

record system 20

Translation of the original manual



B8 / Parameter explanations

Table of contents

Table of contents

	Table of revisions	3
1	General information.....	4
1.1	Book 8 / Document identification.....	4
1.2	Structure of the documentation	4
1.3	Purpose and use of the instructions.....	5
2	Parameter explanations V2.1_V2.6.....	6
3	Parameter overview V2.1_V2.6.....	47
3.1	Parameter overview STM 20, STG 20 UNI, STM 20 DUO, STM 22 DUO	47
3.2	Parameter overview STM 20 RED, STM 22 RED.....	49
3.3	Parameter overview STM 21.....	51
3.4	Parameter overview STM 21 RED	53
3.5	Parameter overview FEM.....	55

Table of revisions

Table of revisions

B

Book 8 / Document identification	
New Version V2.2	4

P

Parameter explanations V2.1_V2.6	
New Parameter FlowControl	6
Parameter overview V2.1_V2.6	
STM20 RED, STM22 RED, STM21 RED Version V2.6	47

1 General information

1.1 Book 8 / Document identification

Name: IRA_B8_EN_2V2_REC_102-020401137
Version: V2.2
Article nr.: 102-020401137
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1.2 Structure of the documentation

The documentation is divided into different manuals in order to reduce file size and to simplify the handling.

The structure of the document is as follows (B1 = Book 1):	
B1	General
B2	Assembly STA
B2A	Assembly Frameless STA
B3	Assembly TSA
B4	Assembly TOS
B5	Options
B6	Control units
B7	Commissioning
B8	Parameter explanations
B8A	Status display, error numbers, remedial action
B9	Assembly and Commissioning FTA/FBO
B10	Thermcord
B11	Special designs
B12	Safecord
B13	Under-floor sliding door operator

1.3 Purpose and use of the instructions

These instructions are an integral part of the system and enable the efficient and safe handling 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 instructions must be read and understood 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 instructions can be handed over in extracts to instructed personnel who are familiar with the work on the system.

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



IMPORTANT

After the work on the system has been completed, the test book and the operating instructions must be handed over to the operator.

2 Parameter explanations V2.1_V2.6

PARAMETER	W	COMMENT
DRIVING CYCLE		
→ Opening speed	36	<p>Driving speed of the opening door.</p> <p>0 = lowest speed</p> <p>40 = highest speed</p> <ul style="list-style-type: none"> ▪ The maximum reachable speed depends on the driven distance (door width) and the acceleration setting. ▪ DIN: >1.5 s <4 s
→ Open		
→ Acceleration	30	<p>Start-up acceleration while opening.</p> <p>0 = no acceleration</p> <p>40 = heavy acceleration</p>
→ Declaration	30	<p>Braking moment while opening</p> <p>0 = small braking force</p> <p>40 = large braking force</p>
→ Creep section	0	<p>Final creep section while opening.</p> <p>0 = no creep section</p> <p>1 = creep on the last 2.5% of travel way</p> <p>40 = 100% creep on 100% of travel way</p> <ul style="list-style-type: none"> ▪ The creep section is calculated on the basis of the maximum opening distance driven. Consequently, the creep drive is only carried out at the correct position after the first complete door movement has taken place.
→ Close		
→ Acceleration	30	<p>Start-up acceleration while closing.</p> <p>0 = no acceleration</p> <p>40 = heavy acceleration</p>
→ Deceleration	30	<p>Braking moment while closing.</p> <p>0 = small braking force</p> <p>40 = large braking force</p>

	→ Creep section	0	<p>Ending creep section while closing.</p> <p>0 = no creep section</p> <p>1 = creep on the last 2.5% of travel way</p> <p>40 = 100% creep on 100% of travel way</p> <ul style="list-style-type: none"> ▪ The creep section is calculated on the basis of the maximum opening distance driven. Consequently, the creep drive is only carried out at the correct position after a first complete door movement has taken place.
	→ Holding force	24	<p>Force holding the door in the closed position.</p> <p>0 = small force</p> <p>40 = big force</p> <ul style="list-style-type: none"> ▪ If the holding force is too high, the motor temperature increases and leads to unnecessary energy consumption. ▪ If <i>Parameter → Miscellaneous → Push to actuate open</i> is configured, the holding force settings is not taken into account.
Ramp		<p>Settings for doors, with special running track, to lower the door in the closed setting (e.g. for hermetically sealed OP doors).</p> <p>The lowering section (ramp) requires increased force to drive the door leaves open.</p>	
	Section	0	<p>Length of the ramp</p> <p>0 = no ramp</p> <p>1 = 4 cm long ramp</p> <p>... = approx. 0.2 cm increments</p> <p>40 = 12 cm long ramp</p> <ul style="list-style-type: none"> ▪ No collision detection occurs on the ramp while the door is opening! This setting should therefore only be used for the smallest necessary distance. ▪ The ramp length setting refers to the door travel measured at the belt. ▪ For learning the door parameters the door travels over the ramp, briefly stops and only then starts with the actual learning cycle.
	Force	20	<p>Maximum force in the area of the ramp.</p> <p>0 = small force or acceleration</p> <p>40 = large force or acceleration</p> <ul style="list-style-type: none"> ▪ No collision detection occurs on the ramp while the door is opening! The force should therefore be set to the minimum necessary.

Seal	0	<p>Setting for doors with special wide and strong seal in the closing area, e.g. for OP doors.</p> <p>0 = no seal 1 = 10 cm wide sealing area ... = approx. 0.5 mm increments 40 = 30 mm wide sealing area</p> <ul style="list-style-type: none"> ▪ With the sealing area collision surveillance is reduced during the closing phase! The sealing area should therefore only be used for the smallest necessary distance. ▪ The sealing width setting refers to the door travel measured at the belt. ▪ During the learning cycle, the closed position is reached or sought with increased force.
TIME DELAY OPEN		
Time delay open	0	<p>Determines the minimum time during which a door stays open after it has been opened by a triggering signal of type AKA or AKI:</p> <p>0..20 = 0 to 20 seconds, 1 s increments 21..40 = 22 to 60 seconds, 2 s increments</p> <ul style="list-style-type: none"> ▪ Time delay open only starts after all triggering and safety signals in closing direction have disappeared. ▪ With OP doors, this parameter determines the hold-open time in case of reduced opening width.
Time delay SSK	4	<p>Determines the minimum time during which a door stays open after it has been opened by a triggering signal of type SSK.</p> <p>0..20 = 0 to 20 seconds, 1 s increments 21..40 = 22 to 60 seconds, 2 s increments</p> <ul style="list-style-type: none"> ▪ Time delay open only starts after all triggering and safety signals in closing direction have disappeared. <p>With OP doors, this parameter determines the hold-open time in case of total opening width.</p>
SSK delay	0	<p>Delay before the door starts opening after an SSK signal.</p> <p>0 = no delay ... = 0.2 s increments 40 = 8 seconds delay</p> <ul style="list-style-type: none"> ▪ The SSK signal is only delayed if the door is closed.

Reset with button			Enables an early closing of the door by sending the same opening signal again during the hold-open time. This function is usually implemented with OP doors.
	Disabled	X	No interruption of the hold-open time.
	Enabled		<p>Hold-open time can be interrupted with one of the signals from the same group:</p> <ul style="list-style-type: none"> Group 1: AKI button, AKA button Group 2: AKI button reduced, AKA button reduced Group 3: SSK <ul style="list-style-type: none"> ▪ The interruption only works with the signals listed above.
DRIVE			
→ Reduced opening width		40	<p>This parameter sets the opening width when the door operates with reduced opening width. This operating mode can be activated by the operator through a control unit and saves energy.</p> <p>0 = minimum opening width 40 = total opening width</p> <ul style="list-style-type: none"> ▪ A reduced opening width of 40 corresponds to the full opening width, as it has been determined during the door learning cycle. ▪ The reduced opening width is only carried out to the correct position after a first complete door movement has taken place. ▪ The minimum opening width is not allowed to fall below an opening width of 10 cm per door leaf. ▪ In case of security-relevant door openings (SÖK, EMERGENCY OPENING, etc.) and certain door types (e.g. DEAD MAN) the door always opens completely. ▪ A comfortable setting option is available in the <i>Continuously open</i> operating mode. Any change in the setting is immediately taken over and the door automatically slides to the new reduced opening width.

→ Reduced opening width (with RED)	40	<p>With RED doors, this parameter helps configure the Escape route width. This is normally specified by each country's building inspection and can also be shared for several doors.</p> <p>0 = minimum opening width</p> <p>40 = total opening width</p> <ul style="list-style-type: none"> ▪ The escape route opening width can only be set with the service unit FPC902. ▪ It is not allowed to fall below an opening width of 40 cm per door leaf. ▪ Door openings in escape route direction (AKI) are time monitored. With doors up to 2 m opening width, 80% of the adjusted opening width of the escape route must be reached within 3 seconds. In case of wider doors, the time allowed is accordingly longer.
→ Collision CLOSE	20	<p>Reaction point for a collision detection during closing run (main closing edge)</p> <p>0 = smooth</p> <p>40 = rough</p> <ul style="list-style-type: none"> ▪ The kinetic energy of the moving door is partially absorbed by the controller to notice the increased expenditure of force.
Collision OPEN	20	<p>Reaction point for a collision detection during opening run (secondary closing edge).</p> <p>0 = smooth</p> <p>40 = rough</p> <ul style="list-style-type: none"> ▪ The kinetic energy for the moving door is partially absorbed by the obstacle. According to its characteristics, it takes a certain time for the controller to notice the increased expenditure of force.
Brake		<p>This parameter determines in which stop positions and in which operating modes the motor brake should be actuated.</p> <ul style="list-style-type: none"> ▪ After safety openings (SÖK; EMERGENCY OPENING, etc.) the brake is generally not actuated. For this reason, the door can still be totally opened by hand or with the rubber cord (CO48).
Without	X	No brake.
Closed position		The brake is applied in all operating modes when in the closed position.

	Open position		If the door has reached the planned opening width, pull the brake in all operating modes. This is also valid in case of reduced opening width. <ul style="list-style-type: none"> ▪ If the door stops e.g. due to safety signals or because of a collision, the brake is not activated.
	Closed/Open position		In all operating modes pull the brake when the door is closed or open (see above).
	Closed, One-Way/Locked		In operating modes <i>One-Way</i> and <i>Locked</i> pull the brake when the door is closed.
	Closed, Locked		Only pull the brake in operating mode <i>Locked</i> when the door is closed.
Motor		<p>Definition of the motor type (ATE) being used.</p> <ul style="list-style-type: none"> ▪ If no motor type is yet configured (e.g. according to factory settings), some motor types can be automatically identified and configured by the controller software. ▪ The selection of motor types is limited according to STM variants. 	
	Without	X	No motor is connected or motor type unknown.
	ATE 20		ATE STA 20 (GR63x55), automatic identification
	ATE 21		ATE STA 21 (GR63x25), automatic identification
	ATE 19 small		ATE STA 19 (GR63x25), no automatic identification
	ATE 19 big		ATE 19 (GR63x55), no automatic identification
	ATE 16 normal		ATE 16, no automatic identification
	ATE 16 heavy		ATE 16, (1:15) no automatic identification
	ATE 17		ATE 17 (GR63x25), no automatic identification
	ATE 20 folding door		ATE 20 with special pulley for, <i>folding door type</i> automatic identification in case of a folding door.
	ATE 16 folding door		ATE 16 with special pulley for <i>folding door</i> no automatic identification
	ATE 16 30V		ATE 16 30V for industrial application, no automatic identification.
	ATE 20/200		ATE 20/200 (GR63x55) with special pulley for 200 mm installation height, no automatic identification.

Two motors			<p>This parameter indicates whether one or two motors are connected to the STM. Normally, the second motor is automatically identified.</p> <ul style="list-style-type: none"> ▪ Two motors can only be configured if the STM has been planned accordingly (DUO). ▪ In case of RED doors 2 motors are compulsory.
	Disabled	X	One motor is connected.
	Enabled		Two motors are connected.
Emergency operating BAT			<p>This parameter determines the last action of the door controller in battery operation. A second parameter <i>Power failure</i> (see below) determines if this emergency operation should be executed immediately after a power failure or only in case of low battery capacity.</p> <ul style="list-style-type: none"> ▪ At the end of the emergency operation (door open/closed) the battery is completely disconnected, at the latest after 60 seconds. This state will only be exited upon return of mains voltage. ▪ The last door movement happens at reduced speed. In doing so, safety sensors are not taken into account, only the collision identification is enabled. ▪ An emergency closing (NSK) or emergency opening (SÖK) takes precedence over the configured emergency operation. Afterwards, the battery is also disconnected. ▪ If the battery capacity allows, the battery can be used for a single door opening with the SSK. ▪ With RED doors only emergency operations in opening direction are configurable.
			Regardless of the operating mode the door is closed but not locked.
			Regardless of the operating mode the door is completely opened. If necessary, it is unlocked beforehand.
			Regardless of the operating mode the door is closed and afterwards locked.
			In the <i>Locked</i> operating mode the door remains locked or it is locked after the next closing at the latest. In all the other operating modes the door is completely opened.

→ Power failure		This parameter determines the behaviour of the door controller after a power failure.	
→ Battery operation		<p>In case of sufficient battery capacity, the door goes on functioning as before the power failure. However, the door is operated with reduced acceleration to preserve the battery capacity. In case of low battery capacity, the emergency operation configured with <i>Parameter → Battery emergency operation</i> is executed (see above).</p> <ul style="list-style-type: none"> ▪ Battery operation is only possible with a lead battery. ▪ Battery operation is generally not possible with STM21. ▪ With a RED door an emergency opening is triggered after approx. 12 seconds. When mains voltage is back, a redundancy test is executed. 	
→ Emergency operation		X	After a power failure the emergency operation configured with <i>Parameter → Battery emergency operation</i> is immediately executed (see above).
Battery		<p>This parameter indicates if a battery is connected and what type of battery it is.</p> <ul style="list-style-type: none"> ▪ If a battery is connected for the first time, it is normally automatically identified. 	
Without Battery	X	No battery connected.	
Lead-acid battery		<p>A lead battery is connected.</p> <ul style="list-style-type: none"> ▪ The STM 21 requires an additional circuit board with charging circuit. 	
NiCd		<p>A NiCd-Akku is connected.</p> <ul style="list-style-type: none"> ▪ Only with STM21. 	
DOOR SYSTEM			
A-dimension	0	<p>Door width: 0..59'999 mm</p> <ul style="list-style-type: none"> ▪ This value is only compulsory for folding doors. 	
G-dimension	0	<p>Door height: 0..59'999 mm</p> <ul style="list-style-type: none"> ▪ Is not yet used. 	
Door leaf		This parameter is necessary for a correct calculation of the door width and of other parameters depending on it.	
DST	X	Bi-parting sliding door D-STA, D-TSA	
EST-L/R		Single sliding door left/right E-STA, E-TSA	

→ Interlock			<p>Two doors, each fitted with function extension module FEM1, can be interconnected in an interlock system. The parameter determines in which operating modes the interlock function is enabled.</p> <ul style="list-style-type: none"> ▪ Interlock not possible with RED doors and STM21. ▪ The use of direction detecting sensors is recommended to avoid needless opening movements. ▪ Operating mode <i>Continuously open</i> only opens the appropriate door. For a complete opening of the interlock, e.g. to transport bulky goods, both doors must be set on <i>Continuously open</i>. ▪ In <i>Manual mode</i>, the door must be completely closed again by hand. Only then the opposite door can open. Consequently, this operating mode is normally not recommended.
	→ Disabled	X	Interlock function disconnected.
	→ All operating modes		The interlock function is only fully enabled in operating modes <i>Automatic</i> , <i>One-Way</i> and <i>Locked</i> . For special operating modes <i>Continuously open</i> and <i>Manual</i> /the general remarks above apply.
	→ Only One-Way locked		The interlock function is only fully enabled in operating modes <i>One-Way</i> and <i>Locked</i> . In operating mode <i>Automatic</i> both doors always open in the event of activation. For special operating modes <i>Continuously open</i> and <i>Manual</i> /the general remarks above apply.
Door type			<p>The basic behaviour of the controller software is adapted to special application cases depending on the door type. Each door type (application) has special default parameters which are automatically set after selection. For this reason, it is recommended to first set the door type when commissioning the door.</p> <ul style="list-style-type: none"> ▪ Attention: after changing the door type, the system must be configured again and run parameters must be set again. ▪ The choice of door types depends on the STM and the software variant.
	Basic drive	X	Standard setting for non RED doors. Default parameters apply in most application cases.

	→ RED battery	X	<p>Standard setting for escape route doors.</p> <ul style="list-style-type: none"> ▪ This door type can only be selected for redundant control units with appropriate software. ▪ Standard and emergency channels are checked at least every 24 hours for correct functioning. Normally, the redundancy test occurs after approx. 22 to 23.5 hours on an open door with a special door movement. If the door remains open for more than 23.5 hours the test can also take place in closed position. ▪ Triggering sensors in escape direction (AKI) must also be redundant. At every door opening triggered by those sensors, time data are controlled on the escape route door. 						
	→ RED door closed		<p>Variant for escape route doors, with which the redundancy test can only be carried out in closed position.</p> <ul style="list-style-type: none"> ▪ Attention: such a configuration does not necessarily comply with the norm requirements. 						
	CO48 Ventouse		<p>Door with mechanical power storage device. A rubber cord is fixed to an onboard carriage. The carriage is maintained in closed position by a magnet to relieve the drive. A switch indicates any break of the rubber cord.</p> <ul style="list-style-type: none"> ▪ Possible with drive height 200 mm. ▪ Default parameters: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Parameter</th><th style="text-align: left; padding: 2px;">Default value</th></tr> </thead> <tbody> <tr> <td style="padding: 2px;">Drive Power failure</td><td style="padding: 2px;">Emergency operation</td></tr> <tr> <td style="padding: 2px;">Input/Output STG AUX1_IN</td><td style="padding: 2px;">Broken rubber cord</td></tr> </tbody> </table>	Parameter	Default value	Drive Power failure	Emergency operation	Input/Output STG AUX1_IN	Broken rubber cord
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	TOS		<p>For doors with swivelling door leaf. The swivelling movement is monitored with a switch connected at the Emergency stop input. Optionally, mechanical locking devices operated by hand can be mounted on the door leaf.</p> <ul style="list-style-type: none"> ▪ Manual locking devices are connected to inputs AUX2_IN and AUX3_IN of function extension module FEM0 (0V/open = manual locking open). The appropriate parameter must be configured manually to the signals TOS_DV1 and TOS_DV2. ▪ So that anti-burglary protection is guaranteed, manual locking devices must be closed in the operating mode <i>Locked</i>. Otherwise, error 29 is raised. ▪ If operating mode <i>Locked</i> has not been selected the manual locking devices must be open. Otherwise, the door stops and error 30 is raised. ▪ The SSK function is ensured. 						

	FlipFlow	Folding door application with double swing leaf (DDF). <ul style="list-style-type: none"> ▪ Increased force and speed when closing. ▪ NSK/SÖK speed is adjustable. Attention: Safety signals are not monitored. Increasing the speed reduces personal safety at the expense of e.g. building security. ▪ Increased reaction level for collision surveillance. ▪ A new closed position will only be adopted after 20 collisions. ▪ With a Flip-Flow, the A-measure (opening width) cannot be automatically learned. For optimal motion sequence it therefore has to be configured manually. ▪ Default parameters: 																																
		<table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Door system → A-measure</td><td>900</td></tr> <tr> <td>Driving cycle → Closing speed</td><td>18</td></tr> <tr> <td>Driving cycle → Opening speed</td><td>40</td></tr> <tr> <td>Driving cycle → Open → Acceleration</td><td>38</td></tr> <tr> <td>Driving cycle → Open → Deceleration</td><td>38</td></tr> <tr> <td>Driving cycle → Close → Acceleration</td><td>33</td></tr> <tr> <td>Driving cycle → Close → Deceleration</td><td>33</td></tr> <tr> <td>Time delay open → Time delay SSK</td><td>0</td></tr> <tr> <td>Drive → Battery</td><td>Lead</td></tr> <tr> <td>Control panel → Default operating mode</td><td>Automatic</td></tr> <tr> <td>Locking → Lock type</td><td>Bistable</td></tr> <tr> <td>Locking → Closed VRR Error</td><td>Enabled</td></tr> <tr> <td>Input/Output → STG → AUX0_IN</td><td>SÖK_NSK</td></tr> <tr> <td>Input/Output → STG → AUX1_IN</td><td>SURV</td></tr> <tr> <td>Input/Output → STG → SÖK_NSK → Function</td><td>NSK locked, SSK enabled</td></tr> </tbody> </table>	Parameter	Default value	Door system → A-measure	900	Driving cycle → Closing speed	18	Driving cycle → Opening speed	40	Driving cycle → Open → Acceleration	38	Driving cycle → Open → Deceleration	38	Driving cycle → Close → Acceleration	33	Driving cycle → Close → Deceleration	33	Time delay open → Time delay SSK	0	Drive → Battery	Lead	Control panel → Default operating mode	Automatic	Locking → Lock type	Bistable	Locking → Closed VRR Error	Enabled	Input/Output → STG → AUX0_IN	SÖK_NSK	Input/Output → STG → AUX1_IN	SURV	Input/Output → STG → SÖK_NSK → Function	NSK locked, SSK enabled
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			Input/Output → STG → SÖK:NSK → Speed Miscellaneous → Alarm display → Time activation	30 0										
	→ CO48 Sandow direct		<p>Door with integrated rubber cord (power storage).</p> <ul style="list-style-type: none"> ▪ For 108/150 mm drives ▪ Only for motors with brake ▪ In France no batteries are allowed ▪ Default parameters: 											
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	→ Basic escape route		<p>Escape route door for GB with special battery surveillance.</p> <ul style="list-style-type: none"> ▪ Only allowed with lead-acid battery (British standard). ▪ With <i>Parameter → Battery Emergency operation</i> only settings in opening direction are possible. ▪ Battery operation cannot be configured, after a power failure an emergency opening always occurs according to parameter <i>Battery emergency operation</i>. Once mains voltage is back, it changes automatically back to the previous operating mode. ▪ The battery is tested once per minute. Should the battery be defective or insufficiently charged, an emergency opening according to <i>Parameter → EmergOp Battery</i> is carried out, even in case of available mains voltage. Returning to normal operation is only possible with a new start via EMERGENCY STOP or FPC902. ▪ Default parameters: 											
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	→ Folding door Australia		Folding door for Australia with special driving behaviours.	<ul style="list-style-type: none"> ▪ Different driving behaviours ▪ Higher opening and closing speed ▪ In some ways different behaviour after stop and collision 										

→ Breakout USA	<p>Door type for the USA</p> <ul style="list-style-type: none"> ▪ Default parameters: <table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Input/Output → EMERG. STOP</td><td>Disabled</td></tr> <tr> <td>Reset</td><td></td></tr> <tr> <td>Miscellaneous → Alarm display → Collision</td><td>Enabled</td></tr> </tbody> </table>		Parameter	Default value	Input/Output → EMERG. STOP	Disabled	Reset		Miscellaneous → Alarm display → Collision	Enabled		
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Input/Output → EMERG. STOP	Disabled											
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→ Ratchet	<p>Door controlled by a single key for USA applications (garage door control). With each keystroke (0V → 24V to AUX0_IN) the door changes to one of the following states: <i>opening</i>, <i>closing</i> or <i>stopped</i>.</p> <ul style="list-style-type: none"> ▪ Door closed: a keystroke opens the door to the open position. ▪ Door open: a keystroke closes the door to the closed position. ▪ Door is opening: a keystroke stops the door. Another pulse within 2 seconds closes the door again. A later pulse opens the door to the open position. ▪ Door is closing: a keystroke reverses the door direction. The door opens to the open position. ▪ A locked door can only be opened by SSK. The SSK has a <i>Dead man</i>-Function at the same time. ▪ In the operating mode <i>Continuously open</i> the door opens automatically. ▪ All safety signals can be used. SÖK/NSK cannot be configured. ▪ Default parameters: <table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Input/Output → STG → AUX0_IN</td><td>Ratchet</td></tr> <tr> <td>Input/Output → SIO → Function SIO</td><td>Stop</td></tr> <tr> <td>Input/Output → EMERG. STOP</td><td>Disabled</td></tr> <tr> <td>Reset</td><td></td></tr> </tbody> </table>		Parameter	Default value	Input/Output → STG → AUX0_IN	Ratchet	Input/Output → SIO → Function SIO	Stop	Input/Output → EMERG. STOP	Disabled	Reset	
Parameter	Default value											
Input/Output → STG → AUX0_IN	Ratchet											
Input/Output → SIO → Function SIO	Stop											
Input/Output → EMERG. STOP	Disabled											
Reset												
Parameter	Default value											
Input/Output → STG → AUX0_IN	Ratchet											
Input/Output → SIO → Function SIO	Stop											
Input/Output → EMERG. STOP	Disabled											
Reset												

	→ Dead man	<p>Door controlled by two keys with <i>Dead man</i> behaviour, i.e. the door only slides as long as the OPENING or CLOSING key is continuously pressed (24V on signal input).</p> <ul style="list-style-type: none"> ▪ If the CLOSING and OPENING buttons are pressed at the same time, the door stops. Both buttons must first be released before the door can be moved again. ▪ A locked door can only be opened by SSK. The SSK also has a <i>Dead man</i> function. The CLOSING button closes and locks the door again. ▪ Default parameters: <table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Input/Output → STG → AUX0_IN</td><td>OPENING DEAD MAN</td></tr> <tr> <td>Input/Output → STG → AUX1_IN</td><td>CLOSING DEAD MAN</td></tr> <tr> <td>Input/Output → SIO → Function SIO</td><td>Stop</td></tr> <tr> <td>Input/Output → SIO → Function SIS</td><td>Stop</td></tr> </tbody> </table>	Parameter	Default value	Input/Output → STG → AUX0_IN	OPENING DEAD MAN	Input/Output → STG → AUX1_IN	CLOSING DEAD MAN	Input/Output → SIO → Function SIO	Stop	Input/Output → SIO → Function SIS	Stop
Parameter	Default value											
Input/Output → STG → AUX0_IN	OPENING DEAD MAN											
Input/Output → STG → AUX1_IN	CLOSING DEAD MAN											
Input/Output → SIO → Function SIO	Stop											
Input/Output → SIO → Function SIS	Stop											
	→ Folding door	<p>For standard folding doors (FTA/FBO).</p> <ul style="list-style-type: none"> ▪ The choice of the right door type is essential in case of folding doors. Otherwise, the collision recognition might be wrong. ▪ The A measure (opening width) cannot be learned automatically in case of a folding door. Therefore, to obtain an ideal motion sequence it has to be configured manually. ▪ Default parameters: <table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Door system → A-measure</td><td>2000</td></tr> </tbody> </table>	Parameter	Default value	Door system → A-measure	2000						
Parameter	Default value											
Door system → A-measure	2000											

Parameter explanations V2.1_V2.6 2

	→ 3 buttons	<p>Door controlled by three keys – a key to open, a key to close and a key to stop the door.</p> <ul style="list-style-type: none"> ▪ One pulse 0V 24V with the AKI button opens the door up to the opening width. ▪ To close the door, the button CLOSING DEAD MAN must be maintained pressed (24V). ▪ The stop button is connected to the SIO input. Consequently, the door can only be stopped in opening direction. ▪ If several keys are pressed at the same time the door stops. ▪ A locked door can only be opened by SSK. The SSK also has a <i>Dead man</i> function. The CLOSING button closes and locks the door again. ▪ In <i>Continuously open</i> operating mode the door opens automatically. ▪ Default parameters: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Parameter</th><th style="text-align: left; padding: 2px;">Default value</th></tr> </thead> <tbody> <tr> <td style="padding: 2px;">Input/Output → STG → AUX0_IN</td><td style="padding: 2px;">AKI BUTTON</td></tr> <tr> <td style="padding: 2px;">Input/Output → STG → AUX1_IN</td><td style="padding: 2px;">CLOSING DEAD MAN</td></tr> <tr> <td style="padding: 2px;">Input/Output → FEM0 → AUX2_IN</td><td style="padding: 2px;">SIO</td></tr> <tr> <td style="padding: 2px;">Input/Output → SIO → Function SIO</td><td style="padding: 2px;">Stop</td></tr> <tr> <td style="padding: 2px;">Input/Output → EMERG. STOP Reset</td><td style="padding: 2px;">Disabled</td></tr> </tbody> </table>	Parameter	Default value	Input/Output → STG → AUX0_IN	AKI BUTTON	Input/Output → STG → AUX1_IN	CLOSING DEAD MAN	Input/Output → FEM0 → AUX2_IN	SIO	Input/Output → SIO → Function SIO	Stop	Input/Output → EMERG. STOP Reset	Disabled		
Parameter	Default value															
Input/Output → STG → AUX0_IN	AKI BUTTON															
Input/Output → STG → AUX1_IN	CLOSING DEAD MAN															
Input/Output → FEM0 → AUX2_IN	SIO															
Input/Output → SIO → Function SIO	Stop															
Input/Output → EMERG. STOP Reset	Disabled															
	→ Default 1	<p>For special doors for a major customer of RTW</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Parameter</th><th style="text-align: left; padding: 2px;">Default value</th></tr> </thead> <tbody> <tr> <td style="padding: 2px;">Driving cycle → Closing speed</td><td style="padding: 2px;">40</td></tr> <tr> <td style="padding: 2px;">Driving cycle → Opening speed</td><td style="padding: 2px;">40</td></tr> <tr> <td style="padding: 2px;">Driving cycle → Close → Creep section</td><td style="padding: 2px;">4</td></tr> <tr> <td style="padding: 2px;">Driving cycle → Close → Holding force</td><td style="padding: 2px;">10</td></tr> <tr> <td style="padding: 2px;">Driving cycle → Open → Acceleration</td><td style="padding: 2px;">40</td></tr> <tr> <td style="padding: 2px;">Driving cycle → Open → Deceleration</td><td style="padding: 2px;">40</td></tr> </tbody> </table>	Parameter	Default value	Driving cycle → Closing speed	40	Driving cycle → Opening speed	40	Driving cycle → Close → Creep section	4	Driving cycle → Close → Holding force	10	Driving cycle → Open → Acceleration	40	Driving cycle → Open → Deceleration	40
Parameter	Default value															
Driving cycle → Closing speed	40															
Driving cycle → Opening speed	40															
Driving cycle → Close → Creep section	4															
Driving cycle → Close → Holding force	10															
Driving cycle → Open → Acceleration	40															
Driving cycle → Open → Deceleration	40															

			Driving cycle → Open → Creep section	5																
			Time delay open → Time delay SSK	5																
			Drive → Collision close	0																
			Control unit → BDE-D → Select language → Français	X																
			Control unit → Default operating mode → Automatic	X																
			Output → AUX0_OUT → Fault output	X																
	→ OP door 1		<p>Button-operated door for the closing of an operating room.</p> <ul style="list-style-type: none"> ▪ <i>Parameter</i> → <i>Time delay open</i> → <i>Time delay open</i> sets hold-open time for reduced width, and <i>Parameter</i> → <i>Time delay open</i> → <i>Time delay SSK</i> for complete width. ▪ A door opened with the <i>Continuously open</i> button can be moved by hand. ▪ In order to connect all the required control elements (buttons) it is normal to use an STM20 DUO with the configurable BDE-V inputs. ▪ Default parameters: 																	
			<table border="1"> <thead> <tr> <th>Parameter</th> <th>Default value</th> </tr> </thead> <tbody> <tr> <td>Driving cycle → Open → Creep section</td> <td>4</td> </tr> <tr> <td>Driving cycle → Close → Creep section</td> <td>4</td> </tr> <tr> <td>Time delay open → Time delay open</td> <td>10</td> </tr> <tr> <td>Time delay open → Time delay SSK</td> <td>5</td> </tr> <tr> <td>Input/Output → STG → AUX0_IN</td> <td>AKA BUTTON</td> </tr> <tr> <td>Input/Output → STG → AUX1_IN</td> <td>CONT. OPEN</td> </tr> <tr> <td>Miscellaneous → Push to actuate OPEN</td> <td>Normal</td> </tr> </tbody> </table>	Parameter	Default value	Driving cycle → Open → Creep section	4	Driving cycle → Close → Creep section	4	Time delay open → Time delay open	10	Time delay open → Time delay SSK	5	Input/Output → STG → AUX0_IN	AKA BUTTON	Input/Output → STG → AUX1_IN	CONT. OPEN	Miscellaneous → Push to actuate OPEN	Normal	
Parameter	Default value																			
Driving cycle → Open → Creep section	4																			
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Input/Output → STG → AUX1_IN	CONT. OPEN																			
Miscellaneous → Push to actuate OPEN	Normal																			

Parameter explanations V2.1_V2.6 2

	→ OP door 2	<p>Button-operated door for the hermetic closing of an operating room.</p> <ul style="list-style-type: none"> ▪ Default parameters: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Parameter</th><th style="text-align: left; padding: 2px;">Default value</th></tr> </thead> <tbody> <tr> <td style="padding: 2px;">Driving cycle → Ramp → Section</td><td style="padding: 2px;">20</td></tr> <tr> <td style="padding: 2px;">Driving cycle → Seal</td><td style="padding: 2px;">20</td></tr> <tr> <td style="padding: 2px;">For more parameters, see OP door 1</td><td style="padding: 2px;"></td></tr> </tbody> </table>		Parameter	Default value	Driving cycle → Ramp → Section	20	Driving cycle → Seal	20	For more parameters, see OP door 1						
Parameter	Default value															
Driving cycle → Ramp → Section	20															
Driving cycle → Seal	20															
For more parameters, see OP door 1																
→ Folding door, Basic escape route	<p>This door type is a combination of <i>Basic escape route</i> and <i>Folding door</i> door types (see above).</p>															
<p>→ Industry 1</p>	<p>For protection doors on machine tools from Bühler AG, Uzwil.</p> <ul style="list-style-type: none"> ▪ <i>Dead man</i>-control with a signal for the opening and one for the closing of the door. ▪ <i>Automatic</i> or <i>Manual</i> operating modes can be set via BDE-M. ▪ No collision detection 35 mm before end points. ▪ After a collision in the closing action the door reverses direction as long as the closing command is activated. Afterwards, the alarm relay is activated for 2 seconds. ▪ After a collision in the opening action the door stops. Afterwards, the alarm relay is activated for 2 seconds. ▪ If the door is not calibrated (no running parameters) this is displayed on the output which is normally planned for connecting a brake. ▪ Default parameters: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Parameter</th><th style="text-align: left; padding: 2px;">Default value</th></tr> </thead> <tbody> <tr> <td style="padding: 2px;">Driving cycle → Seal</td><td style="padding: 2px;">40</td></tr> <tr> <td style="padding: 2px;">Control panel → BDE-M</td><td style="padding: 2px;">3 positions (AUTO)</td></tr> <tr> <td style="padding: 2px;">Control panel → Default op. mode</td><td style="padding: 2px;">Automatic</td></tr> <tr> <td style="padding: 2px;">Input/Output → STG → AUX0_IN</td><td style="padding: 2px;">BDE-M_2</td></tr> <tr> <td style="padding: 2px;">Input/Output → STG → AUX0_IN</td><td style="padding: 2px;">OPEN DEAD MAN</td></tr> <tr> <td style="padding: 2px;">Input/Output → STG → AUX4_IN</td><td style="padding: 2px;">CLOS. DEAD MAN</td></tr> </tbody> </table>		Parameter	Default value	Driving cycle → Seal	40	Control panel → BDE-M	3 positions (AUTO)	Control panel → Default op. mode	Automatic	Input/Output → STG → AUX0_IN	BDE-M_2	Input/Output → STG → AUX0_IN	OPEN DEAD MAN	Input/Output → STG → AUX4_IN	CLOS. DEAD MAN
Parameter	Default value															
Driving cycle → Seal	40															
Control panel → BDE-M	3 positions (AUTO)															
Control panel → Default op. mode	Automatic															
Input/Output → STG → AUX0_IN	BDE-M_2															
Input/Output → STG → AUX0_IN	OPEN DEAD MAN															
Input/Output → STG → AUX4_IN	CLOS. DEAD MAN															

			Input/Output → SIO → Function SIO	Stop	
			Miscellan. → Alarm display → Collision	Enabled	
	→ Folding door USA		Folding door for the USA with various adjustments.		
CONTROL PANEL					
→ BDE-M		<p>Selection of the mechanical control unit.</p> <ul style="list-style-type: none"> ▪ The selection depends on the STM variant and software version. With RED doors it is generally impossible to connect a BDE-M. Locking is performed via BDE_V1/2 direct inputs. ▪ The BDE-M can be connected either to the direct inputs of the extended functions module FEM0 or to the configurable input signals of the STM. No more than one BDE-M may be connected at a time. ▪ BDE-D and BDE-M can be operated in parallel, <i>Locked</i> operating mode being given priority. ▪ In <i>Continuously open</i> operating mode the door goes into <i>Manual</i> mode after opening. ▪ If the BDE-M is connected to the STM, the AUX0_IN and AUX1_IN input signals must additionally be configured. 			
		Parameter	Value		
		Input/Output → STG → AUX0_IN	BDEM_2		
		Input/Output → STG → AUX1_IN	BDEM_1		
→ 3-positions (AUTO)		BDEM_2	BDEM_1	Operating mode	
		0V	0V	Locked	
		0V	24V	Continuously open	
		24V	0V	Manual	
		24V	24V	Automatic	
	→ Disabled	X	No BDE-M is connected, signals are not evaluated.		
→ Standard One-Way		BDEM_2	BDEM_1	Operating mode	
		0V	0V	Locked	
		0V	24V	Continuously open	
		24V	0V	Automatic	
		24V	24V	One-way	

	→ Analogue BDE-A		Mechanical BDE for USA.				
			BDEM_1		Opening width		
			0V		Complete opening width		
			24V		Reduced opening width		
			BDEM_2		Operating mode		
			approx. 2.5V		OFF		
			approx. 7.5V		Continuously open		
			approx. 13V		One-Way		
			approx. 19V		Automatic		
	→ Standard Reduced		BDEM_2	BDEM_1	Oper. mode	Open. width	
			0V	0V	Locked	Unchanged	
			0V	24V	Cont. open	Unchanged	
			24V	0V	Automatic	Total	
			24V	24V	Automatic	Reduced	
	→ Analogue Reduced		BDEM_2	Operating mode	Opening width		
			approx. 2.5V	Locked	Unchanged		
			approx. 7.5V	Continuously open	Unchanged		
			approx. 13V	Automatic	Reduced		
			approx. 19V	Automatic	Total		
	→ BDE-D		Settings for control unit with display.				
			<ul style="list-style-type: none"> ▪ All parameters for the BDE-D are saved in the STM. Some parameter changes are only overtaken by the BDE-D after a restart of the controller. 				
	→ Language		Range of languages for text displays on the BDE-D.				
			Currently, the following languages are available: DEUTSCH, FRANÇAIS, ENGLISH, ENGLISH US, ITALIANO, ESPAÑOL, NEDERLANDS, DANISH, SLOVENSCINA, POLSKI, MAGYAR and CZECH.				
			<ul style="list-style-type: none"> ▪ Older BDE-D hardware offers a limited range of languages due to its reduced memory. 				
	→ Keyboard		Layout and function of the keys.				
		→ Normal	X	Standard layout			
		→ OFF-Mode		Layout for the USA. The Locked key activates the operating mode <i>OFF</i> instead of mode <i>Locked</i> . The door goes into <i>Manual</i> mode and can then be locked manually.			

	→ Contrast BDE 1	20	Contrast of the display screen for 1st BDE-D. 0 = high contrast, possible streaking 40 = low contrast, display is faintly visible
	→ Contrast BDE 2	20	Contrast of the display screen for 2nd BDE-D.
	→ Brightness BDE 1	20	Brightness of backlight for 1st BDE-D. 0 = pale backlight for application with dull ambient light 40 = intense backlight for applications with bright ambient light
	→ Brightness BDE 2	20	Brightness of backlight for 2nd BDE-D.
→ Default operating mode		<p>Determines the operating mode in the case that no BDE-D is connected or no BDE-M is configured.</p> <ul style="list-style-type: none"> ▪ Attention: If, with doors featuring a locking device, default operating mode <i>Locked</i> is not set, it should be expected that, in case of defect BDE-D or connection interruption, a locked door unlocks without being noticed. Therefore, the selection of the default operating mode should be defined together with the end customer. 	
	→ Off		<i>Off</i> operating mode (see warning above).
	→ Locked	X	<i>Locked</i> operating mode
	→ Automatic	RED	<i>Automatic</i> operating mode (see warning above)
	→ Continuously open		<i>Continuously open</i> operating mode (see warning above)
	→ One-Way		<i>One-Way</i> operating mode (see warning above)
LOCKING			
→ Locking function		<p>This parameter defines in which operating modes a door should be locked.</p> <ul style="list-style-type: none"> ▪ With RED doors the only possible setting is <i>Normally locked</i>. 	
	→ Normally locked	X	Locking is only possible in operating mode <i>Locked</i> . A locked door can be opened with SSK.
	→ One-Way locked		The door can be locked in <i>Locked</i> and <i>One-Way</i> operating modes. A locked door can be opened with AKI (<i>One-Way</i>) or SSK (<i>Locked</i> and <i>One-Way</i>).
	→ Always locked		Locking can be performed in <i>Locked</i> , <i>One-Way</i> and <i>Automatic</i> operating modes. A locked door can be opened with AKA (<i>Automatic</i>), AKI (<i>Automatic</i> , <i>One-Way</i>) or SSK (<i>Locked</i> , <i>One-Way</i> , <i>Automatic</i>).

→ Locking type		Selection of the connected locking device. Due to the large range of variants, the locking type cannot be identified automatically.	
→ Without	X	No locking device is connected.	
→ Motor-powered		VRR 20 (motor-powered, bi-stable)	
→ Bi-stable		VRR 16 (magnetic, bi-stable)	
→ MPV 20		Multipoint locking device for system 20 (motor-powered)	
→ MPV 16		Multipoint locking device for system 16 (motor-powered)	
→ Magnet		Magnet locking device (without VAK) unlocked without current (mono-stable)	
→ Fail secure		Mono-stable locking device, locked without current	
→ Fail safe		Mono-stable locking device, unlocked without current (France: sécurité positive)	
→ Double		Control of the additional unit for 2 locking devices. Is used with FBO and PST.	
→ Start delay	0	Delay time until door opens after unlocking. 0 = no delay 40 = 8 seconds delay	
→ Closed VRR error		In certain situations e.g. after a restart or a locking problem, the control unit checks by means of a short opening movement if the door is locked or not. This parameter allows configuring the further behaviour in the case the door is not locked.	
→ Disabled	X	If the door is not locked, it stops when reaching a 10 cm opening width and an error message is displayed.	
→ Enabled		If the door is not locked, it closes again completely and an error message is displayed.	
→ Closing force	0	Briefly increases the closing force when locking and unlocking in order to mechanically relieve the bolt. 0 = low closing pressure 40 = high closing pressure	

CAN BUS			
			<p>In this menu all the units identified on the CAN BUS – such as sensors or extended function modules – are displayed.</p> <p>0 = no unit present or unit unidentified (disabled)</p> <p>1 = unit installed and functional (enabled)</p> <p>? = unit defective or missing</p> <ul style="list-style-type: none"> ▪ Removed units (?) must be deactivated manually with the FPC902.
	→ FEM-0	0	<p>Extended function module FEM0</p> <ul style="list-style-type: none"> ▪ 2 configurable inputs ▪ 1 configurable relay output (NO contact: normally open contact 24V) ▪ 2 ELS connections (pre-configured) ▪ Each 1 AKI/AKA connection (pre-configured) ▪ BDE-M connection (pre-configured)
	→ FEM-1	0	<p>Extended function module FEM1</p> <ul style="list-style-type: none"> ▪ 4 configurable inputs ▪ 14 configurable relay outputs ▪ Choice between potential-free normally open contact (NO) and normally closed contact (NC). Basic setting: NO contact (jumper) ▪ All FEM1 outputs can be activated with the available configurations. Availability depends on the control unit in use.
	→ AKI 1	0	RAD: motion sensor 1 – inside
	→ SI 1	0	RIC: safety sensor 1 – inside
	→ AKA 1	0	RAD: motion sensor 1 – outside
	→ SA 1	0	RIC: safety sensor 1 – outside
	→ SL	0	AIS: Safety „secondary closing edge“ – left
	→ SR	0	AIS: Safety „secondary closing edge“ – right
	→ AKI 2	0	RAD: motion sensor 2 – inside
	→ SI 2	0	RIC: safety sensor 2 – inside
	→ AKA 2	0	RAD: motion sensor 2 – outside
	→ SA 2	0	RIC: safety sensor 2 – outside
INPUT/OUTPUT → STG			
→ AUX0_IN → AUX1_IN → AUX4_IN (only STM20/22 UNI)		<p>Configurable input signals on STM.</p> <ul style="list-style-type: none"> ▪ Not all input signals are available on every STM variant and not all signals can be configured on every input. ▪ Some signals are intended for special door types only. Thus, signal <i>Broken cord</i> is only active on CO48 doors. ▪ So that line interruptions can be recognised, an open input 	

INPUT/OUTPUT → STG			
→ BDE_V1 (only STM20/22 DUO)		(0V) in safety-relevant signals (e.g. SIS) means that the signal has triggered. <ul style="list-style-type: none">▪ Normally, signals for connecting buttons only react to the signal change over (0V 24V). Thus, for example, the door can be opened with the AKI button, but will automatically shut at the end of the hold-open time, even though the button is still being pressed.	
→ Disabled	X		
→ SÖK/NSK (only AUX0_IN and AUX1_IN)		Safety opening or emergency closing. 0V/open = carry out safety opening or emergency closing 24V = back to previous operating mode <ul style="list-style-type: none">▪ Requested function must be configured with <i>Parameter → Input/Output → SÖK/NSK → Function</i>.▪ Signal normally has highest priority. An exception is e.g. active <i>Pharmacy control</i>.▪ Safety sensors and reverse automatic system are not active while closing or opening.	
→ SURV		Selection of operating mode <i>Locked</i> with clock timer. 0V/open = operating mode <i>Locked</i> 24V = back to previous operating mode <ul style="list-style-type: none">▪ Signal has highest priority, i.e. operating mode <i>Locked</i> cannot be exited with BDE-D.▪ SSK and safety sensors are active.▪ The door closes and locks even in operating modes <i>Manual</i> and <i>Continuously open</i>.	
→ BDEM_1 (only AUX1_IN)		Contact S1 of mechanical control unit. <ul style="list-style-type: none">▪ The type of the connected control unit must be configured according to <i>Parameter → Control unit → BDE-M</i>.	
→ BDEM_2 (only AUX0_IN)		Contact S2 of mechanical control unit. <ul style="list-style-type: none">▪ The type of the connected control unit must be configured according to <i>Parameter → Control unit → BDE-M</i>.	
→ Continuously open		Selection of operating mode <i>Continuously open</i> with pulse button. <ul style="list-style-type: none">▪ 1st pulse (24V -> 0V/open) = operating mode <i>Continuously open</i> 2nd pulse (24V -> 0V/open) = back to previous operating mode▪ A locked door is unlocked, safety sensors are active while opening.	

	→ SIS		<p>Safety signal in closing direction. 0V/open = security active 24V = security passive</p> <ul style="list-style-type: none"> ▪ An open door only closes when the signal is passive. ▪ If the signal becomes active during a closing movement the door reverses, stops or creeps (configuration with <i>Parameter → Input/Output → SIS</i>).
	→ SIO		<p>Safety signal in opening direction. 0V/open = security active 24V = security passive</p> <ul style="list-style-type: none"> ▪ A closed door only opens when the signal is passive. ▪ If the signal becomes active during an opening movement the door stops or continues to open at low speed (configuration with <i>Parameter → Input/Output → SIO → Function</i>). ▪ With <i>Parameter → Input/Output → SIO → Activate SIO</i> the position from which the signal should be taken into account while opening can be defined. ▪ With <i>Parameter → Input/Output → SIO → Suppression SIO</i> the position from which the signal should no longer be taken into account while opening can be defined. ▪ On RED doors the SIO signal is not taken into account before 80% of the escape route opening width is reached. Between 80 and 100% the doors creeps. From 100% on, the configuration <i>Parameter → Input/Output → SIO → Function</i>, determines if the door goes on creeping or stops.
	→ AKI button reduced (not with RED)		<p>Moving to reduced opening width with pulse signal (0V/open → 24V). The signal is intended for connecting a button on the inner side of the door.</p> <ul style="list-style-type: none"> ▪ An automatic door closes at the end of the hold-open time, even if the button is still pressed. ▪ Opening commands occurring simultaneously on the complete opening width have priority. The signal has no influence on the TOWA function. ▪ A locked door cannot be opened.
	→ Interior button reduced (only AUX0_IN and AUX1_IN with RED)		<p>Moving to reduced opening width with pulse signal (0V/open 24V). The signal is intended for connecting a button on the inner side of the door.</p> <ul style="list-style-type: none"> ▪ May only be used in addition to a certified escape route sensor. The button itself and the opening path over the button are not monitored.

	→ Broken rubber cord		<p>Monitoring of the rubber cord with door type CO48.</p> <p>0V/open = rubber cord broken (switch open)</p> <p>24V = rubber cord fine (switch closed)</p> <ul style="list-style-type: none"> ▪ In case of torn cord, error 20 is displayed and the door opens to the full opening width, provided that it is not locked. ▪ Also, in case of torn cord, all operating modes including <i>Locked</i>, are still possible.
	→ Opening dead man		<p>Opening button for <i>Dead man</i> door type and other button-operated doors.</p> <p>0V/open = door stops</p> <p>24V = door opens</p> <ul style="list-style-type: none"> ▪ The door opens as long as the button is continuously pressed. If another button is pressed at the same time, the door stops.
	→ Closing dead man		<p>Closing button for <i>Dead man</i> door type and other button-operated doors.</p> <p>0V/open = door stops</p> <p>24V = door opens</p> <ul style="list-style-type: none"> ▪ The door closes as long as the button is continuously pressed. If another button is pressed at the same time, the door stops.
	→ AKI button (not with RED)		<p>Opening to complete opening width with pulse signal (0V/open -> 24V). The signal is intended for connecting a button on the inner side of the door.</p> <ul style="list-style-type: none"> ▪ An automatic door closes at the end of the hold-open time, even if the button is maintained pressed. ▪ A locked door cannot be opened.
	→ Interior button (only AUX0_IN and AUX1_IN with RED)		<p>Moving to complete opening width with pulse signal (0V/open -> 24V).</p> <p>The signal is intended for connecting a button on the inner side of the door.</p> <ul style="list-style-type: none"> ▪ May only be used in an addition to a certified escape route sensor. The button itself and the opening path over the button are not monitored.

	→ CLOSING button		<p>Closing of the door with pulse signal (0V/open -> 24V) for button-operated door types.</p> <ul style="list-style-type: none"> The closing movement is monitored by safety signals (SIS). After losing the SIS signal a new closing pulse is necessary. The signal only works with button-operated door types, i.e. not with door types which automatically close after expiration of hold-open time.
	→ Ratchet		<p>Pulse signal (0V/open --> 24V) for sequential door control with <i>Ratchet</i> door type.</p>
	→ Emergency open		<p>Triggering an emergency opening. 0V/open = carry out emergency opening 24V = back to original operating mode</p> <ul style="list-style-type: none"> An emergency opening only happens if the door is not locked. <p>At this point, safety signals are ignored and therefore the emergency opening takes place at reduced speed.</p>
	→ SURA		<p>Selection of operating mode <i>One-Way</i> with clock timer. 0V/open = operating mode <i>One-Way</i> 24V = back to original operating mode</p> <ul style="list-style-type: none"> If operating mode <i>One-Way</i> is activated with this signal, only operating modes <i>Locked</i> and <i>One-Way</i> can be selected with the BDE-D. All other operating modes have no priority.
	→ AKA button		<p>Opening to complete opening width with pulse signal (0V/open -> 24V). The signal is intended for connecting a button on the outer side of the door.</p> <ul style="list-style-type: none"> An automatic door closes after expiration of hold-open time, even if the button is maintained pressed. In operating modes <i>Locked</i> and <i>One-Way</i>, a door cannot be opened with this signal.
	→ AKA button reduced		<p>Moving to reduced opening width with pulse signal (0V/open -> 24V). The signal is intended for connecting a button on the outer side of the door.</p> <ul style="list-style-type: none"> An automatic door closes after expiration of hold-open time, even if the button is maintained pressed. In operating modes <i>Locked</i> and <i>One-Way</i>, a door cannot be opened with this signal.

	→ VRR manually		<p>Signal for connecting a rod lock (manual locking).</p> <p>0V/open = rod lock closed</p> <p>24V = rod lock open</p> <ul style="list-style-type: none"> ▪ If the lock is closed (0V/open) the door can be moved freely in a similar way to manual mode. The text display of the BDE-D changes alternately between the current operating mode and <i>Manually locked</i>. The operating mode can be changed at will with the BDE-D. ▪ If the lock is opened (24V) the control unit goes back to the active state after only approx. 4 seconds. It is assumed that this is enough time to remove the key from the lock cylinder, before the door is opened by a triggered motion sensor.
	→ Reset SÖK_NSK		<p>Restart inhibitor after activation and reset of a SÖK/NSK.</p> <p>The SÖK/NSK with restart inhibitor function is activated by configuring the Reset SÖK/NSK signal on AUX0_IN or AUX1_IN,</p> <p>After resetting on SÖK or NSK signal, the control remains in the corresponding operating mode and status 116 restart inhibit is displayed until the new reset signal is activated or the control is restarted (reset).</p>
	→ SIA		<p>Safety signal of presence detector.</p> <p>0V/open = active safety</p> <p>24V = passive safety</p> <ul style="list-style-type: none"> ▪ The signal prevents a closed door from being opened and an open door from being closed. ▪ In all other phases the signal is disabled. ▪ If the sensor test is configured, the sensor is tested before each opening and closing.
	→ AUX0_OUT		<p>Configurable output signal on STM.</p> <ul style="list-style-type: none"> ▪ Terminals 8, 9, 10 on STM, floating change over contact 30 volt DC / 1 A
	→ Disabled	X	
	→ Test sensors		<p>This output must be connected to the test input of class 2 safety sensors. Before every potentially dangerous door movement, the output is briefly activated to check if the sensor is functioning correctly, incl. signal path. When the door is stationary the test is repeated every hour.</p> <ul style="list-style-type: none"> ▪ If this output is configured all the connected safety sensors (SIS and SIO) must have a test input and the test signal must be connected in parallel to all sensors.

Parameter explanations V2.1_V2.6 2

			<ul style="list-style-type: none"> ▪ With some sensors the test logic (test pulse 0V 24V or 24V 0V) can be selected at the sensor. If not, the changeover contact of the relay must be connected accordingly. Please, see appropriate overview in chapter 7 of this manual. ▪ For test pulse 24V 0V: STM terminal 9 = 24V, Terminal 10 = Test input of the sensor. ▪ For test pulse 0V 24V: STM Terminal 9 = 24V, Terminal 10 = Test input of the sensor.
	→ Alarm output		<p>This output signal indicates severe breakdowns. Relay passive = breakdown Relay active = no breakdown</p>
	→ Gong		<p>This output signal is triggered when safety signals (ELS, SIS) occur while the door is not closed. The relay is then activated for about 0.6 seconds. If a safety signal is activated for a long time, the pulse is repeated every 10 seconds.</p> <ul style="list-style-type: none"> ▪ The signal is also emitted during the teaching phase of a safety sensor.
	→ Locked		<p>This output signal shows whether the door is locked. Relay passive = door not locked Relay active = door closed and locked</p>
	→ Closed		<p>This output signal shows whether the door is closed. Relay passive = door not closed Relay active = door closed</p> <ul style="list-style-type: none"> ▪ The output may switch with a slight delay, i.e. when closing only after the pressing phase and, when opening by hand, not before the door has opened up to approx. 10 mm.
	→ Warning		<p>The signal is activated before and during a door movement.</p> <ul style="list-style-type: none"> ▪ The lead time while opening can be configured with <i>Parameter → Miscellaneous → Lead time open</i>. ▪ The lead time while closing can be configured with <i>Parameter → Miscellaneous → Lead time close</i>.
	→ Open		<p>This output signal shows whether the door is open. Relay passive = door not open Relay active = door has opened up to opening width</p> <ul style="list-style-type: none"> ▪ The output may connect with a slight delay, i.e. when opening not before the end stop has been recognised and, when closing by hand, not before the door has been pulled closed approx. 30 mm.
	→ AKI		<p>The output signal shows that a triggering signal on the inner side of the door is active.</p> <ul style="list-style-type: none"> ▪ The output switches independently of the current operating mode.

	→ AKA		The output signal indicates that a triggering signal on the outer side of the door is active. <ul style="list-style-type: none">▪ The output switches independently of the current operating mode.
	→ ZLP-1		Additional printed circuit board to connect conventional safety light barriers. Once identified, a ZLP-ELS (automatic recognition) can only be reset with the FPC.
	→ Without	X	No additional p.c.b. is connected.
	→ ELS		Additional p.c.b. for 2 ELS is connected.
	→ ZLP-2 (only RED)		Additional p.c.b. for RED installations with non-record sensors. Once identified, a ZLP-AKI (automatic recognition) can only be reset manually with the FPC.
	→ Without	X	No additional p.c.b. is connected.
	→ AKI		Additional p.c.b. is connected for AKI on RED installations.
INPUT/OUTPUT → FEM0			
	→ AUX2_IN		Configurable input signals on FEM0 (terminals 53 and 57).
	→ AUX3_IN		<ul style="list-style-type: none">▪ For further instructions about every signal, see also <i>Parameter → Input/Output → STG → AUX0_IN</i>
	→ Disabled	X	
	→ SURV		Selection of <i>Locked</i> operating mode with clock timer. 0V/open = <i>Locked</i> operating mode 24V = back to previous operating mode
	→ Continuously open		Selection of <i>Continuously open</i> operating mode with pulse button. 1st pulse (24V 0V/open) = <i>Continuously open</i> operating mode 2nd pulse (24V 0V/open) = back to previous mode
	→ SIS		Safety signal in closing direction. 0V/open = security active 24V = security passive
	→ SIO		Safety signal in opening direction. 0V/open = security active 24V = security passive
	→ AKI button reduced (not with RED)		Opening to reduced opening width with pulse signal (0V/open - > 24V). The signal is intended for connecting a button on the inner side of the door.

Parameter explanations V2.1_V2.6 2

	→ Interior button reduced (only with RED)		Opening to reduced opening width with pulse signal (0V/open -> 24V). The signal is intended for connecting a button on the inner side of the door. ▪ May only be used in an addition to a certified escape route sensor. The button itself and the opening path over the button are not monitored.
	→ Broken rubber cord		Monitoring of the rubber cord with door type CO48. 0V/open = rubber cord broken (switch open) 24V = rubber cord fine (switch closed)
	→ Opening dead man		Opening key for <i>Dead man</i> and other button-operated doors. 0V/open = door stops 24V = door opens
	→ Closing dead man		Closing key for <i>Dead man</i> door type and other button-operated doors. 0V/open = door stops 24V = door closes
	→ AKI button (not with RED)		Opening to complete opening width with pulse (0V/open -> 24V). The signal is intended for connecting a button on the inner side of the door.
	→ Interior button (only with RED)		Opening to complete opening width with pulse (0V/open -> 24V). The signal is intended for connecting a button on the inner side of the door. ▪ May only be used in an addition to a certified escape route sensor. The button itself and the opening path over the button are not monitored.
	→ CLOSING button		Closing of the door with pulse signal (0V/open -> 24V) for button-operated door types.
	→ Ratchet		Pulse signal (0V/open -> 24V) for sequential door control with door type <i>Ratchet</i> .
	→ Emergency opening		Triggering of an emergency opening. 0V/open = carry out emergency opening 24V = back to original operating mode
	→ SURA		Selection of operating mode <i>One-Way</i> with clock timer. 0V/open = operating mode <i>One-Way</i> 24V = back to original mode

	→ TOS DV 1		Turn lock surveillance of door leaf 1 for doors featuring a swivelling leaf (door type <i>TOS</i>). <ul style="list-style-type: none">▪ Switch position and door function (<i>Manual mode</i>) must match up.
	→ TOS DV 2		Turn lock surveillance of door leaf 2 for doors featuring a swivelling leaf (door type <i>TOS</i>). <ul style="list-style-type: none">▪ Switch position and door function (<i>Manual mode</i>) must match up.
	→ AKA button		Opening to complete opening width (0V/open -> 24V). The signal is intended for connecting a button on the outer side of the door.
	→ AKA button reduced		Opening to reduced opening width (0V/open -> 24V). The signal is intended for connecting a button on the outer side of the door.
	→ VRR manually		Signal for connecting a rod lock (manual locking). 0V/open = rod lock closed 24V = rod lock open
	→ SIA		Safety signal of presence detector. 0V/open = active safety 24V = passive safety <ul style="list-style-type: none">▪ The signal prevents a closed door from being opened and an open door from being closed.▪ In all other phases the signal is disabled.▪ If the sensor test is configured, the sensor is tested before each opening and closing.
	→ AUX2_OUT		Configurable output signals on FEM0 (terminal 54). <ul style="list-style-type: none">▪ The same signals as for STM are available (see <i>Parameter → Input/Output → STG → AUX0_OUT</i>).▪ If the signal is active, 24 volt DC / 0.2 A is connected to this output.▪ Due to the hard-wired signal logic, the output does not have the same flexibility as the output of the STM. For that reason it may be impossible to implement all the applications as requested. For example, the signal <i>Test Sensors</i> may not be available in the required polarity.

INPUT/OUTPUT --> FEM1

→ FEM type	This parameter assigns the configurable input and output signals of the FEM1 to application-compatible default values.		
→ Basic	X	All input and output signals are deactivated.	

	→ Interlock	<p>Configuration for interlock operation.</p> <ul style="list-style-type: none"> It is possible to operate the system with sensors between the doors or without sensors with interlock sequential control. <table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Input → AUX10_IN</td><td>S_AUS</td></tr> <tr> <td>Input → AUX11_IN</td><td>SEA</td></tr> <tr> <td>Input → AUX12_IN</td><td>SFS_IN</td></tr> <tr> <td>Output → AUX10_OUT</td><td>SAA</td></tr> <tr> <td>Output → AUX11_OUT</td><td>SAMP</td></tr> <tr> <td>Output → AUX12_OUT</td><td>SFS_OUT</td></tr> </tbody> </table>	Parameter	Default value	Input → AUX10_IN	S_AUS	Input → AUX11_IN	SEA	Input → AUX12_IN	SFS_IN	Output → AUX10_OUT	SAA	Output → AUX11_OUT	SAMP	Output → AUX12_OUT	SFS_OUT
Parameter	Default value															
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Output → AUX11_OUT	SAMP															
Output → AUX12_OUT	SFS_OUT															
	→ Pharmacy	<p>Configuration for pharmacy control.</p> <ul style="list-style-type: none"> The door is opened and closed by an on/off switch. The movements occur at reduced speed, as no sensors are active (triggering and safety). NSK/SÖK is not active! <table border="1"> <thead> <tr> <th>Parameter</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>Input → AUX10_IN</td><td>APS locking contact</td></tr> <tr> <td>Input → AUX11_IN</td><td>APS opening</td></tr> <tr> <td>Output → AUX10_OUT</td><td>APS signal light</td></tr> </tbody> </table>	Parameter	Default value	Input → AUX10_IN	APS locking contact	Input → AUX11_IN	APS opening	Output → AUX10_OUT	APS signal light						
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Input → AUX11_IN	APS opening															
Output → AUX10_OUT	APS signal light															

→ APS Open-position	35	Opening width in the case of APS control. <ul style="list-style-type: none"> ▪ Normally, a floor bolt or a second lock is mounted as a protection against burglary attempts. The opening width must be set so that the door stops shortly before impact. ▪ With correct <i>Parameter → Entrance system → Door leaf a</i> value of 40 corresponds to an opening width of approx. 18 cm.
→ AUX10_IN		Configurable input signal for FEM1 Connector J1, terminals 64 & 65 Floating, optically disconnected 24V input
→ Disabled	X	
→ S_AUS		Interlock control inactive. <ul style="list-style-type: none"> ▪ Both doors open at the same time when activated from one side. SIS is active and stops the affected door.
→ APS lock		Locking bolt surveillance for pharmacy control. 0V/open = bolt extended 24V = bolt retracted, door can open <ul style="list-style-type: none"> ▪ An extended locking bolt is displayed on the BDE-D with the text <i>APS Riegel/(bolt)</i>.
→ AUX11_IN		Configurable input signal for FEM1 Connector J1, terminals 66 and 67 (only FEM1) Floating, optically disconnected 24V input
→ Disabled	X	
→ SEA		Input signal for synchronisation of an interlock. <ul style="list-style-type: none"> ▪ The signal <i>Block activation</i> prevents any door opening as long as the interlock is in use from the other door. An activation signal is buffered until the interlock chamber is released by the other door. Only then does the door open.
→ APS opening		Opening signal for pharmacy control. <ul style="list-style-type: none"> ▪ Triggers door opening provided that locking bolt surveillance has given approval. As long as the contact is activated (24V on input) the door remains open.
→ AUX12_IN		Configurable input signal for FEM1. Connector J1, terminals 68 and 69 (only FEM1) Floating, optically disconnected 24V input
→ Disabled	X	
→ SFS_IN		Input "interlock sequential control". <ul style="list-style-type: none"> ▪ Appropriate for interlocks and "draught lobbies" without triggering sensors within the interlock chamber. ▪ The signal must be linked with the output signal SFS_OUT of the other door. The latter transmits the triggering signal to the first door.

→ AUX13_IN			Configurable input signal for FEM1 Connector J1, terminals 70 and 71 (only FEM1) Floating, optically disconnected 24V input
→ Disabled	X		
→ AUX10_OUT ... AUX1D_OUT			14 configurable output signals for FEM1. Connector J2, floating change over contact 30 volt DC / 1 A Normally closed (NC) or normally open (NO) contact (selection via jumper position --> basic position = NO contact).
→ Inactive	X		
→ Alarm output		This output signal indicates severe breakdowns. Relay passive = breakdown Relay active = no breakdown	
→ Locked		This output signal shows whether the door is locked. Relay passive = door not locked Relay active = door closed and locked	
→ Closed		This output signal shows whether the door is closed. Relay passive = door not closed Relay active = door closed <ul style="list-style-type: none"> ▪ The output may switch with a slight delay, i.e. when closing only after the pressing phase and, when opening by hand, not before the door has opened up to approx. 10 mm. 	
→ Open		This output signal shows whether the door is open. Relay passive = door not open Relay active = door has opened up to opening width <ul style="list-style-type: none"> ▪ The output may connect with a slight delay, i.e. when opening not before the end stop has been recognised and, when closing by hand, not before the door has been pulled closed approx. 30 mm. 	
→ AKI		This output signal shows that a triggering signal on the inner side of the door is active. <ul style="list-style-type: none"> ▪ The output connects independently of the current operating mode. 	
→ AKA		This output signal indicates that a triggering signal on the outer side of the door is active. <ul style="list-style-type: none"> ▪ The output connects independently of the current operating mode. 	

	→ AKI / AKA		This output signal indicates that a triggering signal on the inner or outer side of the door is active. <ul style="list-style-type: none">The output connects independently of the current operating mode.
	→ SSK		This output signal shows that an SSK signal is active. <ul style="list-style-type: none">The output connects independently of the current operating mode
	→ SAMP		Signal for connecting an optical and/or acoustic indicator in an interlock control. <ul style="list-style-type: none">This signal shows that an opening command is registered, but cannot yet be carried out, because the interlock is occupied from the opposite door.
	→ SAA		Output signal for synchronisation of an interlock. <ul style="list-style-type: none">With the signal <i>Block triggering</i> the other door is notified that the interlock is currently occupied.
	→ SFS_OUT		Output interlock sequential control. <ul style="list-style-type: none">Appropriate for interlocks and draught lobbies without triggering sensors within the interlock chamber.The signal must be linked with the input signal SFS_IN of the other door. Thus, the triggering signal is transmitted to the first door.
	→ APS signal light		For connecting a signal light in a pharmacy control. <ul style="list-style-type: none">The signal shows that the pharmacy function is activated and the door can be opened with the <i>APS opening</i> signal.It is recommended to use an opening switch with integrated lighting and to connect the output to the lighting.
	→ Automatic OM		The relay is active as long as <i>Automatic</i> operating mode is selected - also in the event of reduced opening width.
	→ One-Way OM		The relay is active as long as <i>One-Way</i> operating mode is selected - also in the event of reduced opening width.
	→ Locked OM		The relay is active as long as <i>Locked</i> or <i>Locked manual</i> operating mode is selected. <ul style="list-style-type: none">The signal remains active even during an SSK opening.
	→ Continuously open OM		The relay is active as long as <i>Continuously open</i> operating mode is selected - also in the event of reduced opening width.
	→ Manual OM		The relay is active as long as <i>Manual</i> operating mode is selected.
	→ Off OM		The relay is active as long as <i>Off</i> operating mode is selected.

Parameter explanations V2.1_V2.6 2

	→ Reduced OM		The relay is active as long as an operating mode with <i>reduced opening width</i> is activated.
	→ Power failure		<p>The relay is active as long as there is no mains voltage and the control unit is operated by battery.</p> <ul style="list-style-type: none"> ▪ If <i>Parameter → Drive → Power failure</i> is configured for <i>Battery operation</i>, the relay remains active until the control unit changes to sleep mode. ▪ If <i>Parameter → Drive → Power failure</i> is configured for <i>Emergency operation</i>, the relay only remains active during the action configured with <i>Parameter → Emergency operation battery</i>. Afterwards the control unit change to sleep mode and the relay is deactivated.
	→ Locking error		The relay is active as long as a locking or unlocking error has been detected.
	→ Battery error		<p>Relay active during a battery error.</p> <ul style="list-style-type: none"> ▪ Depending on door type the battery might only be tested once per hour. <p>Accordingly, it can last up to an hour until a battery defect is displayed.</p>
	→ ELS error		Relay active during an ELS error.
	→ Emergency stop/open		Relay active while connection <i>Emergency stop</i> or <i>Emergency open</i> is cut.
	→ AKI/AKA time		<p>The relay is active while an AKI or AKA triggering signal remains activated.</p> <ul style="list-style-type: none"> ▪ The time until the output is activated can be adjusted with <i>Parameter → Miscellaneous → Alarm display → Time activation</i>.
	→ SÖK/NSK		The relay is active while an SÖK or NSK signal is triggered.
	→ CAN connection		The relay is active as long as there is a problem with the CAN connection between STM and FEM1.
	→ Error RED test		The relay is activated.
	→ Maintenance is due		The relay is activated when 95% of the maintenance target value is reached.
	→ Maintenance time exceeded		The relay is activated when 105% of the maintenance target value is reached.
	→ Redundancy test		The relay is activated while a redundancy test is being carried out.

INPUT/OUTPUT			
→ AKA_IN		This parameter is used to configure for which operating modes the triggering signals on the outside of the door are active.	
	→ AKA	X	A closed door can only be opened with an AKA signal in operating mode <i>Automatic</i> (standard behaviour). In operating modes <i>One-Way</i> and <i>Locked</i> the door is reversed and/or maintained open by the AKA signal.
	→ Inactive with One-Way and Locked		AKA signals are only active in operating mode <i>Automatic</i> .
	→ Disabled		AKA signals are basically inactive. <ul style="list-style-type: none"> ▪ This setting allows e.g. to only use the presence surveillance and to ignore the triggering function of a combined sensor (RIC290).
→ SÖK/NSK		Configures the behaviour of the control unit for input signal SÖK/NSK.	
	→ Function	Function of signal SÖK/NSK.	
	→ Disabled	Signal is not analysed.	
	→ SÖK	<p>Safety opening</p> <ul style="list-style-type: none"> ▪ The signal opens the door in all operating modes to the maximum opening width with highest priority, even if it is locked. ▪ The door opens at reduced speed, and safety signals are not taken into account during the opening movement. ▪ Collision surveillance is active, however, no reversing takes place. 	
	→ NSK Manual mode, SSK enabled	<p>Emergency closing with subsequent <i>Manual operation</i>.</p> <ul style="list-style-type: none"> ▪ The signal closes the door in all operating modes with highest priority. Then the door changes to <i>Manual mode</i>. If the door is slid open by hand, it closes again after approx. 10 seconds. ▪ The door can be opened at any time with an SSK signal. ▪ The door closes at reduced speed, and safety signals are not taken into account during the closing movement. Collision surveillance is active; however, no reversing takes place. ▪ A locked door is unlocked, but remains closed. 	

	→ NSK locked	X	<p>Emergency closing with subsequent door locking.</p> <ul style="list-style-type: none"> ▪ The signal closes the door in all operating modes with highest priority. Then the door is locked. ▪ The door closes at reduced speed, and safety signals are not taken into account during the closing movement. Collision surveillance is active; however, no reversing takes place. ▪ The SSK signal is not active..
	→ NSK locked, SSK enabled		<p>Emergency closing with subsequent door locking.</p> <ul style="list-style-type: none"> ▪ The signal closes the door in all operating modes with highest priority. Then the door is locked. ▪ The door can be opened at any time with an SSK signal. ▪ The door closes at reduced speed, and safety signals are not taken into account during the closing movement. Collision surveillance is active; however, no reversing takes place.
	→ NSK manual mode		<p>Emergency closing with subsequent <i>Manual operation</i>.</p> <ul style="list-style-type: none"> ▪ The signal closes the door in all operating modes with highest priority. Then the door changes to <i>Manual mode</i>. If the door is slid open by hand, it closes again after approx. 10 seconds. ▪ The door closes at reduced speed, and safety signals are not taken into account during the closing movement. Collision surveillance is active; however, no reversing takes place. ▪ A locked door is unlocked, but remains closed. ▪ SSK signal is not active.
	→ Speed	0	<p>Driving speed for emergency closing (NSK) or safety opening (SÖK).</p> <p>0 = lowest speed 40 = highest speed</p> <ul style="list-style-type: none"> ▪ Speed can only be increased with door type <i>Flip-Flow</i>.
	→ Emergency stop with reset		<p>This parameter determines the behaviour of the control unit after resetting the emergency stop signal.</p> <ul style="list-style-type: none"> ▪ If the emergency stop signal is active, the motor relay is interrupted and consequently the drive motor is disconnected.
	→ Disabled		After resetting the emergency stop signal, reconnect the motors without restart.
	→ Enabled	X	After resetting the emergency stop signal, execute a restart. The opening width must consequently be taught again with the first door movement.

→ SIO			Configuration of safety signal in opening direction (SIO).
→ Function SIO			Further driving behaviour after SIO signal.
→ Stop			Stop drive mechanism immediately and cease opening.
→ Creep		X	Open at reduced speed up to set opening width.
	→ Activate SIO	0	<p>Door position from which the SIO signal is analysed.</p> <p>0 = signal already active in closed position</p> <p>1 = signal only active from 2.5% of opening width onwards</p> <p>40 = signal inactive on complete opening width</p>
	→ Suppression SIO	40	<p>Door position from which the SIO signal is not analysed any more.</p> <p>0 = signal already inactive in closed position</p> <p>39 = signal inactive on the last 2.5% of opening width</p> <p>40 = signal active on complete opening width</p> <ul style="list-style-type: none"> ▪ With this setting the wall can be suppressed on FTA/FBO drives featuring on-board safety sensors. ▪ The correct setting can automatically be taught-in with the <i>Learning system</i> → <i>Learning S/I/O dialog</i>.
→ SIS			Further driving behaviour after safety signal in closing direction (SIS).
→ Stop			Stop drive mechanism immediately and wait with the closing until the signal becomes active again.
→ Reversing			Stop door movement and open the door again immediately.
→ Creep			<p>Creep</p> <p>Slows down door movement and closes at reduced speed.</p>
MISCELLANEOUS			
→ TOWA			If a door is in position of reduced opening width, it will be opened to the full width in the event of on-coming traffic or high pedestrian density.
→ Disabled		X	Function inactive.
→ Enabled			If AKA and AKI trigger at the same time or if one of the signals is active during more than 10 seconds, the door opens to the full opening width.

→ Push to actuate open			The door will open automatically when it is slid open manually on approx. 3 mm from the closed position. <ul style="list-style-type: none"> ▪ This function is not active on a locked door and in operating mode <i>One-Way</i>. ▪ If this function is activated, the holding force in closed position is determined by <i>Parameter → Miscellaneous → Holding force</i>. ▪ If a brake is set, it may not be applied in the closed position.
→ Disabled	X	Function inactive	
→ Normal		When opening manually, open up to the width set by control unit (BDE-D).	
→ Partial		When opening manually, open up to reduced width.	
→ Push to actuate close			The door will close automatically when it is slid manually in closing direction on approx. 30 mm from the open position. <ul style="list-style-type: none"> ▪ If this function is activated, the holding force in open position is determined by <i>Parameter → Miscellaneous → Holding force</i>. ▪ Hold-open time has no influence on this function. ▪ If a brake is set, it may not be applied in the closed position.
→ Disabled	X	Function inactive	
→ Enabled		Close the door by sliding it in closing direction.	
→ Holding force	0	<p>Energy required to activate the "Push to actuate" function in opening and closing direction.</p> <p>0 = low expenditure of energy</p> <p>40 = high expenditure of energy</p> <ul style="list-style-type: none"> ▪ The maximum value (40) corresponds to holding force without "Push to actuate" component. 	
→ Lead time open	1	<p>To warn people of a door opening, it is possible to display it in advance with the configurable output signal <i>Alarm</i> (see <i>Parameter → Input/Output</i>).</p> <p>0 = no warning, output is passive during opening</p> <p>1 = no warning, output is active during opening</p> <p>40 = approx. 8 seconds warning time, output is active during opening</p> <ul style="list-style-type: none"> ▪ The door opens after the set lead time. ▪ With <i>Push to actuate open</i> there is no lead time. ▪ With RED drives, only values 0 and 1 can be set. 	

→ Lead time close	1	To warn people of a door closing, it is possible to display it in advance with the configurable output signal <i>Alarm</i> (see <i>Parameter → Input/Output</i>). 0 = no warning, output is passive during closing 1 = no warning, output is active during closing 40 = approx. 8 seconds warning time, output is active during closing <ul style="list-style-type: none">▪ The door closes after the set lead time. The time starts to run after the hold-open time has expired.▪ With <i>Push to actuate close</i> there is no lead time.
→ Alarm display		In this menu, some error messages can be adapted to special requirements. <ul style="list-style-type: none">▪ Display for AKI/AKA/SSK, or SIO/SIS/ELS. If the alarm output has been configured, it switches after expiry of the set time.
→ FlowControl Red Test limited		This function of the control module is exclusively for record FlowControl, so that the RED test can be parameterised in the operating mode „One-way“ to “Automatic“.
→ Disabled	X	RED test is carried out when changing from „One-way“ mode to “Automatic“.
→ Enabled		RED test is NOT performed when changing from „One-way“ mode to “Automatic“
→ Time activation	18	Triggering signals activated for a relatively long time (AKI, AKA, SSK) are displayed with an error message. 0 = no error message 1..40 = display an error message after 5..200 seconds
→ Time safety	18	Safety signals activated for a relatively long time (SIO, SIS, ELS) are displayed with an error message. 0 = no error message 1..40 = display an error message after 5..200 seconds
→ Collision display		Display collisions with an error message.
→ Disabled	X	No error display.
→ Enabled		Collisions in opening and closing directions are displayed with an error message.

3 Parameter overview V2.1_V2.6

3.1 Parameter overview STM 20, STG 20 UNI, STM 20 DUO, STM 22 DUO

System 20 Parameter overview				STM 20 / STG UNI				$\geq V2.10$	
				STM 20 DUO / 22 DUO				$\geq V2.10$	
PARAMETER		Parameter value (factory settings printed bold)							
Description	D M	1	2	3	4	5	6		
Driving cycle									
L► Closing speed	M	20	(Speedo)						
L► Opening speed	M	36	(Speedo)						
L► OPEN									
L► Acceleration	M	30	(Speedo)						
L► Deceleration	M	30	(Speedo)						
L► Creep section	M	0	(Speedo)						
L► CLOSE									
L► Acceleration	M	30	(Speedo)						
L► Deceleration	M	30	(Speedo)						
L► Creep section	M	0	(Speedo)						
L► Holding force	M	24	(Speedo)						
L► Ramp									
L► Section	M	0	(Speedo)						
L► Force	M	20	(Speedo)						
L► Seal	M	0	(Speedo)						
TIME DELAY OPEN									
L► Time delay open	M	0	(Speedo)						
L► Time delay SSK	M	4	(Speedo)						
L► SSK delay	M	0	(Speedo)						
L► Reset with button	M	Disabled	Enabled						
DRIVE									
L► Red. opening width	M	40	(Speedo)						
L► Collision CLOSE	M	20	(Speedo)						
L► Collision OPEN	M	20	(Speedo)						
L► Brake	M	Without	Closed position	Open position	Clos./op. pos.	Closed, one way/locked	Closed, locked		
L► Motor		Without	ATE20	ATE21	ATE19 small	ATE19 large	ATE16 normal		
L► (* not with DUO only with UNI)	D M	ATE16 heavy	ATE17	*ATE20 folding door	*ATE16 folding door	*ATE 16 30V	ATE 20/200		
L► Two motors (*not with STM 20)	D M	Disabled	*Enabled						
L► Emerg. operation BAT	D M	Close, not lock	Unlock and open	Close and lock	Open if not locked				
L► Power failure	D M	Emerg. operation							
L► Battery	D M	Without	Lead						
ENTRANCE SYSTEM									
L► Measure A	M	0	(Enter number, field 0..xxx)						
L► Measure G	D M	0	(Enter number, field 0..xxx)						
L► Door leaf	D M	DST	EST-L/R						
L► Interlock (with FEM 1)	D M	Disabled	All operation modes	Only one way locked					
Door type	D M	Basic operator	CO48 Ventouse	TOS	*Flip Flow	CO48 Sandow direct	Basic escape route UK		
L► (* not with DUO ° only with UNI)		*Folding door Australia	Breakout USA	Ratchet	Deadman	*Folding door	3 buttons		
		Default 1	OP door 1	OP door 2	*Folding door esc. route UK	*Industry 1	*Folding door USA		
CONTROL PANEL									
L► BDE-M (not with UNI)	M	*3 Pos. (AUTO)	Disabled	Standard Oneway	Analogue BDE-A	Standard Reduced			
L► BDE-D									
L► Select language	D M	Deutsch	Français	English	English US	Espanol	Nederlands		
		Danish	Slovenscina	Polski	Magyar	Italiano	Czech		
L► Keyboard	M	Normal	OFF mode						
L► Contrast BDE 1	D M	20	(Speedo)						
L► Contrast BDE 2	D M	20	(Speedo)						
L► Brightness BDE 1	D M	20	(Speedo)						
L► Brightness BDE 2	D M	20	(Speedo)						
L► Light time	D M	10	(Speedo, 40 = permanent lighting)						
L► Default op. mode	M	Off	Locked	Automatic	Continuously open	Oneway			

System 20 Parameter overview				STM 20 / STG UNI			$\geq V2.10$	
				STM 20 DUO / 22 DUO			$\geq V2.10$	
PARAMETER		Parameter value (factory settings printed bold)						
Description	D	M	1	2	3	4	5	6
LOCKING								
L► Locking function	D	M	Normally locked	Oneway locked	Always locked			
L► Lock type	D	M	Without	Motor powered	Bistable	MPV 20	MPV 16	Magnet
L► Fail secure				Fail safe	Double			
L► Start delay	D	M	0	(Speedo)				
L► Closed VRR error	D	M	Disabled	Enabled				
L► Closing force	M	0	(Speedo)					
CAN BUS								
L► (Units connected to CAN bus)	D	M	FEM0	FEM1	FEM2 / TCM20	AKI 1	SI 1	AKA 1
			SA 1	SL	SR	AKI 1	SI 2	AKA 2
			SA 2					
INPUT/OUTPUT STG								
L► AUX0_IN	D	M	Disabled	SÖK_NSK	SURV	BDEM_2	Cont. open	SIS
			SIO	AKI B. reduced	Broken rubber cord	Opening deadman	Closing deadman	AKI button
			Closing button	Ratchet	EMERGENCY open	SURA	AKA button	AKA B. red.
			VRR manually	Reset SÖK NSK	SIA			
L► AUX1_IN	D	M	Disabled	SÖK_NSK	SURV	BDEM_1	Cont. open	SIS
			SIO	AKI B. reduced	Broken rubber cord	Opening deadman	Closing deadman	AKI button
			Closing button	Ratchet	EMERGENCY open	SURA	AKA button	AKA B. red.
			VRR manually	Reset SÖK NSK	SIA			
L► AUX4_IN (only UNI)	D	M	Disabled	SURV	Cont. open	SIS	SIO	AKI B. red.
L► BDE_V1 (only DUO)			Broken rubber cord	Opening deadman	Closing deadman	AKI button	Closing button	Ratchet
BDE_V2 (only DUO)			EMERGENCY open	SURA	AKA button	AKA B. red.	VRR manually	SIA
L► AUX0_OUT	D	M	Disabled	Test sensors	Fault output	Bell control	Locked	
			Closed	Warning	Open	AKI	AKA	
L► ZLP								
L► ZLP1 (ELS)	M	Without	ELS					
INPUT/OUTPUT								
L► AKA IN	M	AKA	Inactive on One-way and Locked	Disabled				
L► SÖK/NSK								
L► Function	M	Disabled	SÖK	NSK manual, SSK enabled	NSK locked	NSK locked SSK enabled	NSK manual	
L► Speed (only Flip-Flow)	M	0	(Speedo)					
L► Emergency stop + reset	M	Disabled	Enabled					
L► SIO								
L► Function SIO	M	Stop	Creep					
L► Activate SIO	M	0	(Speedo)					
L► Suppress SIO (only FTA/FBO)	M	40	(Speedo)					
L► SIS	M	Stop	Reversing	Creep				
L► SIA	M	Stop	Creep					
MISCELLANEOUS								
L► TOWA	M	Disabled	Enabled					
L► Push to actuate open.	M	Disabled	Normal	Reduced				
L► Push to actuate closing	M	Disabled	Enabled					
L► Holding force	M	0	(Speedo)					
L► Lead time open	M	1	(Speedo)					
L► Lead time close	M	1	(Speedo)					
L► Alarm display								
L► Activation time	M	18	(Speedo)					
L► Safety time	M	18	(Speedo)					
L► Collision	M	Disabled	Enabled					

3.2 Parameter overview STM 20 RED, STM 22 RED

System 20 parameter overview			STM 20 RED STM 22 RED				$\geq V2.60$	
							$\geq V2.60$	
PARAMETER			Parameter value (factory settings printed bold)					
Description	D	M	1	2	3	4	5	6
DRIVING CYCLE								
L► Closing speed		M	20	(Speedo)				
L► Opening speed		M	36	(Speedo)				
L► OPEN								
L► Acceleration		M	30	(Speedo)				
L► Deceleration		M	30	(Speedo)				
L► Creep section		M	0	(Speedo)				
L► CLOSE								
L► Acceleration		M	30	(Speedo)				
L► Deceleration		M	30	(Speedo)				
L► Creep section		M	0	(Speedo)				
L► Holding force		M	24	(Speedo)				
L► Sealing		M	0	(Speedo)				
TIME DELAY OPEN								
L► Time delay open		M	0	(Speedo)				
L► Time delay SSK		M	4	(Speedo)				
L► SSK delay		M	0	(Speedo)				
DRIVE								
L► Red. opening width	D	M	40	(Speedo)				
L► Collision CLOSE		M	20	(Speedo)				
L► Collision OPEN		M	20	(Speedo)				
L► Brake	D	M	Without	Closed position	Open position	clos./op. pos.	Close one way/locked	Closed locked
L► Motor	D	M	Without	ATE20	ATE19 small	ATE19 large	ATE16 normal	ATE20/200
L► Two motors	D	M	Enabled					
L► Emerg. operation BAT	D	M	Unlock and open	Open if not locked				
L► Power failure	D	M	Emerg. operation					
L► Battery	D	M	Lead					
ENTRANCE SYSTEM								
L► Measure A	D	M	0	(Enter number, field 0...xxx)				
L► Measure G	D	M	0	(Enter number, field 0...xxx)				
L► Door leaf	D	M	DST	EST-UR				
L► Interlock (with FEM 1)	D	M	Disabled					
L► Door type	D	M	RED battery	RED door clos.				
CONTROL PANEL								
L► BDE-D								
L► Select language	D	M	Deutsch Danish Türkçe	Français Slovenscina Polski	English Magyar Italiano	English US Español Nederlands		
L► Keyboard		M	Normal					
L► Contrast BDE 1	D	M	20	(Speedo)				
L► Contrast BDE 2	D	M	20	(Speedo)				
L► Brightness BDE 1	D	M	20	(Speedo)				
L► Brightness BDE 2	D	M	20	(Speedo)				
L► Light time	D	M	10	(Speedo, 40 = permanent lighting)				
L► Default op. mode		M	Automatic	Cont. open	Oneway			
LOCKING								
L► Locking function	D	M	Normally locked					
L► Lock type	D	M	Without Fail safe	Motor powered	Bistable	MPV 20	MPV 16	Magnet
L► Start delay	D	M	0	(Speedo)				
L► Closed VRR error	D	M	Disabled	Enabled				
L► Closing force		M	0	(Speedo)				

System 20 parameter overview				STM 20 RED			$\geq V2.60$	
				STM 22 RED			$\geq V2.60$	
PARAMETER		Parameter value (factory settings printed bold)						
Description	D	M	1	2	3	4	5	6
CAN BUS								
L► (Units connected to CAN bus)	D	M	FEM0	FEM1	FEM2 / TCM20	AKI 1	SI 1	AKA 1
			SA 1	SL	SR	AKI 1	SI 2	AKA 2
			SA 2					
INPUT/OUTPUT STG								
L► AUX0_IN	D	M	Disabled	SÖK_NSK	SIS	SIO	Interior B. red.	Interior button
			SURA	AKA button	AKA B. red.	Reset SÖK_NSK		
L► AUX1_IN	D	M	Disabled	SÖK_NSK	SIS	SIO	Interior B. red.	Interior button
			SURA	AKA button	AKA B. red.	Reset SÖK_NSK		
L► AUX0_OUT	D	M	Disabled	Test sensors	Fault output	Bell control	Locked	
			Closed	Warning	Open	AKI	AKA	
L► ZLP								
L► ZLP1 (ELS)	D	M	Without	ELS				
L► ZLP2 (AKI)	D	M	Without	AKI				
INPUT/OUTPUT								
L► AKA IN		M	AKA	Inactive on Oneway and Locked	Disabled			
L► NÖK/NSK								
L► Function		M	Disabled	SÖK				
L► Speed (only Flip-flow)		M 0		(Speedo)				
L► Emergency stop + reset		M	Disabled	Enabled				
L► SIO								
L► Function SIO		M	Stop	Creep				
L► Activate SIO		M 0		(Speedo)				
L► Suppress SIO (only FTA/FBO)		M 40		(Speedo)				
MISCELLANEOUS								
L► TOWA		M	Disabled	Enabled				
L► Push to actuate open.		M	Disabled	Normal	Reduced			
L► Holding force		M 0		(Speedo)				
L► Lead time open		M 1		(Speedo: only 0 or 1 allowed)				
L► Lead time close		M 1		(Speedo)				
L► Alarm display								
L► Activation time		M 18		(Speedo)				
L► Safety time		M 18		(Speedo)				
L► Collision		M						
L► FlowControl								
L► RED Test limited		M	Disabled	Enabled				

3.3

Parameter overview STM 21

System 20 parameter overview				STM 21			≥ V2.10		
PARAMETER				Parameter value (parameter settings printed bold)					
Description	D	M		1	2	3	4	5	6
DRIVING CYCLE									
L► Closing speed		M	20	(Speedo)					
L► Opening speed		M	36	(Speedo)					
L► OPEN									
L► Acceleration		M	30	(Speedo)					
L► Deceleration		M	30	(Speedo)					
L► Creep section		M	0	(Speedo)					
L► CLOSE									
L► Acceleration		M	30	(Speedo)					
L► Deceleration		M	30	(Speedo)					
L► Creep section		M	0	(Speedo)					
L► Holding force		M	24	(Speedo)					
L► Ramp									
L► Section		M	0	(Speedo)					
L► Force		M	20	(Speedo)					
L► Sealing		M	0	(Speedo)					
TIME DELAY OPEN									
L► Time delay open		M	0	(Speedo)					
L► Time delay SSK		M	4	(Speedo)					
L► SSK delay		M	0	(Speedo)					
L► Reset with button		M	Disabled	Enabled					
DRIVE									
L► Red. opening width		M	40	(Speedo)					
L► Collision CLOSE		M	20	(Speedo)					
L► Collision OPEN		M	20	(Speedo)					
L► Brake		M	Without	Closed position	Open position	clos./op. pos.	Close one way/locked		Closed locked
L► Motor	D	M	Without	ATE21	ATE17				
L► Emerg. operation BAT	D	M	Close, not lock	Unlock and open	Close and lock	Open if not locked			
L► Power failure	D	M	Emergency operation						
L► Battery	D	M	Without	Lead	NiCd				
ENTRANCE SYSTEM									
L► Measure A		M	0	(Enter number, field 0..xxx)					
L► Measure G	D	M	0	(Enter number, field 0..xxx)					
L► Door leaf	D	M	DST	EST-L/R					
L► Interlock (with FEM 1)	D	M	Disabled						
L► Door type	D	M	Basic operator	CO48 Ventouse	CO48 Sandow direct	Basic escape route UK	Default 1		
CONTROL PANEL									
L► BDE-M (connection: AUX 0..1)		M	Disabled	Standard Oneway	Analogue BDE-A	Standard Reduced			
L► BDE-D									
L► Select language	D	M	Deutsch	Français	English	English US	Espanol	Nederlands	
			Danish	Slovenscina	Polski	Magyar	Italiano	Czech	
L► Keyboard	M	Normal	OFF mode						
L► Contrast BDE 1	D	M	20	(Speedo)					
L► Contrast BDE 2	D	M	20	(Speedo)					
L► Brightness BDE 1	D	M	20	(Speedo)					
L► Brightness BDE 2	D	M	20	(Speedo)					
L► Light time	D	M	10	(Speedo, 40 = permanent lighting)					
L► Default op. mode	M	Off	Locked	Automatic	Cont. open	Oneway			

System 20 parameter overview				STM 21			≥ V2.10		
PARAMETER				Parameter value (parameter settings printed bold)					
	Description	D	M	1	2	3	4	5	6
LOCKING									
L► Locking function	D	M	Normally locked	Oneway locked	Always locked				
L► Lock type	D	M	Without	Motor powered	Bistable	Magnet	Fail secure	Fail safe	
L► Double									
L► Start delay	D	M	0	(Speedo)					
L► Closed VRR error	D	M	Disabled	Enabled					
L► Closing force		M	0	(Speedo)					
CAN BUS									
L► (Units connected to CAN bus)	D	M	FEM 0	AKI 1	SI 1	AKA 1	SA 1	SL	
			SR	AKI 2	SI 2	AKA 2	SA 2		
INPUT/OUTPUT STG									
L► AUX0_IN	D	M	Disabled	SÖK_NSK	SURV	BDEM_2	Cont. open	SIS	
			SIO	AKI B. reduced	Broken rubber cord	AKI button	EMERGENCY open	SURA	
			AKA button	AKA B. reduced	VRR manually	Reset SÖK_NSK	SIA		
L► AUX1_IN	D	M	Disabled	SÖK_NSK	SURV	BDEM_1	Cont. open	SIS	
			SIO	AKI B. reduced	Broken rubber cord	AKI button	EMERGENCY open	SURA	
			AKA button	AKA B. reduced	VRR manually	Reset SÖK_NSK	SIA		
L► AUX0_OUT	D	M	Disabled	Test sensors	Fault output	Bell control	Locked		
			Closed	Warning	Open	AKI	AKA		
L► ZLP									
L► ZLP1(ELS)		M	Without	ELS					
INPUT/OUTPUT									
L► AKA IN		M	AKA	Inactive on Oneway and Locked	Disabled				
L► SÖK/NSK									
L► Function		M	Disabled	SÖK	NSK manual, SSK enabled	NSK locked	NSK locked SSK enabled	NSK manual	
L► Speed (only Flip-Flow)		M	0	(Speedo)					
L► Emergency stop + reset		M	Disabled	Enabled					
L► SIO									
L► Function SIO		M	Stop	Creep					
L► Activate SIO		M	0	(Speedo)					
L► Suppress SIO (only FTA/FBO)		M	40	(Speedo)					
L► SIS		M	Stop	Reversing	Creep				
L► SIA		M	Stop	Creep					
MISCELLANEOUS									
L► TOWA		M	Disabled	Enabled					
L► Push to actuate open.		M	Disabled	Normal	Reduced				
L► Push to actuate closing		M	Disabled	Enabled					
L► Holding force		M	0	(Speedo)					
L► Lead time open		M	1	(Speedo)					
L► Lead time close		M	1	(Speedo)					
L► Alarm display									
L► Activation time		M	18	(Speedo)					
L► Safety time		M	18	(Speedo)					
L► Collision		M	Disabled	Enabled					

3.4

Parameter overview STM 21 RED

System 20 parameter overview			STM 21 RED			≥ V2.60					
D = Value will not be reset after loading default parameter M = Parameter modification via MFT (key) on STG (technical level)											
PARAMETER			Parameter value (factory settings printed bold)								
Description	D	M	1	2	3	4	5	6			
DRIVING CYCLE											
L► Closing speed		M	20	(Speedo)							
L► Opening speed		M	36	(Speedo)							
L► OPEN											
L► Acceleration		M	30	(Speedo)							
L► Deceleration		M	30	(Speedo)							
L► Creep section		M	0	(Speedo)							
L► CLOSE											
L► Acceleration		M	30	(Speedo)							
L► Deceleration		M	30	(Speedo)							
L► Creep section		M	0	(Speedo)							
L► Holding force		M	24	(Speedo)							
L► Seal		M	0	(Speedo)							
TIME DELAY OPEN											
L► Time delay open		M	0	(Speedo)							
L► Time delay SSK		M	4	(Speedo)							
L► SSK delay		M	0	(Speedo)							
DRIVE											
L► Red. opening width	D	M	40	(Speedo)							
L► Collision CLOSE		M	20	(Speedo)							
L► Collision OPEN		M	20	(Speedo)							
L► Brake	D	M	Without	Closed position	Open position	clos./op. pos.	Close one way/locked	Closed locked			
L► Motor	D	M	Without	ATE21	ATE19 small						
L► Two motors	D	M	Enabled								
L► Emerg. operation BAT	D	M	Unlock and open	Open if not locked							
L► Power failure	D	M	Emerg. operation								
L► Battery	D	M	Lead								
ENTRANCE SYSTEM											
L► Measure A	D	M	0	(Enter number, field 0..xxx)							
L► Measure G	D	M	0	(Enter number, field 0..xxx)							
L► Door leaf	D	M	DST	EST-LR							
L► Interlock (with FEM 1)	D	M	Disabled								
L► Door type	D	M	RED battery								
CONTROL PANEL											
L► BDE-D											
L► Select language	D	M	Deutsch Danish Türkçe	Français Slovenscina Polski	English Magyar Italiano	English US Español Nederlands	Espanol Italiano Czech				
L► Keyboard	M		Normal								
L► Contrast BDE 1	D	M	20	(Speedo)							
L► Contrast BDE 2	D	M	20	(Speedo)							
L► Brightness BDE 1	D	M	20	(Speedo)							
L► Brightness BDE 2	D	M	20	(Speedo)							
L► Light time	D	M	10	(Speedo, 40 = permanent lighting)							
L► Default op. mode	M		Automatic Cont. open Oneway								
LOCKING											
L► Locking function	D	M	Normally locked								
L► Lock type	D	M	Without Motor powered	Bistable Magnet			Fail safe				
L► Start delay	D	M	0	(Speedo)							
L► Closed VRR error	D	M	Disabled Enabled								
L► Closing force	M		0	(Speedo)							

System 20 parameter overview				STM 21 RED			\geq V2.60	
PARAMETER		Parameter value (factory settings printed bold)						
Description	D	M	1	2	3	4	5	6
CAN BUS								
L► (Units connected to CAN bus)	D	M	FEM 0 SR	AKI 1 AKI 2	SI 1 SI 2	AKA 1 AKA 2	SA 1 SA 2	SL
INPUT/OUTPUT STG								
L► AUX0_IN	D	M	Disabled SURA	SÖK_NSK AKA button	SIS AKA B. red.	SIO Reset SÖK NSK	Interior B. red	Interior button
L► AUX1_IN	D	M	Disabled SURA	SÖK_NSK AKA button	SIS AKA B. red.	SIO Reset SÖK NSK	Interior B. red	Interior button
L► AUX0_OUT	D	M	Disabled Closed	Test sensors Warning	Fault output Open	Bell control AKI	Locked AKA	
L► ZLP								
L► ZLP1 (ELS)		M	Without	ELS				
L► ZLP2 (AKI)	D	M	Without	AKI				
INPUT/OUTPUT								
L► AKA IN		M	AKA	Inactive on Oneway and Locked	Disabled			
L► SÖK/NSK		M	Disabled	SÖK				
L► Function		M	Disabled	SÖK				
L► Speed (only Flip-Flow)		M	0	(Speedo)				
L► Emergency stop + reset		M	Disabled	Enabled				
L► SIO								
L► Function SIO		M	Stop	Creep				
L► Activate SIO		M	0	(Speedo)				
L► Suppress SIO (only FTA/FBO)		M	40	(Speedo)				
MISCELLANEOUS								
L► TOWA		M	Disabled	Enabled				
L► Push to actuate open.		M	Disabled	Normal	Reduced			
L► Holding force		M	1	(Speedo)				
L► Lead time open		M	1	(Speedo: only 0 or 1 allowed)				
L► Lead time close		M	1	(Speedo)				
L► Alarm display								
L► Activation time		M	# 18	(Speedo)				
L► Safety time		M	18	(Speedo)				
L► Collision		M	Disabled	Enabled				
L► FlowControl								
L► RED Test limited		M	Disabled	Enabled				

3.5 Parameter overview FEM

System 20 parameter overview				FEM 0 / FEM 1 STM 20/21/22, incl. DUO/RED			\geq V1.10 \geq V1.90				
PARAMETER FEM 0		Parameter value (factory settings printed bold)									
Description	D	M	1	2	3	4	5	6			
INPUT/OUTPUT FEM 0											
FEM 0 in use with STM 20, STG 20 UNI and STM 20/22 DUO											
L► AUX2_IN	D M	Disabled	SURV	Cont. open	SIS	SIO	AKI T. red.				
		Broken rubber cord	Opening deadman	Closing deadman	AKI button	Closing button	Ratchet				
		EMERG. open	SURA	TOS-DV1	TOS-DV2	AKA button	AKA B. red.				
		VRR manually	SIA								
L► AUX3_IN	D M	Disabled	SURV	Cont. open	SIS	SIO	AKI B. red.				
		Broken rubber cord	Opening deadman	Closing deadman	AKI button	Closing button	Ratchet				
		EMERG. open	SURA	TOS-DV1	TOS-DV2	AKA button	AKA B. red.				
		VRR manually	SIA								
L► AUX2_OUT	D M	Disabled	Test sensors	Fault output	Bell control	Locked					
		Closed	Warning	AKI	AKA						
INPUT/OUTPUT FEM 0											
FEM 0 in use with STM 21 and STM 21UNI											
L► AUX2_IN	D M	Disabled	SURV	Cont. open	SIS	SIO	AKI B. red.				
		Broken rubber cord	AKI button	EMERG. open	SURA	AKA button	AKA B. red.				
		VRR manually	SIA								
		Disabled	SURV	Cont. open	SIS	SIO	AKI B. red.				
L► AUX3_IN	D M	Broken rubber cord	AKI button	EMERG. open	SURA	AKA button	AKA B. red.				
		VRR manually	SIA								
L► AUX2_OUT	D M	Disabled	Test sensors	Fault output	Bell control	Locked					
		Closed	Warning	AKI	AKA						
INPUT/OUTPUT FEM 0											
FEM 0 in use with STM 20/21/22 RED											
L► AUX2_IN	D M	Disabled	SIS	SIO	Interior B. red.	Interior button	SURA				
		AKA button	AKA B. red.								
L► AUX3_IN	D M	Disabled	SIS	SIO	Interior B. red.	Interior button	SURA				
		AKA button	AKA B. red.								
L► AUX2_OUT	D M	Disabled	Test sensors	Fault output	Bell control	Locked					
		Closed	Warning	AKI	AKA						

System 20 parameter overview				FEM 0 / FEM 1 STM 20/21/22, incl. DUO/RED				\geq V1.10 \geq V1.90			
PARAMETER FEM 1				Parameter value (factory settings printed bold)							
Description	D	M		1	2	3	4	5	6		
FEM 1 FEM 1 in use with STM 20, STG 20 UNI and STM 20/22 DUO											
L► FEM type		M	Basic*	Interlock	Pharmacy	I/O-Set 1					
L► APS open position	D	M	35 (Speedo)								
INPUT FEM 1											
L► AUX10_IN [64/65]	D	M	Disabled	*S_AUS	*APS bolt						
L► AUX11_IN [66/67]	D	M	Disabled	*SEA	*APS opening						
L► AUX12_IN [68/69]	D	M	Disabled	*SFS_IN							
L► AUX13_IN [70/71]	D	M	Disabled								
OUTPUT FEM 1 All outputs can be configured according to AUX1x_OUT.											
L► AUX1x_OUT	D M	Disabled	Fault output	Locked	Closed	Open	AKI				
		AKA	AKI / AKA	SSK	SAMP	SAA	SFS_OUT				
		OM Automatic	OM Automatic	OM One-way	OM Locked	OM Cont. open	OM Manual				
		OM Off	OM Reduced	Power failure	VRR defect	BAT defect	ELS error				
		Emergency stop/opening	AKI / AKA time	SÖK / NSK	CAN connection	Mainten. is due	Maint. time exceed.				
L► AUX10_OUT [73/74]	D	M									
L► AUX11_OUT [76/77]	D	M									
L► AUX12_OUT [79/80]	D	M									
L► AUX13_OUT [82/83]	D	M									
L► AUX14_OUT [88/89]	D	M									
L► AUX15_OUT [90/91]	D	M									
L► AUX16_OUT [92/93]	D	M									
L► AUX17_OUT [94/95]	D	M									
L► AUX18_OUT [96/97]	D	M									
L► AUX19_OUT [98/99]	D	M									
L► AUX1A_OUT [100/101]	D	M									
L► AUX1B_OUT [102/103]	D	M									
L► AUX1C_OUT [104/105]	D	M									
L► AUX1D_OUT [106/107]	D	M									
FEM 1 FEM 1 in use with STM 20/22 RED											
L► FEM-type	D	M	Basic	I/O-Set 1							
EINGANG FEM 1											
L► AUX10_IN [64/65]	D	M	Disabled								
L► AUX11_IN [66/67]	D	M	Disabled								
L► AUX12_IN [68/69]	D	M	Disabled								
L► AUX13_IN [70/71]	D	M	Disabled								
AUSGANG FEM 1 All outputs can be configured according to AUX1x_OUT.											
L► AUX1x_OUT	D M	Disabled	Fault output	Locked	Closed	Open	AKI				
		AKA	AKI / AKA	SSK	OM Automatic	OM One-way	OM Locked				
		OM Cont. open	OM Manual	OM Off	OM Reduced	Power failure	VRR defect				
		BAT defect	ELS error	Emergency stop/opening	AKI/AKA time	SÖK / NSK	CAN connection				
		Error RED test	Mainten. is due	Maint. time exceed.	Redundancy test						
L► AUX10_OUT [73/74]	D	M									
L► AUX11_OUT [76/77]	D	M									
L► AUX12_OUT [79/80]	D	M									
L► AUX13_OUT [82/83]	D	M									
L► AUX14_OUT [88/89]	D	M									
L► AUX15_OUT [90/91]	D	M									
L► AUX16_OUT [92/93]	D	M									
L► AUX17_OUT [94/95]	D	M									
L► AUX18_OUT [96/97]	D	M									
L► AUX19_OUT [98/99]	D	M									
L► AUX1A_OUT [100/101]	D	M									
L► AUX1B_OUT [102/103]	D	M									
L► AUX1C_OUT [104/105]	D	M									
L► AUX1D_OUT [106/107]	D	M									

Instruction software: The possibilities of FEM 0 and FEM 1 depend chiefly on the software version of the control.

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