CONTROLLER

Intelligent Door Management

Parameter List

FEIG ELECTRONIC

Attention!

This document belongs to the assembly instruction of the door controller TST FUZ and is only in connection with this valid.

The important safety advisories as well as the installation and wiring notes, mentioned in the assembly instruction, must be strictly observed.

.

The functional description employs the following characters to indicate the different danger areas and useful tips.

Attention!

indicates a risk to persons if the procedure is not carried out as described.

Warning!

indicates that the controller is at risk.

points out information which is IMPORTANT to the operation of the gate controller and/or the gate.

points out information which is useful but not essential for the use of the gate controller

Contents

1 Door Cycle Counter

P.	[Unit] Range	Function	Description/ Note
P.000 rrr	[Cycles]	cycle counter	The content of this parameter indicates the number of previously counted cycles.

2 Maintenance counter

P.	[Unit] Range	Function	Description/ Note
P.005 rrr	[Cycles]	Maintenance counter	The content of this parameter indicates the number of cycles remaining until maintenance is due. *The setting -1 means that the maintenance counter has not yet been activated.*
P.973 -ww	0 ... 1	Resetting the maintenance counter	By setting this parameter to 1 the maintenance counter is reset.

3 Auto close times / Forced closing

Which Auto close time runs depends on the arrived end position and on the OPEN command used. For each OPEN command you can use Parameter P.5x4 to set separately whether and which Auto close time runs
(X = Number of used input).

P.	[Unit] Range	Function	Description/ Note
P.010 www	[Seconds] 0 ... 9999	Auto close time 1	The door is held in the end position Gate OPEN for the set time. The door is then automatically closed.
P.011 www	[Seconds] 0 ... 9999	Auto close time 2	The door is held in the end position Intermediate Stop / Partial open for the set time. The door is then automatically closed.

4 Pre-warning time before door movement / Clearance time

P.	[Unit] Range	Function	Description/ Note
P.025 -rr	[Seconds] 0 ... 20	Pre-warning time before closing	The closing move is delayed following receipt of a CLOSE command or after expiration of the auto close time (forced close) by the time specified in this parameter.
P.026 --r	0 ... 1	Pre-warning time before closing from between the end positions	By activating this parameter the pre-warning time runs always before closing, undependend from the input, also between end positions and not only in end position OPEN. The used time is set by P.025. 0: Pre-warning time set by input 1: Pre-warning time always active

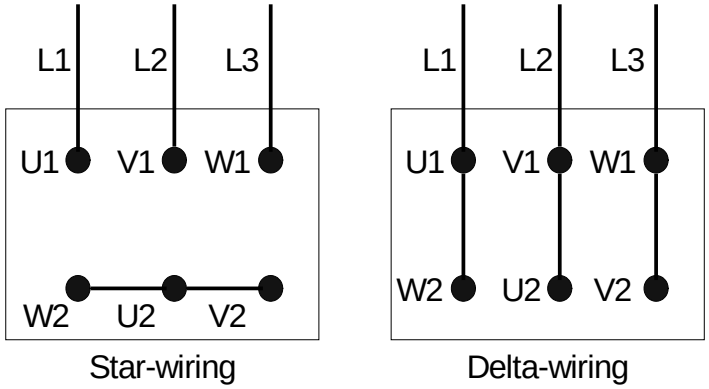
5 Oncoming traffic

P.	[Unit] Range	Function	Description/ Note
P.892 -zz	0 ... 1	Oncomming traffic control	With this parameter the oncoming traffic function is activated. If activated the direction imformation of an open command (P.5x6) is used to control the traffic lights an the hold open time. 0: The oncomming traffic function is deactivated. The programmed direction with P.5x6 of relevant commands is not evaluated. Internal the direction is set to "both directions" (P.5x6 = 3). 1: The oncomming traffic function is active. The direction set by P.5x6 is evaluated. Traffic lights and hold open time are influenced by the used direction.

6 Motor settings

The motor ratings are used to teach the door controller what it needs to know about the motor used.

The setting -1 means that this parameter is automatically queried during start-up of the door controller.

P.	[Unit] Range	Function	Description/ Note
P.100 -ww	[Hz] 30 ... 200	Motor rated frequency	The motor rated frequency indicated on the nameplate is entered here.
P.101 -ww	[A] 0,0 ... 9,9	Motor rated current	The motor rated current indicated on the nameplate is entered here.  **Figure 1 Star / Delta wiring** ⚠ **Note Star / Delta wiring of the motor !**
P.102 -ww	[%] 40 ... 100	Power factor cos Phi	The power factor indicated on the nameplate is entered here. ⚠ **The entry is made without the leading “0”.** **63 thus means cos Phi 0.63.**
P.103 -ww	[Volt] 100 ... 500	Motor rated voltage	The motor rated voltage indicated on the nameplate is entered here. ⚠ **Switching the motor windings to 400V operation makes no sense with 230 V supplied controllers, since they can output a maximum of 230V !** ⚠ **Note Star /Delta switching of the motor !** **(see Fig. In parameter P.101: Star / Delta wiring)**

P.	[Unit] Range	Function	Description/ Note
P.110 -zz	0 ... 0	Drive profile	This profile is used to set the motor rated data for a known motor. 0: Manual setting of the motor rated data *The exact settings which this profile involves can be found in Appendix: Drive Profile.*
P.130 -ww	0 ... 1	Motor rotary field	This parameter specifies the rotary field of the motor for OPEN move. 0: Right rotating 1: Left rotating

7 Boost

Boost is used to increase the power of drives in the lower speed range.

Either a too little or a too high boost setting can result in improper door movement. If too much boost is already set, this will result in an overcurrent error (F.510/F.410). In this case you must reduce the boost. If the boost is low or 0 and the motor still has insufficient force to move the door, you must increase the boost.

Due to the large number of possible door/gate types, the correct boost setting should be determined experimentally. The diagnostic function for motor current (see Parameter P.910) can be helpful here. By using the current indicator you can easily determine whether the changed setting has achieved the desired results.

The boost should always be set as low as possible, but high enough to do the job.

P.	[Unit] Range	Function	Description/ Note
P.140	[%]	Boost for OPEN	The boost increases the output voltage and thus the power in the lower speed range until the cutoff frequency (P.100) is reached. The voltage is increased by the value in percent of the motor rated voltage (P.103) entered in the parameter.
-ww	0 ... 30		

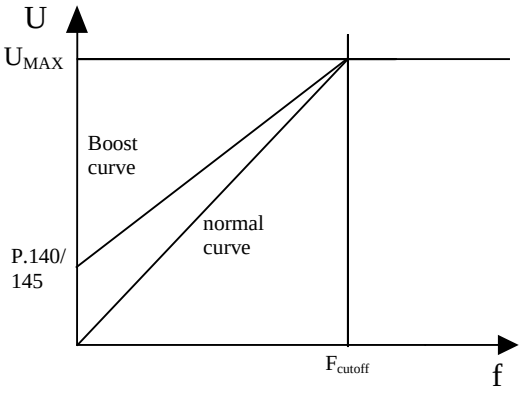


Figure 2 Boost characteristic

P.145	[%]	Boost for CLOSE	see Parameter P.140
-ww	0 ... 30		

8 Frequency ramp stop function

The frequency ramp stop function makes it possible to move heavy doors.
The function monitors the current during door acceleration. The motor current is allowed to be max. double the rated current (P.101).
If the current is too high, the converter stops the door acceleration and continues to move at an even speed, so that the current drops, since energy for accelerating the door no longer needs to be provided.
If the current drops below the limit, the door continues accelerating.

P.	[Unit] Range	Function	Description/ Note
P.141 --w	[Hz] 10 ... 200	Start frequency of the frequency ramp stop for OPEN	Here the starting point for the frequency ramp stop function is set. Below the set frequency the function is deactivated. The current may then rise above the limit of 2x the motor rated current (P.101). This is possible for a short time, but for longer travel will result in an overcurrent error (F.410 or F.510).

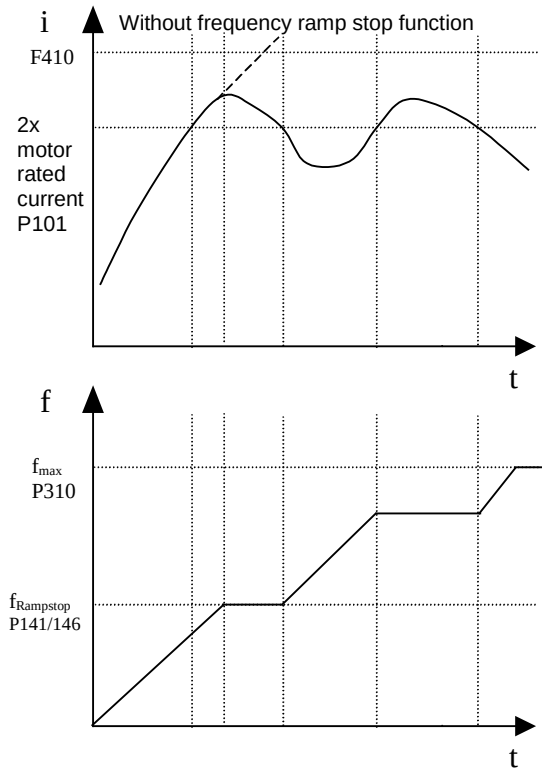


Figure 3 Frequency ramp stop characteristic curve

A setting of 200 deactivates the function

P.146 --w	[Hz] 10 ... 200	Start frequency of the frequency ramp stop for CLOSE	see Parameter P.141

9 I x R compensation

I x R compensation increases the voltage and with it the motor power only in the lower speed range.

P.	[Unit] Range	Function	Description/ Note
P.142 --w	[Hz] 0 ... 15	IxR compensation for OPEN	In this parameter you specify the frequency up to which I x R compensation is in effect. The voltage is held to the same value below this frequency. The voltage value is derived from the voltage which is normally output for the frequency set here.

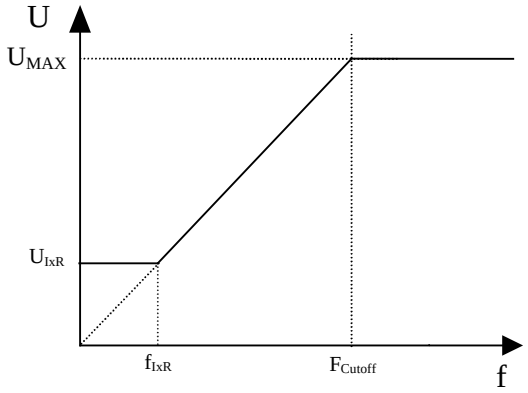


Figure 4 IxR compensation characteristic curve

P.147 --w	[Hz] 0 ... 15	IxR compensation for CLOSE	see Parameter P.142

10 Voltage reduction

Reducing the motor voltage which is output prevents over-excitation of the motor. This reduces power dissipation and noise.

P.	[Unit] Range	Function	Description/ Note
P.143 --w	[%] 35 ... 100	Voltage reduction for OPEN	The indicated value specifies what percent of the output voltage is given out.

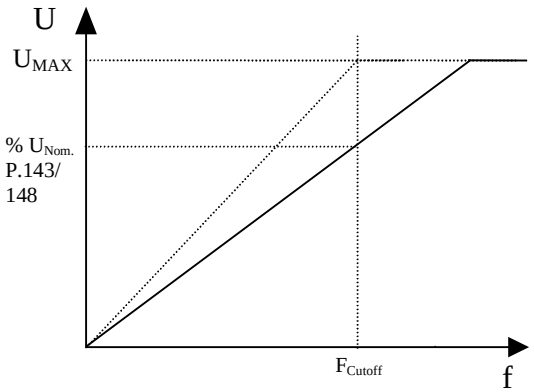


Figure 5 Voltage reduction characteristic curve

P.	[Unit] Range	Function	Description/ Note
P.148 --w	[%] 35 ... 100	Voltage reduction for CLOSE	see Parameter P.143

11 Selecting the positioning system

P.	[Unit] Range	Function	Description/ Note
P.202 -rr	0 ... 20	Transmission ratio	With this parameter the transmission ratio of the encoder to the motor is set. As faster the drive shaft is as higher has the parameter value to be. *This parameter is only visible in case of TST PD is connected and set as limit switch.*
P.205 -ww	0000 ... 0900	Selecting the positioning system profile	This profile sets the limit switch system. Select from the following settings: 0000: Mechanical limit switches 1. The absolute limit switches are processed as normally closed and the pre-limit switches as normally open. 0001: Mechanical limit switches 2. All limit switches are processed as normally closed. 0300: Absolute encoder DES-A with 9600 Baud (GfA) 0700: Absolute encoder DES-B (Kostal) 0800: Absolute encoder TST PD / TST PE 0900: Timer limit switches *The exact settings which this profile involves can be found in Appendix: Position Sensor Profile.* **In addition, the standard functions of the controller inputs are matched to the limit switch type in use.**

12 End position correction

P.	[Unit] Range	Function	Description/ Note
P.210 -ww	0 ... 5	New teaching of the end positions	This parameter is used to start a new teaching of the end positions. The corresponding end positions are moved to in deadman mode after activating the procedure and saved by holding down the Stop key. Select from the following settings: 0: Cancel, no end positions are taught. 1: Limit switch Lower, limit switch Upper and if appropriate limit switch Intermediate Stop are taught. 2: Limit switch Upper and if appropriate limit switch Intermediate Stop are taught. 3: Limit switch Lower and limit switch Upper are taught. 4: Limit switch Intermediate Stop is taught. 5: All limit switches and the turndirection are taught. *Teaching the Intermediate Stop limit switch depends on the setting in Parameter P.244 (see section Partial Opening / Intermediate Stop).*
P.215 -ww	0 ... 1	Requesting correction of the pre-limit switch and limit switch bands	If automatic calculation of the pre-limit switch and limit switch bands (P.216) is activated, this parameter can be used to start a new teaching of the pre-limit switch and limit switch bands. 0: Make no correction. 1: Start correction of the pre-limit switch and limit switch bands. *Correction of the pre-limit switch and limit switch bands is only possible if P.216 = 2.*

P.	[Unit] Range	Function	Description/ Note
P.216 --w	0 ... 2	Activating auto correction / Selecting the ramp setting mode	There are two basic ways to set the steepness of a ramp. The ramp time can be set in milliseconds, or the ramp acceleration can be set in Hz per second. In addition, the limit switch bands are automatically set when Automatic is activated. 0: Ramp times have to be set manuelly (as in earlier door controllers from FEIG ELECTRONIC GmbH). 1: Ramp acceleration has to be set manuelly. 2: Ramp acceleration has to be set and limit switches are automatically set. ⚠ **In case of changing the speed of the door or one of the ramp accelerations the automatically setting of the pre limit switches and limit switch bands will start again.The values set in the corresponding parameters are then overwritten.** ℹ *Automatic teaching of the limit switches and pre limit switches only functions if accelerations for ramps are set. You cannot use ramp times as they were defined in earlier versions of the controllers.* ⚠ WARNING **Depending on the type of door and the used motor the limits can be overrun during automatic calculation of the limits (I.515). To prevent this P.217 has to adjust proper for the used door.**
P.217 --w	0 ... 600	Tolerance band of automatic end switch correction	With this parameter an offset is set to the end position find out by the automatic end switch correction. Because of that the door is not able to overrun the end switch position of the door by the first move. The end switch position will move by the value (in percent) adjusted with this parameter.

13 CLOSE

If automatic setting of the pre-limit switches and limit switch bands is used (P.216 = 2), Parameters P.222 and P.223 are automatically changed.
The parameters are even changed if the speed of the door or the steepness of a ramp is changed, since this results in a new start of automatic limit switch correction.
If you want to set these ramps manually, P.216 must be < 2.

13.1 End position door close modify

P.	[Unit] Range	Function	Description/ Note
P.221 www	[Increments] -125 ... 125	Correction value End position door CLOSE	This parameter is used to shift the entire lower end position, i.e., the end position is shifted together with the associated pre-limit switches. A change in the parameter value in the positive direction causes the end position to shift up. A change in the parameter value in the negative direction causes the end position to shift down.

13.2 Start of Door Closing

P.	[Unit] Range	Function	Description/ Note
P.350 -ww	[Hz] 6 ... 200	Travel frequency for rapid CLOSE	Here you specify the maximum close speed in Hz. Start ramp "r5" is used to accelerate to this speed. The steepness of the ramp is set with Parameter P.351 or P.352.

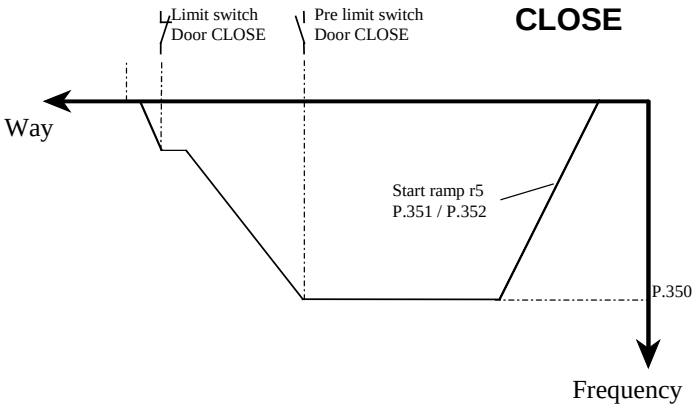


Figure 6 Start ramp, CLOSE

P.	[Unit] Range	Function	Description/ Note
P.351 --w	[10 ms] 20 ... 500	Duration of start ramp “r5”	Time of start ramp "r5" in milliseconds. The door is accelerated within the specified time from 0Hz to the maximum close speed (P.350). Smaller values result in greater acceleration of the door. Larger values result in diminished acceleration of the door. *This parameter is only visible and settable if Parameter P.216 is set to 0.*
P.352 --r	[Hz/s] 5 ... 300	Acceleration of start ramp “r5”	Acceleration during start ramp "r5" in Hertz per second. Smaller values result in diminished acceleration of the door. Larger values result in greater acceleration of the door. *This parameter is only visible and settable if Parameter P.216 is greater than 0.*

13.3 Slow down after Pre-limit switch during Door CLOSE

P.	[Unit] Range	Function	Description/ Note
P.222 --w	[Increments] 0 ... 2100	Pre-limit switch position Door CLOSE	The parameter value specifies the distance to the absolute limit switch Door CLOSE in increments. The pre-limit switch is used to initiate the brake ramp "r6". The steepness of the ramp is set with Parameter P.361 or P.362.

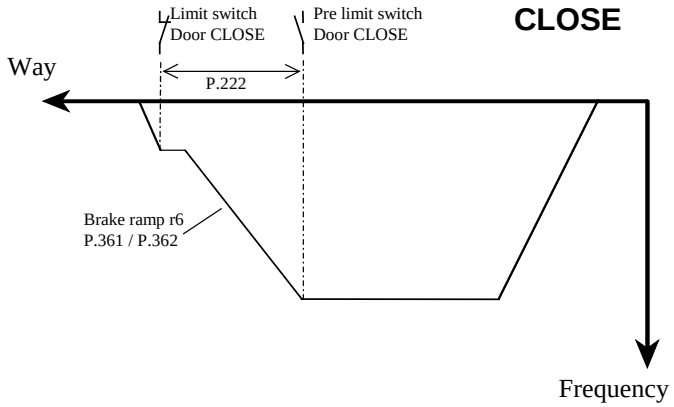
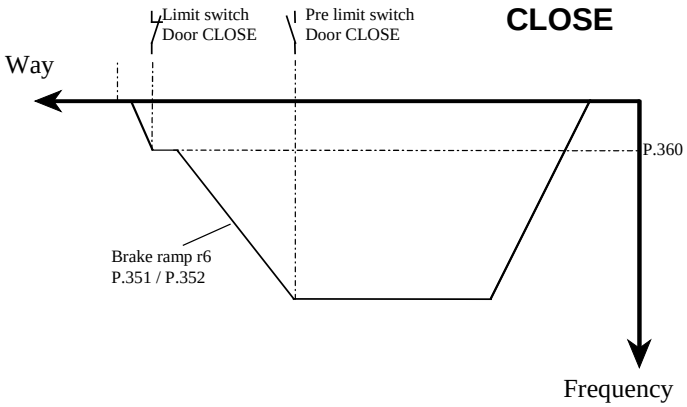


Figure 7 Pre-limit switch position Door CLOSE

P.	[Unit] Range	Function	Description/ Note
P.360 --w	[Hz] 6 ... 200	Creep speed frequency for CLOSE	Brake ramp "r6" is used to slow to creep speed frequency, and is initiated after activation of the pre-limit switch Door CLOSE. The steepness of the brake ramp "r6" is set with Parameter P361 or P.362.  **Figure 8 Creep move for CLOSE**
P.361 --w	[10 ms] 15 ... 500	Duration of brake ramp “r6”	This parameter specifies the time of brake ramp "r6" in milliseconds. The door is decelerated from maximum close frequency (P350) to creep frequency (P.360) within this time. Smaller values result in greater deceleration of the door. Larger values result in diminished deceleration of the door. *This parameter is only visible and settable if Parameter P.216 is set to 0.*
P.362 --r	[Hz/s] 5 ... 300	Acceleration of brake ramp “r6”	This parameter specifies the acceleration of the door during brake ramp "r6" in Hertz per second. Smaller values result in diminished deceleration of the door. Larger values result in greater deceleration of the door. *This parameter is only visible and settable if Parameter P.216 is greater than 0.*

13.4 Stopramp after stop is triggered (CLOSE)

P.	[Unit] Range	Function	Description/ Note
P.382 --r	[Hz/s] 5 ... 300	Acceleration of stop ramp “r STOP-Z” after stop is triggered	Acceleration during stop ramp "r STOP-Z" in Hertz per second. The door is decelerated from maximum close speed to 0 Hz after a stop command is given. Smaller values result in diminished acceleration of the door. Larger values result in greater acceleration of the door. *This ramp also takes effect after the photo eye is interrupted.* *This parameter is only visible and settable if Parameter P.216 is greater than 0.*

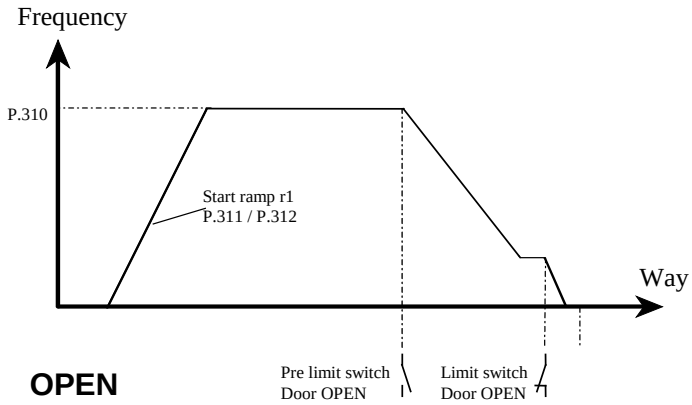
14 Open

If automatic setting of the pre-limit switch and limit switch bands is used (P.216 = 2), Parameters P.232 and P.233 are automatically changed.
The parameters are even changed if the speed of the door or the steepness of a ramp is changed, since this results in a new start of automatic limit switch correction.
If you want to set these ramps manually, P.216 must be < 2.

14.1 Adjust the end position Door open

P.	[Unit] Range	Function	Description/ Note
P.231 www	[Increments] -60 ... 60	Correction value End position Door OPEN	This parameter is used to shift the entire Door OPEN end position, i.e., the end position is shifted together with the associated pre-limit switches. A change in the parameter value in a positive direction causes the end position to shift up. A change in the parameter value in the negative direction causes the end position to shift down.

14.2 Start Door Opening

P.	[Unit] Range	Function	Description/ Note
P.310 -ww	[Hz] 6 ... 200	Travel frequency for rapid OPEN	Here you specify the maximum open speed in Hz. Start ramp "r1" is used to accelerate to this speed. The steepness of the ramp is set with Parameter P.311 or P.312.  **Figure 9 Start ramp, OPEN move**
P.311 --w	[10 ms] 20 ... 500	Duration of start ramp “r1”	Time of start ramp "r1" in milliseconds. The door is accelerated within the specified time from 0Hz to the maximum open speed (P.310). Smaller values result in greater acceleration of the door. Larger values result in diminished acceleration of the door. *This parameter is only visible and settable if Parameter P.216 is set to 0.*
P.312 --r	[Hz/s] 5 ... 300	Acceleration of start ramp “r1”	Acceleration during start ramp "r1" in Hertz per second. Smaller values result in diminished acceleration of the door. Larger values result in greater acceleration of the door. *This parameter is only visible and settable if Parameter P.216 is greater than 0.*

14.3 Slow down after pre-limit switch is triggered during Door OPEN

P.	[Unit] Range	Function	Description/ Note
P.232 --w	[Increments] 0 ... 2100	Pre-limit switch position Door OPEN	The parameter value specifies the distance to the Door OPEN absolute limit switch in increments. The pre-limit switch is used to initiate the brake ramp "r2". The steepness of the ramp is set with Parameter P.321 or P.322.

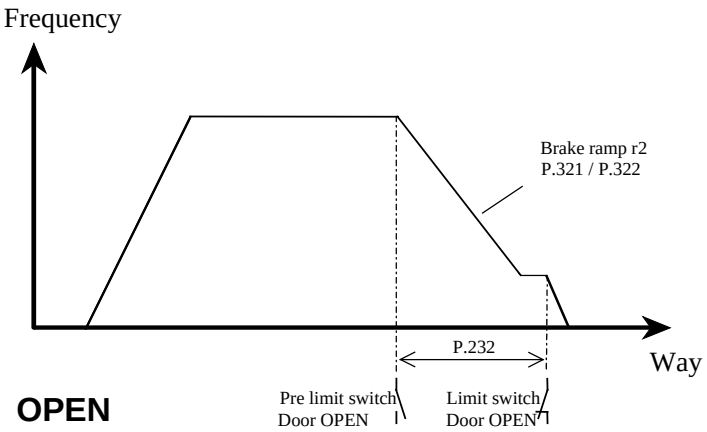


Figure 10 Pre-limit switch position Door OPEN

P.320 --w	[Hz] 6 ... 200	Creep speed frequency for OPEN	Brake ramp "r2" is used to slow to creep speed frequency, and is initiated after activation of the pre-limit switch Door OPEN. The steepness of the brake ramp "r2" is set with Parameter P321 or P.322.

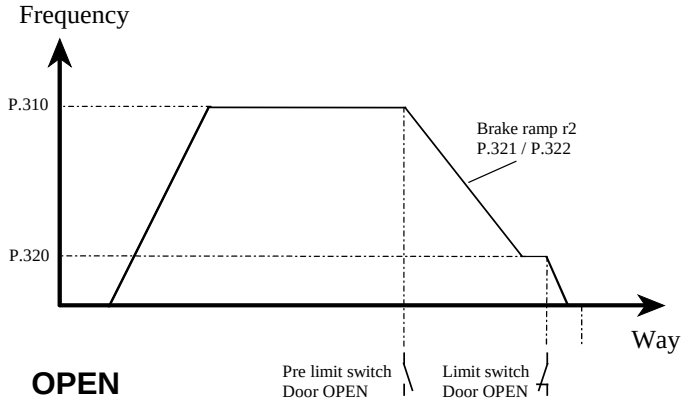
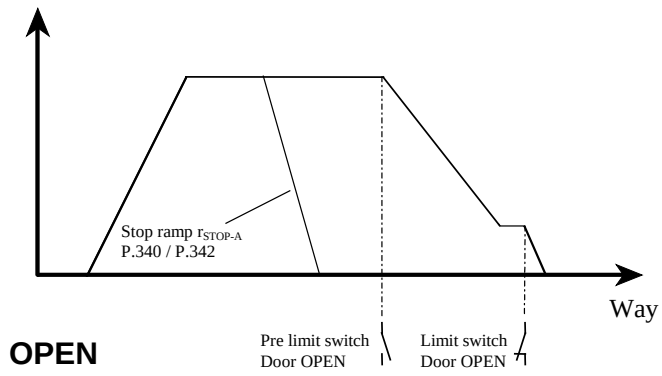


Figure 11 Creep move for OPEN

P.	[Unit] Range	Function	Description/ Note
P.321 --w	[10 ms] 15 ... 500	Duration of brake ramp “r2”	This parameter specifies the acceleration of the door during brake ramp "r2" in Hertz per second. Smaller values result in diminished deceleration of the door. Larger values result in greater deceleration of the door. *This parameter is only visible and settable if Parameter P.216 is greater than 0.*
P.322 --r	[Hz/s] 5 ... 300	Acceleration of brake ramp “r2”	This parameter specifies the acceleration of the door during brake ramp "r2" in Hertz per second. Smaller values result in diminished deceleration of the door. Larger values result in greater deceleration of the door. *This parameter is only visible and settable if Parameter P.216 is greater than 0.*

14.4 Stop ramp after stop is triggered (OPEN)

P.	[Unit] Range	Function	Description/ Note
P.340 --w	[10 ms] 15 ... 250	Duration of stop ramp “r STOP-A” after stop is triggered	Time of stop ramp "r STOP-A" in milliseconds. The door is decelerated in the specified time from maximum open speed to 0 Hz after triggering of a stop command. Smaller values result in greater acceleration of the door. Larger values result in diminished acceleration of the door. Frequency  **Figure 12 Triggering of Stop for OPEN move** *This parameter is only visible and settable if Parameter P.216 is set to 0.*

P.	[Unit] Range	Function	Description/ Note
P.342 --r	[Hz/s] 5 ... 300	Acceleration of stop ramp “ r STOP-A” after stop is triggered	Acceleration during stop ramp "r STOP-A" in Hertz per second. The door is decelerated from maximum open speed to 0 Hz after a stop command is given. Smaller values result in diminished acceleration of the door. Larger values result in greater acceleration of the door. *This parameter is only visible and settable if Parameter P.216 is greater than 0.*

15 Incremental encoder / Synchronisation

15.1 Synchronization type

P.	[Unit] Range	Function	Description/ Note
P.25F -ww	0 ... 10	Synchronization type profile	This profile is used to set the reference switches and automatic synchronization mode. 0: Deactivated 1: Synchronization to reference switch in Door CLOSE Endposition. 2: Synchronization to to safety edge. 3: Synchronization to reference switch in Door OPEN endposition. 4: Synchronization to mechanical stop in Door OPEN endposition. 5: Synchronization to safety edge and then to mechanical stop in Door OPEN endposition. 6: Synchronization to safety edge and then to reference switch in Door OPEN endposition. 7: Synchronization to reference switch in Door CLOSE endposition and then to mechanical stop in Door OPEN Endposition. 8: Synchronization to mechanical stop in Door CLOSE Endposition and then to mechanical stop in Door OPEN Endposition. 9: Manual synchronization to Door CLOSE Endposition and to Door OPEN Endposition. 10: Timer-limit switch-mode. Synchronisation is done automatically to end switch CLOSE and OPEN. *The exact settings which this profile involves can be found in Appendix: Synchronization Type.*

16 Radio safety system

P.	[Unit] Range	Function	Description/ Note
P.92A rrr		Softwareversion FSx mobile unit	Software version of the mobile unit of the wireless safety device.
P.92B rrr		Software version FSx stationary unit	Software version of the stationary unit of the wireless safety device.
P.9F0 -rr	[%] 0 ... 100	Capacity of battery	This parameter shows the actuall capacity of the battery.
P.9F1 -rr	[Volt]	Battery voltage of radio safety system	Shows the battery voltage of the mobile unit if the radio safety system.
P.9F2 -rr	[%]	Wireless status	Shows the quality of the radio link to the mobile unit of the radio safety system.
P.F00 -ww	0 ... 1	Activation of the wireless	Activation of the wireless 0: Deactivated 1: Activated
P.F01 -zz	[ms] 6 ... 250	Timeout for the wireless	Defines the time in which the radio safety system is set as tripped in case of an radio interruption.
P.F05 -ww	1 ... 10	Channelgroup	Sets the channel group ehich the radio safety system is using.
P.F07 -ww	00000000 ... 0FFFFFFF	Address of the mobile unit	Address of the mobile unit with which the wireless security system should communicate **ATTENTION** **After entering the address it is necessary to check whether the controller is connected to and works with the selected mobile unit.** *It is also possible to “learn” the address automatically. To do this, the parameter must be set to - then the mobile unit must be reset by removing the battery. The address is then entered into the parameter and can be saved*
P.F09 -ww	[Volt] 1,2 ... 3,6	Battery nominal voltage	Here the nominal voltage of the battery is put in.
P.FF2 -zz	0 ... 2	Mode output 2	Output mode of output No. 2 0: Automatic. If a digital Input is linked to this output, the output signal is digital. If a analogoue input or mixed inputs are linked to this output the output signal is analogoue. 1: Analogous output signal 2: Digital output signal

16.1 FSx input profiles

The settings that may be necessary for these profiles are available from the attachments.

P.	[Unit] Range	Function	Description/ Note
A.F00	0000 ... 21BB	FSx Wireless safety system profile	This Profile activates the radio safety system TST FSx and sets configurations for the typical door applications. 0000: No profile set 10BB: Sectional door, WiCab PE_FSBS and FSBM 20AA: Rolling door, WiCab PD_FSAS and FSAM 20BA: Rolling door, WiCab PE_FSBS and FSAM 20BB: Rolling door, WiCab PE_FSBS and FSBM 21AA: Rolling door with breakaway sensor, WiCab PD_FSAS and FSAM 21BA: Rolling door with breakaway sensor, WiCab PE_FSBS and FSAM 21BB: Rolling door with breakaway sensor, WiCab PE_FSBS and FSBM
P.F1F -ww	0000 ... F302	Function input 1	Selection of the Input configuration for the input 1of the FSx unit. 0000: Deactivated F101: Safety edge 8K2 F102: Dynamical optical safety edge F103: Like F101 but takes effect to output 2 of the stationary unit F104: 8K2 safety edge on output 3, for FSA digital put thru of an 8K2 input. F201: Flap door switch digital F202: Flap door switch 8k2 F203: Slack rope switch digital F206: Thermo pill F207: Crank switch F301: Crash impulse switch with handshake F302: crash static
P.F2F -ww	0000 ... F302	Function input 2	Selection of the Input configuration for the input 2 of the FSx unit. 0000: Deactivated F101: Safety edge 8K2 F102: Dynamical optical safety edge F103: Like F101 but takes effect to output 2 of the stationary unit F104: 8K2 safety edge on output 3, for FSA digital put thru of an 8K2 input. F201: Flap door switch digital F202: Flap door switch 8k2 F203: Slack rope switch digital F206: Thermo pill F207: Crank switch F301: Crash impulse switch with handshake F302: crash static

P.	[Unit] Range	Function	Description/ Note
P.F3F -ww	0000 ... F302	Function input 3	Selection of the Input configuration for the input 3 of the FSx unit. 0000: Deactivated F101: Safety edge 8K2 F102: Dynamical optical safety edge F103: Like F101 but takes effect to output 2 of the stationary unit F104: 8K2 safety edge on output 3, for FSA digital put thru of an 8K2 input. F201: Flap door switch digital F202: Flap door switch 8k2 F203: Slack rope switch digital F206: Thermo pill F207: Crank switch F301: Crash impulse switch with handshake F302: crash static
P.F4F -ww	0000 ... F302	Function input 4	Selection of the Input configuration for the input 4 of the FSx unit. 0000: Deactivated F101: Safety edge 8K2 F102: Dynamical optical safety edge F103: Like F101 but takes effect to output 2 of the stationary unit F104: 8K2 safety edge on output 3, for FSA digital put thru of an 8K2 input. F201: Flap door switch digital F202: Flap door switch 8k2 F203: Slack rope switch digital F206: Thermo pill F207: Crank switch F301: Crash impulse switch with handshake F302: crash static *This parameter is visible only in connection with TST FSBM mobile unit.*

16.2 FSx input 1

P.	[Unit] Range	Function	Description/ Note
P.F10 -zz	0 ... 4	Mode input 1	Defines the operation mode of input 1 of the mobile unit. 0: Deactivated 1: Analogue evaluation with 8K2 Ohm 2: Analogue evaluation with 1K2 Ohm 3: Dynamic optical system 4: Digital evaluation

P.	[Unit] Range	Function	Description/ Note
P.F11 -zz	0 ... 2	Safety	This parameter specifies how the input will work after the radio signal is missing. 0: Input active at missing radio signal and always in sleepmode. 1: Input active at missing radio signal 2: The last status of the input is given out (missing radio signal and sleepmode doesn`t change the output)
P.F12 -zz	0 ... 1	Contact type	Specifies the contact type of the switch which is connected to the input. 0: Normally open 1: Normally closed
P.F13 -zz	0 ... 1	Debouncing time	This Parameter determine the debouncing time for the Input 0: Short debouncing time (3 ms) 1: Long debouncing time (30 ms)
P.F16 -zz	1 ... 3	Output	With this parameter the allocation from the input 1 of the mobile unit to the stationary unit is done. 1: Output 1 2: Output 2 3: Output 3
P.F17 -zz	0 ... 2	Direction 1	Drive direction at which the safety, connected on input 1, must be activated (at the moment only for optical systems evaluated). 0: Both directions 1: Door opening 2: Door closing
P.F18 -zz	0 ... 1	Handshake	With this Parameter a Handshake between an input of the mobile unit and an controller input can be activated. If the input of the mobile unit is tripped, the tripping will store and shown as long as the controller has confimed it. Because of this e.g. a crash tripping during switched off controller will not get lost. 0: Handshake deactivated 1: Handshake between input of mobile unit and controller activated. ⚠ **The software version of the mobile unit as well as the the software version of the stationary unit must support this function (from version Vxx-04.04 possible).**

16.3 FSx input 2

P.	[Unit] Range	Function	Description/ Note
P.F20 -zz	0 ... 4	Mode input 2	Defines the operation mode of input 2 of the mobile unit. 0: Deactivated 1: Analogue evaluation with 8K2 Ohm 2: Analogue evaluation with 1K2 Ohm 3: Dynamic optical system 4: Digital evaluation
P.F21 -zz	0 ... 2	Safety	This parameter specifies how the input will work after the radio signal is missing. 0: Input active at missing radio signal and always in sleepmode. 1: Input active at missing radio signal 2: The last status of the input is given out (missing radio signal and sleepmode doesn`t change the output)
P.F22 -zz	0 ... 1	Contact type	Specifies the contact type of the switch which is connected to the input. 0: Normally open 1: Normally closed
P.F23 -zz	0 ... 1	Debouncing Time	This Parameter determine the debouncing time for the Input 0: Short debouncing time (3 ms) 1: Long debouncing time (30 ms)
P.F26 -zz	1 ... 3	Output	With this parameter the allocation from the input 2 of the mobile unit to the stationary unit is done. 1: Output 1 2: Output 2 3: Output 3
P.F27 -zz	0 ... 2	Direction 2	Drive direction at which the safety is activated (Only for optical systems) 0: Both directions 1: Door opening 2: Door closing

P.	[Unit] Range	Function	Description/ Note
P.F28 -zz	0 ... 1	Handshake	With this Parameter a Handshake between an input of the mobile unit and an controller input can be activated. If the input of the mobile unit is tripped, the tripping will store and shown as long as the controller has confimed it. Because of this e.g. a crash tripping during switched off controller will not get lost. 0: Handshake deactivated 1: Handshake between input of mobile unit and controller activated. *The software version of the mobile unit as well as the the software version of the stationary unit must support this function (from version Vxx-04.04 possible).*

16.4 FSx input 3

P.	[Unit] Range	Function	Description/ Note
P.F30 -zz	0 ... 4	Mode input 3	Defines the operation mode of input 3 of the mobile unit. 0: Deactivated 1: Analogue evaluation with 8K2 Ohm 2: Analogue evaluation with 1K2 Ohm 3: Dynamic optical system 4: Digital evaluation
P.F31 -zz	0 ... 2	Safety	This parameter specifies how the input will work after the radio signal is missing. 0: Input active at missing radio signal and always in sleepmode. 1: Input active at missing radio signal 2: The last status of the input is given out (missing radio signal and sleepmode doesn`t change the output)
P.F32 -zz	0 ... 1	Contact type	Specifies the contact type of the switch which is connected to the input. 0: Normally open 1: Normally closed
P.F33 -zz	0 ... 1	Debouncing time	This Parameter determine the debouncing time for the Input 0: Short debouncing time (3 ms) 1: Long debouncing time (30 ms)

P.	[Unit] Range	Function	Description/ Note
P.F36 -zz	1 ... 3	Output	With this parameter the allocation from the input 3 of the mobile unit to the stationary unit is done. 1: Output 1 2: Output 2 3: Output 3
P.F37 -zz	0 ... 2	Direction 3	Drive direction at which the safety is activated (Only for optical systems) 0: Both directions 1: Door opening 2: Door closing
P.F38 -zz	0 ... 1	Handshake	With this Parameter a Handshake between an input of the mobile unit and an controller input can be activated. If the input of the mobile unit is tripped, the tripping will store and shown as long as the controller has confimed it. Because of this e.g. a crash tripping during switched off controller will not get lost. 0: Handshake deactivated 1: Handshake between input of mobile unit and controller activated. *The software version of the mobile unit as well as the the software version of the stationary unit must support this function (from version Vxx-04.04 possible).*

16.5 FSx input 4

The input 4 of the mobile unit is only possible with TST FSBM. The following parameters are only visible by using this mobile unit.

P.	[Unit] Range	Function	Description/ Note
P.F40 -zz	0 ... 4	Mode input 4	Defines the operation mode of input 4 of the mobile unit. 0: Deactivated 1: Analogue evaluation with 8K2 Ohm 2: Analogue evaluation with 1K2 Ohm 3: Dynamic optical system 4: Digital evaluation
P.F41 -zz	0 ... 2	Safety	This parameter specifies how the input will work after the radio signal is missing. 0: Input active at missing radio signal and always in sleepmode. 1: Input active at missing radio signal 2: The last status of the input is given out (missing radio signal and sleepmode doesn`t change the output)

P.	[Unit] Range	Function	Description/ Note
P.F42 -zz	0 ... 1	Contact type	Specifies the contact type of the switch which is connected to the input. 0: Normally open 1: Normally closed
P.F43 -zz	0 ... 1	Debouncing time	This Parameter determine the debouncing time for the Input 0: Short debouncing time (3 ms) 1: Long debouncing time (30 ms)
P.F46 -zz	1 ... 3	Output	With this parameter the allocation from the input 4 of the mobile unit to the stationary unit is done. 1: Output 1 2: Output 2 3: Output 3
P.F47 -zz	0 ... 2	Direction 4	Drive direction at which the safety is activated (Only for optical systems) 0: Both directions 1: Door opening 2: Door closing
P.F48 -zz	0 ... 1	Handshake	With this Parameter a Handshake between an input of the mobile unit and an controller input can be activated. If the input of the mobile unit is tripped, the tripping will store and shown as long as the controller has confimed it. Because of this e.g. a crash tripping during switched off controller will not get lost. 0: Handshake deactivated 1: Handshake between input of mobile unit and controller activated. *The software version of the mobile unit as well as the the software version of the stationary unit must support this function (from version Vxx-04.04 possible).*

17 Safety Edges

The following parameters can be set both for integrated safety edge processing as well as for external safety edge processing (optional for different controllers).

17.1 Integrated safety edge processing

The controllers have a safety edge processor already on the motherboard.
No additional plug-in cards are necessary.

P.	[Unit] Range	Function	Description/ Note
P.460 --r	0 ... 6	profile internal safety edge	With this profile the parameter´s for the function of the internal safety edge are set. 0: Deactivated 1: Electrical safety edge, redundantly processed, functioning as normally open 2: Electrical safety edge, redundantly processed, functioning as normally closed 3: Electrical safety egde with testing in Door close end position, functioning as normally open 4: Electrical safety egde with testing in Door close end position, functioning as normally closed 5: Dynamic optical system 6: Automatically detection of the connected safety edge. Electrical N.O. edges and dynamic optical systems are recognised automatically. *The exact settings which this profile involves can be found in the Appendix :Safety egde profile*
P.466 -zz	0 ... 2	External testing of safety edge	With this parameter a testing of the safety edge can resquested. Testing is possible in door CLOSE or OPEN position. 0: No test 1: Test in the endpostion Door Open and after start up of the controller 2: Test in the endpostion Door Close and after start up of the controller

18 Input profiles

P.	[Unit] Range	Function	Description/ Note
P.501 --w	0000 ... 1804	Function of Input 1	This profile can be used to specify the function of the input. All parameters needed for the function of the input are changed in one step. *The exact settings which this profile involves can be found in Chapter “Overview of Input Profiles”*

P.	[Unit] Range	Function	Description/ Note
P.502 --w	0000 ... 1804	Function of Input 2	see P.501
P.503 --w	0000 ... 1804	Function of Input 3	see P.501
P.504 --w	0000 ... 1804	Function of Input 4	see P.501
P.505 --w	0000 ... 1804	Function of Input 5	see P.501
P.506 --w	0000 ... 1804	Function of Input 6	see P.501
P.507 --w	0000 ... 1804	Function of Input 7	see P.501
P.508 --w	0000 ... 1804	Function of Input 8	see P.501
P.509 --w	0000 ... 1804	Function of Input 9	see P.501

19 Overview of Input Profiles

0000	**Input functions**	Input deactivated
	Mode	-
	Contact type	-
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	-

0101	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0102	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0103	**Input functions**	OPEN command
	Mode	OPEN airlock move, not lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0104	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From outside to inside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0105	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0106	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From inside to outside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0107	**Input functions**	OPEN command
	Mode	OPEN 4, not lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0108	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0109	**Input functions**	OPEN command
	Mode	OPEN 3, not lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0110	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From outside to inside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0111	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.C., Normally closed
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	No clear time / pre-warning time
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0112	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0113	**Input functions**	OPEN command
	Mode	Open command works, if the detector 1 was busy (P660=25)
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0114	**Input functions**	OPEN command
	Mode	OPEN airlock move, not lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From inside to outside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0116	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From outside to inside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0117	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From inside to outside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0120	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	No clear time / pre-warning time
	Direction	From inside to outside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0121	**Input functions**	OPEN command
	Mode	OPEN 1, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	No clear time / pre-warning time
	Direction	From outside to inside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0124	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From inside to outside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0125	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From inside to outside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0129	**Input functions**	OPEN command
	Mode	OPEN 2, lockable
	Contact type	N.O., Normally open
	End position to move to	End position intermediate stop / partial opening
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	From outside to inside
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0152	**Input functions**	OPEN command
	Mode	Open command which starts the emergency opening test in case of P.494 = 2.
	Contact type	N.C., Normally closed
	End position to move to	End position Door OPEN
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	Test in the endpostion Door Open and after start up of the controller

0201	**Input functions**	Single channel / pull switch
	Mode	OPEN -> End position -> CLOSE -> OPEN
	Contact type	N.O., Normally open
	End position to move to	When activating in Door CLOSE end position, the door travels up to the intermediate stop / partial opening end position, when activating in intermediate stop position the door travels up to the Door OPEN end position.
	Hold-open time / Priority	With auto close time (P.010 or P.011)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0202	**Input functions**	Single channel / pull switch
	Mode	OPEN -> End position -> CLOSE -> OPEN
	Contact type	N.O., Normally open
	End position to move to	like 2., but the door travels directly to the Door OPEN end position if activation takes place 2x in quick succession in the Lower end position.
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0203	**Input functions**	Single channel / pull switch
	Mode	OPEN -> End position -> CLOSE -> OPEN
	Contact type	N.O., Normally open
	End position to move to	like 2., but the door travels directly to the Door OPEN end position if activation takes place 2x in quick succession in the Lower end position.
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0204	**Input functions**	Single channel / pull switch
	Mode	OPEN -> End position -> CLOSE -> OPEN
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0301	**Input functions**	Permanent open command
	Mode	Permanent open command
	Contact type	N.O., Normally open
	End position to move to	When activating in Door CLOSE end position, the door travels up to the intermediate stop / partial opening end position, when activating in intermediate stop position the door travels up to the Door OPEN end position.
	Hold-open time / Priority	-
	Clear time	-
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0302	**Input functions**	Permanent open command
	Mode	Summer funktion for Airlock
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	-
	Clear time	-
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0304	**Input functions**	Permanent open command
	Mode	Permanent open command
	Contact type	N.O., Normally open
	End position to move to	End position Door OPEN
	Hold-open time / Priority	-
	Clear time	-
	Direction	No direction specified
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0401	**Input functions**	Stop command
	Mode	Stop function
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0402	**Input functions**	Stop command
	Mode	Stop function
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0403	**Input functions**	Stop command
	Mode	Stop function and also acknowledgement function, i.e. this input is used for an acknowledgement. An acknowledgement must be performed e.g. under the conditions defined in P.408
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0404	**Input functions**	Stop command
	Mode	Stop function and also acknowledgement function, i.e. this input is used for an acknowledgement. An acknowledgement must be performed e.g. under the conditions defined in P.408
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0407	**Input functions**	Stop command
	Mode	A deadman mode open and close move is possible. To quitt with foilkeypad stop (a long time) is every time possible when the input is not activ. Till the failure is quitt F.060 appears.
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0411	**Input functions**	Stop command
	Mode	A deadman mode open and close move is possible. To quitt with foilkeypad stop (a long time) is every time possible when the input is not activ. Till the failure is quitt F.060 appears.
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0501	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0502	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0504	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	With minimum auto close time (P.015)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0505	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.O., Normally open
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0506	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	With minimum auto close time (P.015)
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0507	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.O., Normally open
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0520	**Input functions**	Safety B
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	Test in the endpostion Door Open and after start up of the controller

0601	**Input functions**	Jog mode / Automatic switch
	Mode	Manual permits opening and closing
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0602	**Input functions**	Jog mode / Automatic switch
	Mode	Manual permits closing only
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0701	**Input functions**	Close command
	Mode	Closing in automatic mode only
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0801	**Input functions**	Door locking in end position
	Mode	Door locking in end position Door-CLOSE, no deadman move permitted
	Contact type	N.O., Normally open
	End position to move to	Locking in end position Door-OPEN
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0802	**Input functions**	Door locking in end position
	Mode	Door locking in end position Door-CLOSE, Deadman move permitted
	Contact type	N.O., Normally open
	End position to move to	Locking in end position Door-OPEN
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0803	**Input functions**	Door locking in end position
	Mode	Door locking in position which is set by parameter P.5x3. Also a drive command is given so that the door moves automaticaly in creep speed (P.320 / P.360) to the adjusted position.
	Contact type	N.O., Normally open
	End position to move to	Locking in end position Door-OPEN
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0804	**Input functions**	Door locking in end position
	Mode	Door locking in position which is set by parameter P.5x3. Also a drive command is given so that the door moves automaticaly in creep speed (P.320 / P.360) to the adjusted position.
	Contact type	N.O., Normally open
	End position to move to	Locking in end position Door-CLOSE
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0901	**Input functions**	Cross traffic input
	Mode	Detector channel1 and OPEN 1 commands
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0902	**Input functions**	Cross traffic input
	Mode	is locked by partner detector. Additionally open commands of the partner are locked.
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

0903	**Input functions**	Cross traffic input
	Mode	Detector Channels 1 and 2 as well as OPEN 1 and 2 commands
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1001	**Input functions**	Deactivation input
	Mode	Hold-open time / Forced closing
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1002	**Input functions**	Deactivation input
	Mode	Airlock function
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1003	**Input functions**	Deactivation input
	Mode	Intermediate stop / partial opening
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1004	**Input functions**	Deactivation input
	Mode	Detector commands from the outside (P.666 or P.676) DET 1
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1005	**Input functions**	Deactivation input
	Mode	Disabling of detector OPEN and CLOSE commands, the safety function of the detectors remains active.
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1101	**Input functions**	Limit switch input
	Mode	Pre-limit switch Photoeye
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1102	**Input functions**	Limit switch input
	Mode	Intermediate stop / partial opening limit switch
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1103	**Input functions**	Limit switch input
	Mode	Pre-limit switch Intermediate stop / partial opening
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1104	**Input functions**	Limit switch input
	Mode	Pre-limit switch safety edge
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1105	**Input functions**	Limit switch input
	Mode	Pre-limit switch safety edge
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1106	**Input functions**	Limit switch input
	Mode	Pre-limit switch Door OPEN
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1107	**Input functions**	Limit switch input
	Mode	Pre-limit switch Door OPEN
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1108	**Input functions**	Limit switch input
	Mode	Pre-limit switch Door CLOSE
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1109	**Input functions**	Limit switch input
	Mode	Pre-limit switch Door CLOSE
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1110	**Input functions**	Limit switch input
	Mode	Limit switch Door Open
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1111	**Input functions**	Limit switch input
	Mode	Limit switch Door Close
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1114	**Input functions**	Limit switch input
	Mode	crash switch
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1401	**Input functions**	Safety A
	Mode	Safety during closing: Stopping during automatic closing without reversing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1402	**Input functions**	Safety A
	Mode	Safety during closing: Reversing during automatic closing, stop during jog closing, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1403	**Input functions**	Safety A
	Mode	Safety during closing: Stopping during automatic or jog closing, after releasing the input the door moves on to door close position, no reaction during opening
	Contact type	N.C., Normally closed
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1404	**Input functions**	Safety A
	Mode	Safety during closing and opening: Stopping during automatic or jog opening or closing
	Contact type	N.C., Normally closed
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1405	**Input functions**	Safety A
	Mode	Safety during closing and opening: Stopping during automatic or jog opening or closing, after releasing the input the door moves on to door close position
	Contact type	N.C., Normally closed
	End position to move to	End position Door OPEN
	Hold-open time / Priority	Without auto close time
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1406	**Input functions**	Safety A
	Mode	Safety during opening: Reversing during automatic opening, stopping during jog opening, no reaction during closing
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1407	**Input functions**	Safety A
	Mode	Safety during opening: Stopping during automatic or jog opening
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1408	**Input functions**	Safety A
	Mode	Draw in safety: Stopping during automatic or jog opening, then only jog closing possible, no reaction during closing
	Contact type	N.C., Normally closed
	End position to move to	Same end position as the previously activated input moved to.
	Hold-open time / Priority	Auto close time as used before with the last open command.
	Clear time	With clear time / pre-warning time (P.025)
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	Test in the endpostion Door Close and after start up of the controller

1501	**Input functions**	Simulation of foil key pad
	Mode	OPEN foil key
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1502	**Input functions**	Simulation of foil key pad
	Mode	CLOSE foil key
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1506	**Input functions**	Simulation of foil key pad
	Mode	STOP foil key
	Contact type	N.C., Normally closed
	End position to move to	-
	Hold-open time / Priority	-
	Clear time	-
	Direction	-
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1801	**Input functions**	External detector
	Mode	External Loop 1
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	Without auto close time
	Clear time	No clear time / pre-warning time
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1802	**Input functions**	External detector
	Mode	External Loop 2
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	Without auto close time
	Clear time	No clear time / pre-warning time
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1803	**Input functions**	External detector
	Mode	External Loop 3
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	Without auto close time
	Clear time	No clear time / pre-warning time
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

1804	**Input functions**	External detector
	Mode	External Loop 4
	Contact type	N.O., Normally open
	End position to move to	-
	Hold-open time / Priority	Without auto close time
	Clear time	No clear time / pre-warning time
	Direction	Both directions are cleared
	Switch on delay of input	0,0 [Seconds]
	Switch off delay of input	0,0 [Seconds]
	Test	No test

20 OPEN commands P.5x0 / P.Ax0 = 1

Parameter P.5x0 / P.Ax0 must be set to 1 in order to activate the basic function OPEN command for this input.

x= number of the input you wish to configure

P.	[Unit] Range	Function	Description/ Note
P.893 -zz	0 ... 1	Executing open comm while closing	While the door is closing, open commands can be ignored and repeated when it reaches the closed position 0: An open command that is issued when closing reverses the door when it has opened (except for specially configured close commands, e.g. for barriers) 1: An open command that is issued when closing does not reverse the door, the open command is repeated when reaching the lower final position

21 Output Profiles

P.	[Unit] Range	Function	Description/ Note
P.701 --w	0000 ... 2601	Function of Output 1	The function of the output relay can be specified using this profile. All parameters needed for the function of the output are changed in one step. 0000: Output relay deactivated 0001: Continuously turned on 0101: Door is Open *The message depends on the logical status of the gate* 0103: Doos is Open *The message depends on the position of the door* 0201: Door is Closed *The message depends on the logical status of the gate* 0203: Door is Closed *The message depends on the position of the door* 0401: There is no error 0501: Courtyard light function, switched ON during opening and closing with 10 s switch off delay after opening. 0601: Passing on detector channel 1 0602: Passing on detector channel 2 0605: Passing on of synchron control OPEN (Relay is active during opening, in endposition Open and during locking in endposition Open) 0606: Passing on of synchron control CLOSE (Relay is active during closing, in endposition Close and during locking in endposition Close) 0607: Passing on of synchron control STOP (Relay is active in case of no door drive, no end position and

P.	[Unit] Range	Function	Description/ Note
			no locking in end position) 0612: Passing on leaving detector 1 0613: Passing on leaving detector 2 0701: Flashing during opening and closing and in partial open position 0801: Active during opening and closing and during active pre-warning / clearance time. 1001: Locking second door 1002: Locking second door, 1 s switch off delay 1101: Magnet voltage in end position CLOSE ⚠ **The N.C. contact of the relay has to be used** 1102: Magnet voltage during Closing and in end position CLOSE 1201: Green traffic light on inside of door 1210: Green traffic light on outside of door 1220: Red traffic light on inside of door 1 1221: Flashing red traffic light on inside of door 1 1222: Red traffic light on inside of door 2 1223: Flashing red traffic light on inside of door 2 1224: Red traffic light on inside of door, flashing during pre-warning / clearance time 1250: Red traffic light on outside of door 1 1251: Flashing red traffic light on outside of door 1 1252: Red traffic light on outside of door 2 1253: Flashing red traffic light on outside of door 2 1255: Red traffic light on outside of door, flashing during pre-warning / clearance time 1295: Green traffic light, flashing during pre-warning / clearance time, ON in end position OPEN 1601: Airlock OPEN 1701: Testing in end position close 1801: Counting + 1901: Counting - 2001: Warning light 1, always ON if door is not closed. 2101: Warning light 2, switched ON during closing 2201: Active green traffic light, ON in endposition OPEN until a close command is given or detector 2 gets active. 2301: Active green traffic light, ON in endposition OPEN until a close command is given or detector 1 gets active. 2501: Testing in endposition OPEN 2601: Flashing, with the exception of limit position OPEN, CLOSE or intermediate stop ℹ *The exact settings which this profile involves can be found in Chapter “Overview of Output Profiles”*
P.702 --w	0000 ... 2601	Function of Output 2	see P.701 or P.704

21.1 Overview output profiles

0000	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0001	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0101	**Switching condition Output relay**	If End position Door OPEN was reliably detected
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0103	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Forwarding door OPEN postion (The forwarding depends only on postion and will not interrupted by the clearance time or door drive)

0201	**Switching condition Output relay**	If End position Door CLOSE was reliably detected
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0203	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Forwarding door CLOSE position (The forwarding depends only on postion and will not interrupted by the clearance time or door drive)

0401	**Switching condition Output relay**	If there is no fault condition or emergency stop, controller in Automatic mode
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0501	**Switching condition Output relay**	Courtyard light function, during every OPEN and CLOSE move with 10 turn-off delay after opening.
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0601	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Detector channel 1

0602	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Detector channel 2

0605	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	0,5 [Seconds]
	Turn-on delay	0,1 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Opening, open position, locked in open position (synchronous control open)

0606	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	0,5 [Seconds]
	Turn-on delay	0,1 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Closing, close position, locked in close position (Synchron controller close)

0607	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	0,5 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Neither opening or closing, open or closed position remain locked in open or closed position (synchronous control stop)

0612	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	1,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Detector 1 is released

0613	**Switching condition Output relay**	Command forwarding
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	1,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Detector 2 is released

0701	**Switching condition Output relay**	During each OPEN and CLOSE move
	Switching behavior of the relay	0,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

0801	**Switching condition Output relay**	During each OPEN and CLOSE move and during active clearing time.
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1001	**Switching condition Output relay**	Forward external door locking (e.g., airlock operation)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1002	**Switching condition Output relay**	Forward external door locking (e.g., airlock operation)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	1,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1101	**Switching condition Output relay**	Forward external door locking (e.g., airlock operation)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1102	**Switching condition Output relay**	Magnet voltage during closing and in end position close
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1201	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously on
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1210	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green light on outside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously on
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1220	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously on
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 1Hz
	Behavior during closing	Continuously on
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1221	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Flashing at 1Hz
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 2Hz
	Behavior during closing	Flashing at 1Hz
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1222	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously on
	Behavior during opening	Continuously on
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 1Hz
	Behavior during closing	Continuously on
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1223	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously on
	Behavior during opening	Flashing at 1Hz
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 2Hz
	Behavior during closing	Flashing at 1Hz
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1224	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously on
	Behavior during opening	Continuously on
	Behavior in Door OPEN end position	Turned on in case that the condition of parameter P.7xF is fullfilled.
	Behavior during the clearing phase	Continuously on
	Behavior during closing	Continuously on
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Detector channel 2

1250	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on outside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously on
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 1Hz
	Behavior during closing	Continuously on
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1251	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on outside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Flashing at 1Hz
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 2Hz
	Behavior during closing	Flashing at 1Hz
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1252	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on outside of door
	Behavior in Door CLOSE end position	Continuously on
	Behavior during opening	Continuously on
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 1Hz
	Behavior during closing	Continuously on
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1253	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on outside of door
	Behavior in Door CLOSE end position	Continuously on
	Behavior during opening	Flashing at 1Hz
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Flashing at 2Hz
	Behavior during closing	Flashing at 1Hz
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Output permanent off

1255	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Red traffic light on outside of door
	Behavior in Door CLOSE end position	Continuously on
	Behavior during opening	Continuously on
	Behavior in Door OPEN end position	Turned on in case that the condition of parameter P.7xF is fullfilled.
	Behavior during the clearing phase	Continuously on
	Behavior during closing	Continuously on
	Behavior at stop	Continuously on
	Behavior when there is no automatic function	Continuously on
	Command forwarding	Detector channel 1

1295	**Switching condition Output relay**	Traffic light function
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Direction undepend traffic light
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously on
	Behavior during the clearing phase	Flashing at 1Hz
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1601	**Switching condition Output relay**	Airlock OPEN, forwards OPEN command to second airlock door
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1701	**Switching condition Output relay**	Test of draw in safety device. Relay is active in Endposition Close and is used e.g. to switch of the photo eye of the draw in safety in order to test it.
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1801	**Switching condition Output relay**	Pluse count using detectors when the direction is from the outside inwards, first one detector is covered for safety purposes and then another detector from the inside to indicate open
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,5 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

1901	**Switching condition Output relay**	Pluse count using detectors when the direction is from the inside outwards, first covers one detector as opening from the inside and then another detector for safety purposes
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,5 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

2001	**Switching condition Output relay**	If not at end position close and during clearance time (warning light 1)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

2101	**Switching condition Output relay**	During clearance time before and during closing (warning light 2)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

2201	**Switching condition Output relay**	In automatic mode in the final position open until a close command is active or detector channel 2 is occupied, in manual mode in final position open or if vehicles are still in the queue of moving traffic (active green traffic light / inactive red traffic light)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

2301	**Switching condition Output relay**	In automatic mode in the final position open until a close command is active or detector channel 1 is occupied, in manual mode in final position open (active green traffic light / inactive red traffic light)
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

2501	**Switching condition Output relay**	Test at the End-Position Door Open Relay works at the End- Position Door Open
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

2601	**Switching condition Output relay**	Output is switching during emergency open test
	Switching behavior of the relay	1000,0 [Seconds]
	Turn-on delay	0,0 [Seconds]
	Turn-off delay	0,0 [Seconds]
	Switch on logic	Not turned
	Position forwarding	0 [Increments]
	Select traffic light type	Green traffic light on inside of door
	Behavior in Door CLOSE end position	Continuously off
	Behavior during opening	Continuously off
	Behavior in Door OPEN end position	Continuously off
	Behavior during the clearing phase	Continuously off
	Behavior during closing	Continuously off
	Behavior at stop	Continuously off
	Behavior when there is no automatic function	Continuously off
	Command forwarding	Output permanent off

22 Airlock function

P.	[Unit] Range	Function	Description/ Note
A.830	0000 ... 0100	Airlock mode	This parameter specifies the mode of the airlock system. 0000: Airlock deactivated 0100: Simple airlock, the second door will lock, no open commands given to the second door

23 Diagnostics display

P.	[Unit] Range	Function	Description/ Note
P.910 -ww	0 ... 31	Display mode selection	With the aid of this parameter you can show the variables listed below in the display of the door controller. The following variables are displayed 0: The control sequence is displayed (Automatic) 1: [Hz] The current travel speed 2: [A] The current motor current 3: [V] The current motor voltage 4: [A] The current DC-Bus current 5: [V] The current DC-Bus voltage 6: [°C] The power stage temperature in °Celsius 7: [°F] The power stage temperature in °Fahrenheit 8: [s] The run-time of the motor during the last door operation 9: [Increments] The current position 10: [Increments] The position of the reference 11: [Dig] Channel 1 value of the absolute encoder 12: [Dig] Channel 2 value of the absolute encoder 13: [V] Current reference voltage 14: [°C] Temperature inside the housing in °Celsius 15: [°C] Temperature inside the housing in °Fahrenheit 16: Transmission ratio from motor to encoder during opening 17: Transmission ratio from motor to encoder during closing 18: Rotation speed of the TST PD shaft *Only with TST PD* 19: Temperature of the absolut encoder TST PD 20: Battery voltage of absolute encoder TST PD 21: Number of position requisition without answere from encoder 22: Number of wrong received signs in TST PD encoder (activates also the output in P.955) 23: Radio quality of the wireless safety device in %. 24: Number of errors of the wireless safety device during the last door drive. 31: Shows the speed of the motor shaft in Hz *Settings 14 and 15 are only possible when using TST FUS.*

24 Error Memory

P.	[Unit] Range	Function	Description/ Note
P.920 rww		Error Memory	The controller stores the last four errors in the error memory. After opening Parameter P.920: - Change level using OPEN and CLOSE keys - Opening the error memory with the STOP key - Closing the error memory with the STOP key - Exiting Parameter P.920 with Eb - Eb1: Error message 1 (most recent error) Eb2: Error message 2 Eb3: Error message 3 Eb4: Error message 4 Eb5: Error message 5 Eb6: Error message 6 Eb7: Error message 7 Eb8: Error message 8 Ebcl: Clear the complete error memory Eb-: Exit, jump back to P.920 *Er- in the display means that no error was entered.*

25 Software Version

P.	[Unit] Range	Function	Description/ Note
P.925 rrr		Software Version	This parameter displays the version of the currently used software.

26 Door run-Time

P.	[Unit] Range	Function	Description/ Note
P.930 -rr	[Seconds]	Motor run-time	In this parameter the time required for the last drive operation is stored.

27 Testing of emergency opening

This funktion is used to make sure that the emergency opening is working. For that the time that the door needs for a full opening, is measured. If it takes to long, the erroemessage F.021 appears and a user intervention is necesarry.

The testing happens every time from endposition close, under the following conditions:
1. After power on with the first message door is close.
2. After the door cycles set in P.492, after power on or after the last testing.
3. After the time set in P.493, after power on or after the last testing.

P.	[Unit] Range	Function	Description/ Note
A.490	0 ... 1	Application emergency opening test	With this application the checking of the emergency opening test is set. 0: Deactivation emergency opening test 1: Mechanical emergency opening test
P.040 www	0 ... 1	Activation of the emergency opening test	This parameter specifies if the emergency opening test is activated or deactivated. 0: Emergency opening test deactivated 1: Emergency opening test activated *This parameter is only available in the highest passwort level.*

28 Input Voltage Measurement

P.	[Unit] Range	Function	Description/ Note
P.940 -rr	[Volt]	Input voltage	In this parameter the amount of the currently present input voltage is displayed.

29 Operating Mode of the Controller

P.	[Unit] Range	Function	Description/ Note
P.980 -ww	0 ... 5	Operating mode	This parameter is used to set the operating mode for the controller. The following modes are possible: 0: OPEN and CLOSE move in self-holding (Automatic) 1: OPEN move in self-holding, CLOSE move in manual mode (partial automatic) 2: OPEN and CLOSE move in Manual mode (deadman) 3: Deadman emergency operation ATTENTION **All safety devices and limit switches are ignored.** 4: Endurance test with safety devices Automatic OPEN and CLOSE operation. Before each new operation the hold-open time P.010 is in effect. 5: Endurance test without safety devices ATTENTION **All safety devices are ignored.** *The endurance test setting is lost after turning off the controller. The controller then reverts to manual mode.*

30 Password

The password is not setable on the customer level

P.	[Unit] Range	Function	Description/ Note
P.999 -ww	0000 ... FFFF	Password	The password provides access to the various parameter levels. **There are different parameters visible depending on the password level.** **A changing of parameters without to know there functionality is forbidden.** **In order to avoid failure and endangering because of unauthorized access passwords are only allowed to give to trained staff.**

31 Factory Setting / Defaults

P.	[Unit] Range	Function	Description/ Note
P.990 -zz	0 ... 1	Factory setting	By setting and saving this parameter to 1 all parameter values are restored to their original value.

32 Softwareupdate

P.	[Unit] Range	Function	Description/ Note
P.989 -ww	0 ... 1	Start a software update	Starts the boot loader. Now the firmware update can be programmed via the encoder interface. The Cycle LED flashes while the bootloader is running.

33 Forced closing time

P.	[Unit] Range	Function	Description/ Note
P.012 -ww	[Seconds] 0 ... 200	Forced closing time	The closing starts after the time set with this parameter. The time starts as soon as no opening or closing is active. The hold open time and the clearance time have a higher priority. That means if one of these times is running the forced closing time will not run. The same is if the door or barrier is in the open position by switching on the controller.

34 Breakaway-function

In case of an tripped breakaway input the breakaway counter will count up by 1.
In case of breakaway only dead man move is possible. The breakaway error must be resetet manually.

P.	[Unit] Range	Function	Description/ Note
P.871 rrr		Breakaway counter	This parameters shows the number of counted crashes.

35 Parameter Summary

P.	Function	Default	Changed of: at:	Page
A.490	Application emergency opening test	0		79
A.830	Airlock mode	0000		76
A.F00	FSx Wireless safety system profile	0000		24
P.000	cycle counter	[Cycles]		5
P.005	Maintenance counter	[Cycles]		5
P.010	Auto close time 1	10 [Seconds]		5
P.011	Auto close time 2	10 [Seconds]		5
P.012	Forced closing time	0 [Seconds]		81
P.025	Pre-warning time before closing	0 [Seconds]		6
P.026	Pre-warning time before closing from between the end positions	0		6
P.040	Activation of the emergency opening test	0		79
P.100	Motor rated frequency	[Hz]		7
P.101	Motor rated current	[A]		7
P.102	Power factor cos Phi	[%]		7
P.103	Motor rated voltage	[Volt]		7
P.110	Drive profile	0		8
P.130	Motor rotary field	1		8
P.140	Boost for OPEN	0 [%]		9
P.141	Start frequency of the frequency ramp stop for OPEN	20 [Hz]		10
P.142	IxR compensation for OPEN	0 [Hz]		11
P.143	Voltage reduction for OPEN	100 [%]		11
P.145	Boost for CLOSE	0 [%]		9
P.146	Start frequency of the frequency ramp stop for CLOSE	20 [Hz]		10
P.147	IxR compensation for CLOSE	0 [Hz]		11
P.148	Voltage reduction for CLOSE	100 [%]		12
P.202	Transmission ratio			12
P.205	Selecting the positioning system profile			12
P.210	New teaching of the end positions	5		13
P.215	Requesting correction of the pre-limit switch and limit switch bands	0		13
P.216	Activating auto correction / Selecting the ramp setting mode	2		14
P.217	Tolerance band of automatic end switch correction	50		14
P.221	Correction value End position door CLOSE	0 [Increments]		15
P.222	Pre-limit switch position Door CLOSE	400 [Increments]		16
P.231	Correction value End position Door OPEN	0 [Increments]		18
P.232	Pre-limit switch position Door OPEN	500 [Increments]		20
P.25F	Synchronization type profile			22
P.310	Travel frequency for rapid OPEN	60 [Hz]		19
P.311	Duration of start ramp “r1”	60 [10 ms]		19
P.312	Acceleration of start ramp “r1”	100 [Hz/s]		19
P.320	Creep speed frequency for OPEN	20 [Hz]		20
P.321	Duration of brake ramp “r2”	50 [10 ms]		21
P.322	Acceleration of brake ramp “r2”	80 [Hz/s]		21
P.340	Duration of stop ramp “r STOP-A” after stop is triggered	75 [10 ms]		21

P.	Function	Default	Changed of: at:	Page
P.342	Acceleration of stop ramp " r STOP-A" after stop is triggered	150 [Hz/s]		22
P.350	Travel frequency for rapid CLOSE	40 [Hz]		15
P.351	Duration of start ramp "r5"	50 [10 ms]		16
P.352	Acceleration of start ramp "r5"	80 [Hz/s]		16
P.360	Creep speed frequency for CLOSE	20 [Hz]		17
P.361	Duration of brake ramp "r6"	50 [10 ms]		17
P.362	Acceleration of brake ramp "r6"	40 [Hz/s]		17
P.382	Acceleration of stop ramp "r STOP-Z" after stop is triggered	150 [Hz/s]		18
P.460	profile internal safety edge	6		31
P.466	External testing of safety edge	0		31
P.501	Function of Input 1	0101		31
P.502	Function of Input 2	0401		32
P.503	Function of Input 3	0701		32
P.504	Function of Input 4	0201		32
P.505	Function of Input 5	0501		32
P.506	Function of Input 6			32
P.507	Function of Input 7			32
P.508	Function of Input 8			32
P.509	Function of Input 9			32
P.701	Function of Output 1	0101		53
P.702	Function of Output 2	0201		54
P.871	Breakaway counter			82
P.892	Oncomming traffic control	1		6
P.893	Executing open comm while closing	0		53
P.910	Display mode selection	0		77
P.920	Error Memory	0		78
P.925	Software Version			78
P.92A	Softwareversion FSx mobile unit			23
P.92B	Software version FSx stationary unit			23
P.930	Motor run-time	[Seconds]		78
P.940	Input voltage	[Volt]		79
P.973	Resetting the maintenance counter	0		5
P.980	Operating mode			80
P.989	Start a software update	0		81
P.990	Factory setting	0		81
P.999	Password	0000		81
P.9F0	Capacity of battery	0 [%]		23
P.9F1	Battery voltage of radio safety system	[Volt]		23
P.9F2	Wireless status	[%]		23
P.F00	Activation of the wireless	0		23
P.F01	Timeout for the wireless	50 [ms]		23
P.F05	Channelgroup	1		23
P.F07	Address of the mobile unit	00000000		23
P.F09	Battery nominal voltage	3,6 [Volt]		23
P.F10	Mode input 1	0		25
P.F11	Safety	2		26
P.F12	Contact type	0		26
P.F13	Debouncing time	1		26
P.F16	Output	1		26
P.F17	Direction 1	0		26
P.F18	Handshake	0		26
P.F1F	Function input 1	0000		24
P.F20	Mode input 2	0		27
P.F21	Safety	2		27

P.	Function	Default	Changed of: at:	Page
P.F22	Contact type	0		27
P.F23	Debouncing Time	1		27
P.F26	Output	1		27
P.F27	Direction 2	0		27
P.F28	Handshake	0		28
P.F2F	Function input 2	0000		24
P.F30	Mode input 3	0		28
P.F31	Safety	2		28
P.F32	Contact type	0		28
P.F33	Debouncing time	1		28
P.F36	Output	1		29
P.F37	Direction 3	0		29
P.F38	Handshake	0		29
P.F3F	Function input 3	0000		25
P.F40	Mode input 4	0		29
P.F41	Safety	2		29
P.F42	Contact type	0		30
P.F43	Debouncing time	1		30
P.F46	Output	1		30
P.F47	Direction 4	0		30
P.F48	Handshake	0		30
P.F4F	Function input 4	0000		25
P.FF2	Mode output 2	0		23