1	Top guide	5	Combination sensor
2	Wall connection –side panel	6	Wall connection – wing side
3	Side panel	7	Wing
4	Emergency release (unlock)	8	Drive complete

3.2 Safety features and controls

3.2.1 Key-operated switch



The sliding door can be placed in either OFF – AUTOMATIC – EXIT – OPEN operating mode.

The operating modes can be set with the key-operated switch **(1)**.

The sliding door can be reinitialised with the reset button **(2)**.

3.2.2 Opening and security sensors (combined)

Each passage area is monitored with opening and security sensors. If an opening or security sensor is activated during the closing process while in **AUTOMATIC** or **ONEWAY TRAFFIC** operating mode, then the respective sliding door will re-open/reverse again.

3.2.3 Collision detection

If a door wing hits an obstacle during the closing process, then the door will stop immediately and re-open.

Equally, the door wing will stop immediately if the door hits an obstacle during the opening process. The opening process will start anew after 3 seconds at extra slow speed.

3.2.4 Security sensors side panel

The opening area of the door wing (inside) is monitored by security sensors. The function of the sensors is tested before each opening. If there is detection during the opening process, the door will stop immediately and closes again.

3.3 Components of the system

Quantity	Description	Installation location
	Switches and pushbuttons	
1	Inside the building or external	Inside or outside
	Opening and security sensors	
2 / 4	Combination sensors	Top guide – inside and outside
	Drive technology	
1 / 2	Motors ATE (Master + Slave)	In the drive technology
1 / 2	Control - Type: TA4 (Master + Slave)	In the drive technology
1	Bistable lock – Type: VRR 18 for Bowden cable	In the drive technology
1	Emergency release (unlock) (recessed handle)	In the drive technology

4 Technical specifications

NOTICE

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

NOTICE

For underfloor drives, an FI should be installed by the customer.

Technical data S16			
	TA4 Master/Slave GP80 15:1	**TA4 Master/Slave GP80 25:1**	**TA4 (hour) GP80 15:1**
Door wing weight	301 – 500 kg	501 – 1000 kg	0 – 300 kg
A = Dimension	>2200	>1800	
G = Dimension	to 3000	to 3000	
Coupling	Yes	Yes	
Controls Regulated	Yes	Yes	

4.1 Environmental conditions

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

4.2 Electrical specifications of the system S16 (TA4 control)

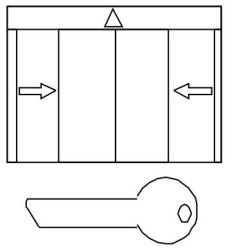
Mains voltage:	230V AC / 115V AC
Frequency:	50-60 Hz
Mains fuse:	16A circuit breaker with tripping characteristic C or K
Power consumption:	max.: 500 VA
Control voltage:	24V DC
Safety class:	1
Degree of protection:	IP 20

5 Operation

5.1 Operating modes of the system

The door system consists of a straight sliding door. The operating modes of the sliding door can be selected using the key-operated switch

5.1.1 OFF operating mode



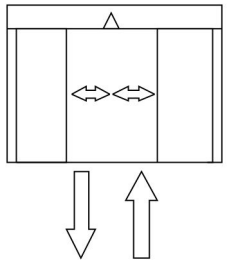
The sliding door closes and is electronically locked.

Once closed, the sliding door is additionally secured by an additional electromagnetic brake.

If the operating mode of the sliding door is switched to OFF during the closing process, then the presence sensors are turned off. This can lead to an increased risk of entrapment or tripping.

Pressure monitoring is however still activated (see pressure monitoring).

5.1.2 AUTOMATIC operating mode

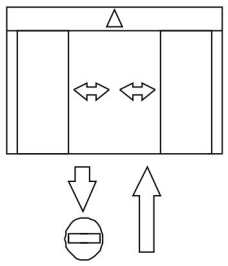


Both presence detection sensors, 1 x interior and 1 x exterior, are activated and open the sliding doors when presence is detected.

After the hold open time has expired, the sliding door closes again, as long as nobody is situated in the detection range of the presence detection sensors. The closed sliding wing is locked into position via an electromagnetic brake.

If the detection area of the presence detection sensor is entered during the closing process, then the sliding door will re-open/reverse.

5.1.3 EXIT operating mode

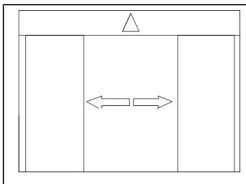


Only the interior presence detection sensor is activated and opens the sliding door when presence is detected.

After the hold open time has expired the sliding door closes again, as long as nobody is situated in the detection range of the presence detection sensors. The closed sliding wing is locked into position via an electromagnetic brake.

If the detection area of the presence detection sensor is entered during the closing process, the sliding doors will re-open/reverse.

5.1.4 OPEN operating mode



The sliding door opens immediately and remains open in this position, until a different operating mode is programmed.

5.2 Initialize and calibrate the system

In the case of a serious disturbance, it may be necessary to move the sliding door to a defined reference position or even to recalibrate.

The initialization and calibration process will start by pressing the reset button on the key-operated switch.

5.2.1 Initialization process

Pushing the reset button on the key-operated switch for less than three seconds will start the initialization process. This results in resetting the entire processor system. The sliding door will close slowing until the reference position is found. Then the sliding door will operate again in its originally programmed mode.

This initialization process is performed after every power failure.

NOTICE

The sliding door must not be obstructed during the initialization and/or calibration process or the door parameter will be measured wrong. This leads to a non-optimized running behavior!

5.2.2 Calibration process

If the reset button on the key-operated switch is pressed for longer than 3 seconds, the calibration process will start. As by the initialization process, this will reset the entire processor system. The door open and door closed positions will now be defined by the door control by slowly closing, opening and closing the door again. In addition, acceleration, deceleration and maximum speeds are calculated specifically per door. Then the sliding door will return to its originally programmed operating mode.

5.2.3 Normalization

If the key-operated switch is turned from the “OFF” position to “AUTOMATIC”, then the sliding door will start its program and “search” for the locked position at extra slow speed. Then the sliding door is operational again.

6 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.

6.1 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 regular 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.

Testing

As part of testing, visual and functional tests are conducted, ranging in particular over door leaves, guides, bearings, limiting devices, sensors as well as over safety at danger points due to crushing, shearing or drawing-in.

In addition, with door systems installed on escape routes, all the safety devices of the escape route function are controlled.

To provide the operator with documentation and information, the test result is recorded on a check list and must be kept in the logbook by the operator for at least **one year**.

Maintenance

During maintenance, bearings, sliding points and power transmission are cleaned and adjusted. Relevant fixing screws are controlled and retightened if necessary.

Then, functional testing is carried out for switching devices, drives, control units, force or energy storing devices or command controllers. The safety devices are adjusted and all the motion sequences including the final points are set.

A test run with final overall control of the door system is executed.

To provide the operator with documentation and information, the state of the door installation is recorded on a check list and must be kept in the logbook by the operator for at least **one year** until the next test / maintenance.

IMPORTANT

The test frequency is at least once a year according to the manufacturer's stipulations. The maintenance frequency is at least twice a year according to the manufacturer's recommendations.

IMPORTANT

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

IMPORTANT

Tests and maintenance should only be carried out by a specialist or a person specifically trained for that. The authorisation of these persons exclusively lies with the manufacturer. Extent, results and time of the periodical inspection must be recorded in the logbook. These records must be kept by the operator.

6.2 Operator duties

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

According to applicable standards and guidelines, automatic door systems must be tested and serviced by qualified persons.

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

System operator tasks

Task	Personnel	When?	Entered in test log 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

Tasks of qualified person

Task	Personnel	When?	Entered in test log 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

6.3 Monthly check-up list

Test / Control	Procedure	Results expected
Combination sensor	– Walk at normal speed towards the door (from inside or outside)	– The sensor must cover the whole passage width – The door opens in time and at an appropriate speed to allow unhindered passage through the doorway
Door wing / side panel	– Verify the state of the glazing – Verify the state of the seals / profiles	– No glass damage – No ripped out or torn seals torn (energy loss) – The door is the “visiting card” for your company. Take care that it is maintained in perfect condition
Door wing guides	– Check the door wing guides – These could be damaged from impacts (i.e. from trolleys) – Door wing guides can show exceptional signs of wear and tear due to intensive use as well as dirt	– Door wing must slide smoothly – Bottom or vertical profiles show no scratch marks – Door wing guides must not produce any unusual noise during the opening/closing phase
Floor guide	– Clean all the tracks from dirt, cigarette buts, etc.	– Door wing must slide smoothly – The movement of the door must not be hindered by dirt
Drive cladding	– Check the attachment of the drive cladding	– It must be completely closed and must correctly engage in the hinges

7 Malfunctions

7.1 Behavior in event of faults

IMPORTANT

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.

IMPORTANT

The removal of protective or safety devices, pictographs, or warning labels, as well as constructional modifications are strictly forbidden.

NOTICE

If the door performs a slow opening or closing movement, this may be a deliberate, automatic redundancy test.

IMPORTANT

All repairs and service work must be performed by qualified personnel. Technicians must have good general technical knowledge and a good knowledge of the current standards and regulations.

NOTICE

Some malfunctions can be rectified by the operator themselves (see troubleshooting tips). If the tips do not resolve the problem, please contact your local service centre.
Before calling, please note the information shown on the optional IBS system display. This information provides the technician with important information for troubleshooting.

7.2 Tips on troubleshooting

In the following, malfunctions and their causes are listed with the possible remedies that the operator can take. If the remedies are not successful, the operator must disconnect the system from the mains supply and request service.

Malfunctions	Causes	Solutions
No function of the door	– Power failure – Mains supply line interrupted – Motor or control fuse defective	– Switch on mains voltage – Contact Service
Door does not open	– Locking is stuck or jammed – Locking device defective	– Manual unlocking – Contact Service
Door does not close	– Obstacle in the protection area – Sensors or photocell optics dirty – Emergency stop switch operated	– Remove obstacle – Clean with a dry dust cloth – Reset emergency stop switch – Contact Service
Door stays open	– Sensor optic is dirty (sensors / photocells)	– Clean all sensors / photocells with a dry dust cloth

7.3 Conduct during power failure

In the case of a power failure, the functions of the sliding door system are dependent on the operating mode that is selected.

The sliding door only moves at slow speed for safety reasons, in the case of a power failure.

7.3.1 Off operating mode

In the event of a power failure, the sliding door remains closed and locked. By pulling the emergency release on the inside, the sliding door is unlocked and can be opened manually. The sliding wing can then be manually closed and locked again. The emergency release must be set back to the locking position.

7.3.2 AUTOMATIC operating mode

The sliding door opens automatically with the aid of the built-in rechargeable batteries and remains open.

7.3.3 OPEN operating mode

The sliding door remains open.

7.4 Function when power is restored

After turning the power supply, or when the power returns, an electronic restart lock is activated. Using the key-operated switch, select the operating mode OFF and then AUTOMATIC in order to start normalization and cancel the restart lock.

8 Taking out of service and disposal

8.1 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.

8.2 Dismantling and disposal

IMPORTANT

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

NOTICE

The door systems can be completely disassembled in reverse order.

The automatic door mainly consists of the following materials:

Aluminum:

- Linking profiles
- Gearbox, Drive panel
- Door wing 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 wings and side panels

Various electronic and electromechanical components:

- Sensors, control and operator components
- Lead batteries and nickel-cadmium rechargeable batteries

Various plastics:

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

record

Your global partner for entrance solutions