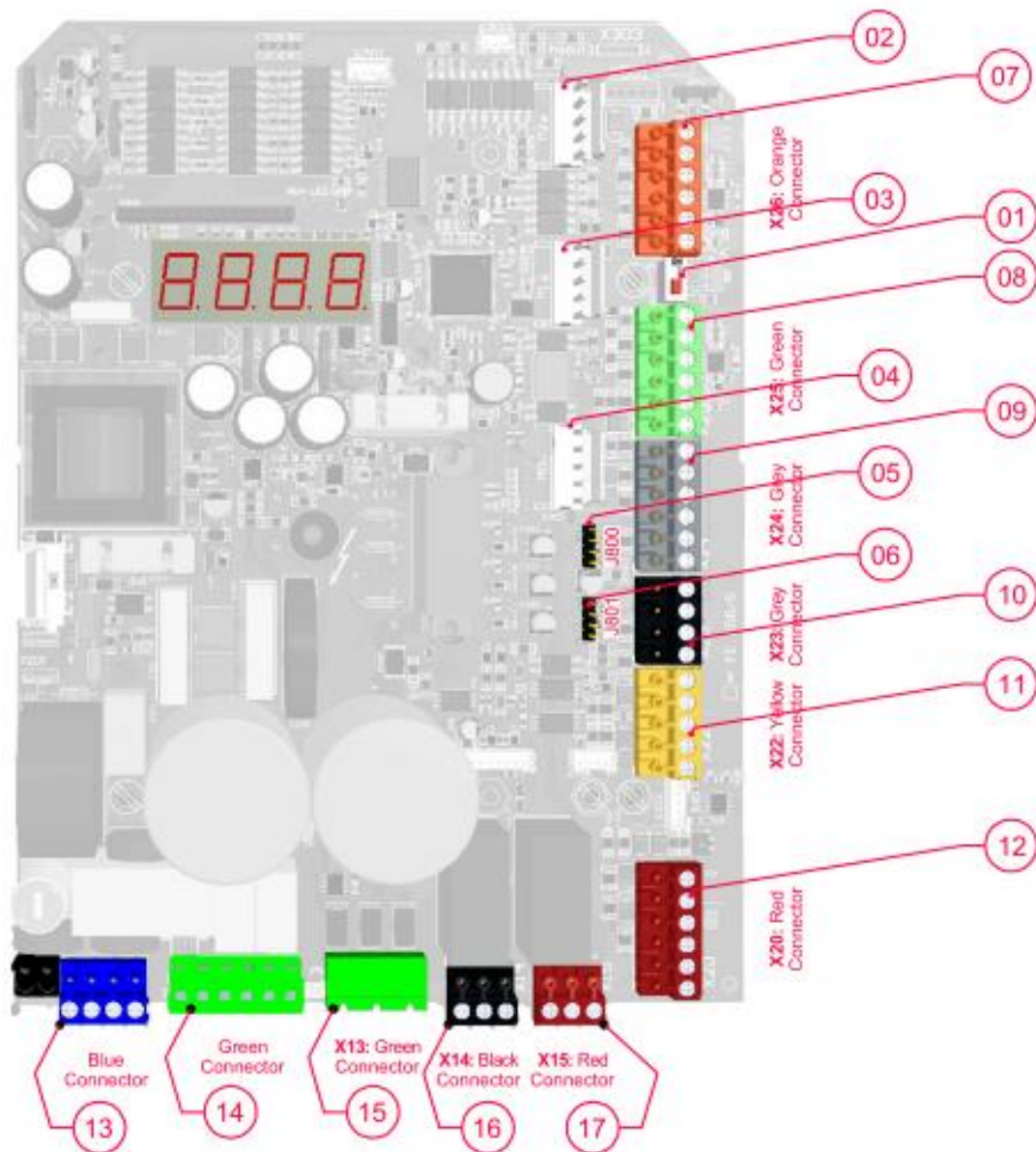


Short Manual

ProZ-2Cx







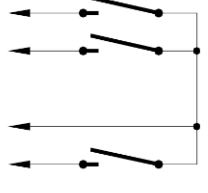
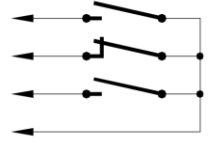



1. Overview PCB



01	S500 – DIP Switch	10	X23 – External triggering device
02	M2a – Plug in modules Wireless receiver, or auxiliary relay	11	X22 – Safety Edge / Emergency Stop 1
03	M1a – Plug in modules induction loop monitor or safety edge	12	X20 – Limit switch / Emergency Stop 2
04	M0a – Plug in modules common connector	13	230VAC (fused)
05	J800 - 8.2K / 1.2K Jumper safety edge	14	PE / Earth Connection
06	J801 – Jumper input selection input 10	15	X13 - 3ph Motor connection
07	X26 – Additional inputs	16	X14 - Relay K1
08	X25 – Photo beam / Impulse	17	X15 - Relay K2
09	X24 - Additional inputs		

2. Overview – Inputs

	PIN	Function	Designation	Diagram	Control cable
X26 (Orange)	86	+24 V			
	85	Input 7	Radar - open		
	84	GND			
	83	+24 V			
	82	Input 6	Presence detection		
	81	GND			
X25 (Green)	76	+24 V			Brown
	75	Input 5	Light curtain OUT 2		Red
	74	GND			White
	73	+24 V			
	72	Input 4	Impulse		
	71	GND			
X24 (Grey)	66	Output 15	+24 V		
	65	Input 10	Disable auto close time		
	64	Input 9	Partial open on/off		
	63	GND			
	62	+24 V			
	61	Input 8	Locking end position CLOSE		
X23 (Black)	54	Input 3	Close		
	53	Input 2	Stop		
	52	Input 1	Open		
	51	+24 V			
X22 (Yellow)	45	+12 V			
	44	GND			
	43	Safety Edge	Light curtain OUT 1		Blue
	42	Emergency stop 1			Bridge
	41	Emergency stop 1			Bridge
X21 (Red)	36	GND	FEIG TST PE B		
	35	Chanel B	FEIG TST PE B		Green
	34	Channel A	FEIG TST PE B		Pink
	33	+12 V	FEIG TST PE B		
	32	Emergency stop 2			Yellow
	31	Emergency stop 2			Grey

3. Overview – Outputs

	PIN	Function	Designation	Remark	Control cable
red	22	Relay 2 – NC			
	21	Relay 2 - COM	Traffic light red		
	20	Relay 2 - NO	Traffic light red		
black	10	Relay 1 – NC			
	11	Relay 1 - COM	Brake	Brake rectifier	1 control cable
	12	Relay 1 - NO	Brake	Internal to N'	2 control cable
green	T3	Motor	Phase L3'		3 motor cable
	T2	Motor	Phase L2'		2 motor cable
	T1	Motor	Phase L1'		1 motor cable
green	PE	Earth	Motor		Green / yellow
	PE	Earth			
	PE	Earth			
	PE	Earth			
	PE	Earth			
	PE	Earth	Supply voltage		
blue	N'	230 VAC N			
	N'	230 VAC N	Brake	Internal to 20	
	L'	230 VAC L	Brake	Brake rectifier	
	L'	230 VAC L			
green	N	Line N	Supply voltage		
	L	Line L	Supply voltage		

4. Parameter

Parameter	Range	Function	Default
Door Functions			
P.000		cycle counter	
P.005		Maintenance counter	
P.010	0 ... 9999 [s]	Auto close time limit switch open(0 = off)	0
P.011	0 ... 9999 [s]	Auto close time partial opening (0 = off)	0
P.025	0 ... 20 [s]	Pre-warning time before closing (0 = off)	0
Limit switch			
P.210	0 ... 5	New teaching of the end positions 5 = all positions	
P.221	-125 ... 125	Correction value End position door CLOSE	
P.231	-125 ... 125	Correction value End position door OPEN	
Speed			
P.310	6 ... 120 [Hz]	Travel frequency for rapid OPEN	
P.312	5 ... 300 [Hz]	Acceleration of start ramp "r1"	
P.322	5 ... 300 [Hz]	Acceleration of brake ramp "r2"	
P.350	6 ... 60 [Hz]	Travel frequency for rapid CLOSE	
P.390	6 ... 100 [Hz]	Move frequency Deadman OPEN move	
P.395	6 ... 100 [Hz]	Move frequency Deadman CLOSE move	
RELAY Outputs			
P.701		Brake	3201
P.702		Traffic light red	
Diagnose Parameter			
P.910	0 ... 39	Display mode selection	0
P.920		Error Memory	
P.940	[V]	Input voltage	

Preset Parameter

Parameter	Range	Function	Value
Door Functions			
P.140	0 ... 30 [%]	Boost for OPEN	5
P.205	0 ... 8	Limit switch profile	8
A.480	0000 ... 0301	Light curtain	1

5 Start UP

The control is already completely factory-set from the factory. For start up, only the parameter set for the door type must be set, the light grid connected and the upper end position programmed.

5.1 Set the door type P.991

Parameter	Value	Function
Doro Type		
P.991	1	PVC high speed door PSE – L BlueLine
	2	PVC high speed door PSE – M ProLine
	3	PVC high speed door PSE – S ProLine
	4	ALU-speed doors ASE

Note:

The control is already preset to the corresponding parameter set when it is delivered. This can be adjusted at any time via parameter P.991.

Previously changed settings are overwritten by changing the parameter P.991 and must be reset later.

If errors occur with respect to the motor (for example overcurrent) or with respect to the limit switch, check the selected door profile.








5.2 Setting the end position with light curtain LGB

The setting of the end positions and the adjustment of the light grating is almost completely automatic.


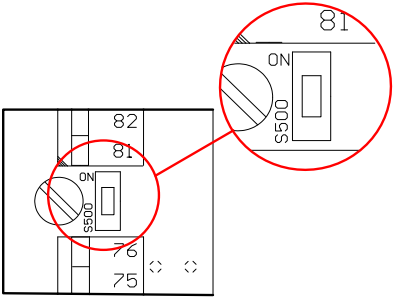

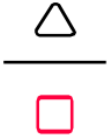

Note:

Information messages I are displayed during and after the adjustment of the light curtain and end positions. The door way shall be free of obstacles.

5.2 Setting the end position with light curtain LGB

Display	Action	Remark
		Switch on power supply Display <i>! .5 I5</i> – Light line alignment requested
		SYNC-Mode
		Open SYNC-Mode by briefly pressing the stop button
	 —  — 	Set the OPEN end position. <ul style="list-style-type: none"> • Move the door to the OPEN position with the membrane keypad • The doors is operated in hold to rum mode. • save the OPEN position by pressing the STOP key for approx. 3 seconds.
<p>Note:</p> <p>If the door is in the OPEN end position, the light curtain must be completely free. If one or more light paths are blocked: S.y.c≡ is displayed. The covered beams must be blanked using the parameters: P.44B / P.44C</p>		
<p>Attention: The CLOSE end position and the subsequent correction travels of the door are carried out automatically</p> <ul style="list-style-type: none"> • The door starts automatically to close the door after 5 seconds (Display: <i>r . . . 5</i>) • The door closes in slow speed (Display: <i>5.9.c.L</i>) • The CLOSE end position is learned automatically (Display: <i>! .5 I0</i>) • During closing, the door position is automatically adjusted with the light curtain • The door opens automatically (Display: <i>r . . . 5</i>) and during opening (Display: <i>! .555</i>) • Some correction travels for adjusting the ramps are carried out automatically (Display: <i>! .5 I5</i>), until the informational messages are no longer displayed. During travel, it is possible that the end positions are not correctly approached • Display correction completed: <i>! .5 I0</i>) 		
<p>Note:</p> <p>If the adjustment does not start automatically, please check the position of jumper 801 (3-4 digital). If necessary, correct the end positions using parameters P.221 and P.231.</p>		
		Door is ready for operation

5.3 General operating instructions to set parameters

Display	Action	Remark
		Turn off the door controller and wait until the display has been completely extinguished.
		Open the cover of the enclosure and switch the DIP switch S500 (see illustration) to ON. The service mode is activated and you can close the cover.
		Close the cover of the enclosure and turn on the controller.
		Press STOP and open and keep these pressed simultaneously to reach the parameter selection.
		<ul style="list-style-type: none"> Use the arrow keys to select the required parameter. By briefly pressing the STOP key on the membrane keypad, the preset value is displayed. The parameter value is increased with the OPEN button and reduced with the CLOSE button. <i>If the value has not yet been saved, the decimal point flashes.</i> If you keep the STOP key pressed until the decimal point no longer flashes, the changed value is saved. If you now press the STOP key briefly, you change to the display of the parameter number. Keep the STOP button pressed for approx. 3 seconds in order to leave the parameter mode and change to the door mode

6. Light Curtain

6.1 Status indicator Transmitter

LED green	Status
Off	TST LGB disconnect from power
On	Voltage applied, unit faulty
Flashing (0,5 Hz)	System running, no error

LED yellow	Status
Off	TST LGBS without power/ no error
On	----
Flashing slow (0,5 Hz)	Internal error, testing not successful
Flashing fast 5 Hz	RS485 communication problem to TST LGB Receiver

Status indicator Receiver

LED blue	Status
Off	TST LGB disconnect from power
An	Voltage applied, unit faulty
Flashing (0,5 Hz)	System running, no error

LED red	Status
Off	TST LGBE disconnected from power/ no fault / no occupation
An	Occupation (danger zone or object zone)
Flashing slow (0,5 Hz)	Internal error, testing not successful
Flashing fast 5 Hz	Faulty RS485 communication with door controller

In the normal operating mode, the green LED of the transmitter and the blue LED of the receiver flash slowly.

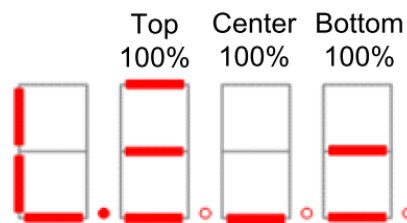
The red LED in the receiver indicates that the light grid is occupied. If this happens without an obstacle in the beam, the reception quality of the light curtain should be checked.

6.2 Set-up assistant

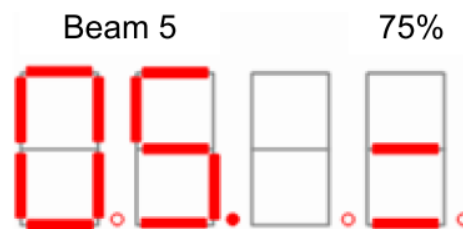
In order to indicate the beam signal quality in the gate controller, the set-up assistant may be activated with P.937 = 1..

Parameter	Range	Function
Set-up assistant mode		
P.937	0/1	0 = Set-up assistant Off 1 = Set-up assistant On

Parameter P.938 then offers an overview of the beam signal quality, divided into 3 ranges (top, center, bottom). The number of lines corresponds to the reception quality.



With foil "Open / Closed", the beam signal quality of each individual beam can be called within this parameter



In addition, the LGB receiver displays the signal quality by LEDs:

LED red	Status
Off	All light beams are free and have good signal quality.
Flashing (1 Hz)	All light beams are free but partially with bad signal quality.
Flashing (5 Hz)	One light beam is occupied but otherwise good signal quality.
Flashing (10 Hz)	One light beam is occupied but otherwise bad signal quality.
ON	Several light beams occupied.

Note

If the reception quality is bad, first check the light grid for soiling and then correct the alignment. Parameter P.44A can be used to adjust the power of the light curtain if necessary.

6.3 Manual blanking of light beams

Manual blanking ranges of light beams can be utilized to deactivate these, beginning from the bottom and/or from the top.

Manual blanking may be used only within ranges that are not located in the gate's area of movement and that are not accessible to humans or objects.

If all the light beams that are covered at the door Open position are blanked, the red LED on the receiver is off and synchronization is possible.

Blanking from the top:

Parameter	Range	Function
P.44B	0 ... 1180	Starting from the top, this parameter specifies the number of lines of light that will be blanked. In addition, the distance from the top is shown in millimeters.

Depending on the mounting position, it may also be necessary to blank beams in the lower area.



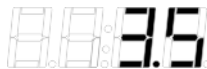




Blanking from below:

Parameter	Range	Function
P.44C	0 ... 2500	Starting from the bottom, this parameter specifies the number of lines of light that will be blanked. In addition, the distance from the top is shown in millimeters.

Note

After blanking beams, it must always be checked whether the whole area is still protected.

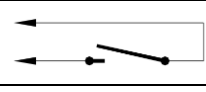
6.4 Set the beam intensity

Display	Action	Remark
		Control waits for input of the door width
		By briefly pressing the STOP key on the membrane keypad
	 —  — 	Set the door width in increments of 0.5 m (for example 3,5 m).
		Keep the STOP key pressed until the decimal point no longer flashes, the changed value is saved.
		The control goes automatically to the synchronization (see 5.2).

Note:

The control system is pre-set to the corresponding door width.
If an adjustment is necessary, the parameter can be adjusted subsequently.

7. Connection Accessories

Set Pull Switch			
Connection			Function
73	+24 V		
72	Input 4	Impulse	

OPEN → END POSITION OPEN → CLOSE
→ OPEN
(P.541: 2)

Set Radar - Falcon			
Connection			Function
86	+24 V		Brown / White
85	Input 7	Radar - OPEN	Yellow
84	GND		Green
83	+24 V		Bridge
82	Input 6	Presence Detection	Bridge
81	GND		

Input 7: OPEN
Input 6: --

Set Front fence protection - Milan			
Connection			Function
86	+24 V		
85	Input 7	Radar - OPEN	
84	GND		
83	+24 V		Brown Pink or White
82	Input 6	Presence Detection	Violet or yellow*
81	GND		Green

Input 7: ---
Input 6: Safety B, Function as photo
beam
* Depending on the desired function
ACTIVE (yellow / white)
or
Passive
(purple / pink)



Set Front fence protection PLUS - Condor			
Connection			Function
86	+24 V		White
85	Input 7	Radar - OPEN	Yellow
84	GND		----
83	+24 V		Brown/ PINK
82	Input 6	Presence Detection	Violet
81	GND		Green

Input 7: OPEN
Input 6: Safety B, Function as photo
beam



Note: When using two detectors:

- The OPEN signals (NO) must be connected in parallel
- The presence signals (NC) are connected in series.

8. General messages

General messages	
STOP	top / Reset state, wait for next incoming command
Eu	lower limit position
≡Eu≡	lower limit position locked → raising not possible (e.g., lock-door)
ZUF@	closing active
~Eo~	upper limit position
≡Eo≡	upper limit position locked → closing not possible (e.g., safety edge)
@AUF	opening active
-E1-	middle limit position E1 (intermediate stop position)
≡E1≡	middle limit position locked → closing not possible (e.g., safety edge)
FAIL	fault → only deadman travel is possible, automatic opening may also be possible
EICH	calibration → setting the limit positions in deadman travel mode
≡NA≡	E-stop → Travel not possible, hardware safety chain interrupted
NOTF	E-travel → Deadman travel without regard for safety facilities, etc.
'Hd'	manual → Deadman mode
ParA	parameterization
'Au'	automatic → indicates change from "Manual" to "Automatic" status
'Hc'	semi-automatic → indicates change from "Manual" to "Semi-automatic"
FUZ	Initial display after power up (Power Up and self-test)
Status messages during synchronization	
S.y.E.u	Synchronization of lower limit position requested (deadman or wait for starting condition)
S.y.E.o.	Synchronization of upper limit position requested (deadman or wait for starting condition)
S.y.E.1.	Synchronization of intermediate stop position E1 (in deadman mode)
S.y.op	Automatic opening up to mechanical stop, then automatic synchronization of upper limit position
S.y.cL	Automatic closing taking into account safeties up to mechanical stop, followed by automatic synchronization of lower limit position
S.y.c≡	Automatic closing is locked due to request
Status messages during dead man movement:	
Hd.cL	Deadman closing (membrane key: CLOSE)
Hd.oP	Deadman opening (membrane key: OPEN)
Hd.Eu	Lower limit position reached, no further deadman closing possible
Hd.Eo	Upper limit position reached, no further deadman opening possible
Hd.Ao	Outside of permitted Eo position (no deadman opening possible)
Description	
I.100	Speed in open position to high
I.150	Speed in close position to high
I.160	Permanent open command still active
I.199	Door counter wrong
I.205	Synchronization done
I.510	Correction drive finished
I.515	Active correction drive
I.555	Measuring rotation factor not ready
I.610	Light line alignment completed successfully.
I.615	Light line alignment requested.
I.620	Door in PU when syncing but some rays of light are still masked. Adjust P.446 door masking in PU!

General inputs	
E.000	Open key on membrane keypad
E.050	STOP key on membrane keypad
E.090	CLOSE key on membrane keypad
E.101	Input 1 - Connector 52 External OPEN Button
E.102	Input 2 - Connector 53 External Stop Button
E.103	Input 3 - Connector 54 External Close Button
E.104	Input 4 - Connector 72 External Impulse Device
E.105	Input 5 - Connector 75 Input Light Curtain – Phot Beam Function Light Curtain is occupied
E.106	Input 6 - Connector 82 Input Presence detection If no presence detection is connected, the input must be bridged Note: With active the presence detection is not possible to synchronize the light curtain.
E.107	Input 7 - Connector 85 Input Radar OPEN
E.108	Input 8 - Connector 61 Locking end position CLOSE
E.109	Input 9 - Connector 64 Disable partial opening
E.110	Input 10 - Connector 10 Disable auto close time
E.360	Light Curtain Safety Edge Function

9. Error messages

Possible reason for error	
F.000	Door position too far up
F.005	Door position too far down
F.020	Run time exceeded (during opening, closing or deadman)
F.030	Lag error (position change of the door is less than expected)
F.031	Detected rotational direction deviates from expected

Possible reason for error	
F.201	Internal E-Stop „push-button“ tripped or Watchdog (computer monitor)
F.211	External E-Stop 1 tripped
F.212	External E-Stop 2 tripped
F.601	Bad LGB reception quality
F.612	LGB RS485
F.621	LGB test error (transmitter)
F.622	LGB test error (receiver)

Possible reason for error	
F.410	Over-current (motor current or DC-bus)
F.420	Overvoltage in DC-bus Limit 1
F.425	Overvoltage incoming mains
F.430	Temperature cooler outside of working range Limit 1
F.440	Overcurrent in DC-bus Limit 1
F.510	Motor / DC-bus overcurrent Limit 2 / Wrong Door Profile
F.515	Motor protection function detected overcurrent
F.519	IGBT driver chip detected overcurrent
F.520	Overvoltage in DC-bus Limit 2
F.521	Low voltage in DC-bus
F.524	Ext. 24 V supply missing or too low
F.525	Overvoltage at the line supply input
F.530	Heatsink temperature outside of working range Limit 2
F.540	Overcurrent in DC-bus Limit 2

Possible reason for error	
F.700	Position sensing defective
F.752	Loss of communication with encoder / Check Door and Encoder profile
F.760	Position outside of window

Possible reason for error	
F.920	Internal 2.5 V reference voltage incorrect
F.921	Internal 15 V reference voltage incorrect
F.922	E-Stop chain not complete
F.930	External watchdog incorrect
F.931	ROM-Error
F.932	RAM-Error
F.960	Wrong parameter checksum
F.961	Checksum from calibration values etc.
F.962	Converter parameters not plausible
F.964	Program version / manufacturer code
F.970	Plausibility Param. block error