SCD WITH GRAPHICS DISPLAY
UNIVERSAL DOOR CONTROLLER

EXTENDED MANUAL

Table of contents:

INTRODUCTION

DESCRIPTION

The Speed Commander door controller has been specifically designed for industrial doors and gates. The controller provides inverter speed adjustment and control as well as monitoring and response to external inputs.

The Speed Commander door controller incorporates a comprehensive range of configurable parameters that allows the door/gate manufacturer and installer to configure for optimal performance.

In addition, live fault diagnostics is provided for the installer and end user allowing for quick resolve of any issues of the system so that the door or gate can continue operation with a minimum of delay.

DISCLAIMER

Whilst every effort has been made to ensure that the details in this manual are correct and up to date. Speed Tech A/S cannot be held liable for any equipment damage or personal injury due to any error or omission.

WHO IS THIS MANUAL INTENDED FOR?

This manual is intended for installers and door and gate manufacturers. It is not intended for the end user. A separate document should be supplied for the end user.

This manual is original written in English, all others are copies translated from this.

SAFETY WARNINGS

This door controller must only be installed by a qualified person that has experience with automatic doors/gates and knowledge of the relevant EU regulations.
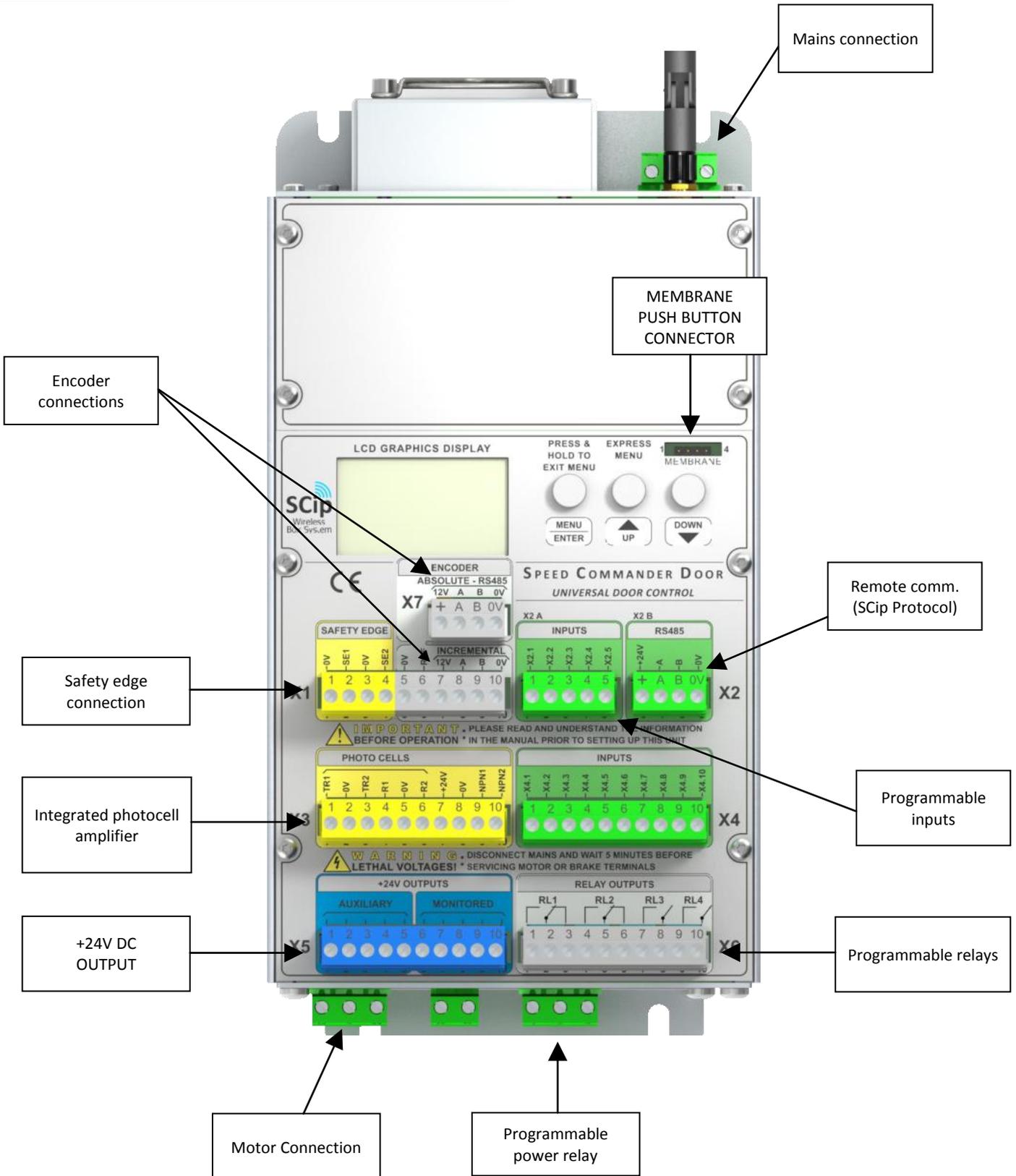
Before installation please read and understand:

- The installer has the responsibility for the CE marking of the door/gate. The installer must inform / advise the end user on how to use the door/gate.

- The Speed Commander door controller is developed so to comply with the requirements of EN 13241-1.

- All components used must be CE approved to enable a final CE- marking of the complete installation.

- Safety edge must comply with EN 12978 and must only be connected to the terminals prepared for this. These inputs are of Safety Class II and are internally supervised for the correct function before each operation.

- The controller must be set up so that EN 12445 is met. The controller parameters must be locked before it is handed over to the end user.

- The cable between the motor and control must be shielded and connected as shown in this manual.

- Do not mount the controller in direct sunlight; this might cause internal overheating of the controller.

- Do not make changes or modifications to the controller.

- Do not work with the door or gate without disconnecting the mains supply first.

- Terminals might contain high voltages up to 5 minutes after disconnecting the mains supply.

- The door/gate might start without warning therefore a light or siren could be required.

- The controller will not operate if the internal +24V power supply is short-circuited. The display shows an error message and an alarm will sound.

Safety warnings (continued)

Use of the device:	• The door controller is to be kept in sound condition in regard to safety and health related matters.
	• The door controller must be used exclusively for the purpose of opening and closing of industrial doors.
	• Prior to use, the door controllers parameters must be configured in accordance to EN 12445.
	• External devices may only be connected to the terminals intended for those specific devices.
	• The system wherein the door controller is installed must include an audible or visual signal device indicating when movement of the door occurs.
	• The door controller must not be used unless all safety components and safeguards are undamaged/in working order.
	• The door controller must not be used if there exist any doubts about that it's responsible to do so.
	• The door controller must not be used if there's damage to any wires connected to the device.
	• The system as a whole must not be used unless all required operational and safety devices are available and functional.
Installation:	• During installation the mains switch must be disconnected.
	• Installation must be performed only by qualified/educated technicians with solid knowledge about electricity and the relevant standards.
	• Connection of the mains must only be performed by an authorized electrician.
	• The installation must be performed in regard to the relevant personal protection applicable to the nature of the work.
	• The installation must not be performed unless the relevant sections in this manual has been read and understood by the installer.
	• During configuration of the parameters all personnel must stay clear of the door and away from the path of its travel.
	• Users or unqualified personnel must not be allowed to change any settings in the door controller.
	• The door controller must be installed in an appropriate enclosure intended for the environment of the installation.
	• Do not install the door controller on moving parts. Non-vibrating/moving only.
	• The door controller must not be installed in direct or directly reflected sunlight.
	• A shielded cable must be used to connect the door controller to the motor.
	• During operational test extra caution and attention must be paid by any nearby personnel.
	• The door controller must not be installed in a location where it blocks any emergency escape paths.
	• The door controller must installed so that it does not interfere with freedom of movement of either users or maintenance personnel.
Cleaning & service:	• During service, cleaning and repair of the installation the mains power must have been disconnected for at least 5 minutes prior to servicing the unit in any way.
	• The door controller must not be subjected to any steam or humidity while cleaning, if necessary use a cloth damp with soapy water or rubbing alcohol to wipe the exterior.
Maintenance, inspection & repair:	• Repairs must only be performed by qualified and skilled technicians with in-depth knowledge about the system.
	• The door controller is to be kept in sound condition in regard to safety and health related matters. At least with 12 months interval an authorized expert must perform a complete maintenance/safety check of the installation.
	• Use only original spare parts for repair of the installation.
	• During repair and service of the installation the mains switch must be disconnected and safely locked in that position, i.e. key removed.
	• The terminals can provide lethal voltages up to 5 minutes after the mains has been disconnected.
Environmental:	• The door controller must not be installed in an enclosure that meets IP class 65 or higher.
	• The door controller must not be installed outdoor.
	• The door controller must not be installed in explosion hazardous areas.
	• The door controller must be kept clean and clear of any dust and dirt.
	• Installation in high altitude locations is not recommended, contact supplier on this matter.
	• Installation must be done, and operation must occur in areas containing less than 90% non-condensing humidity.
Storage:	• Storage must be under same conditions as operation.
	• The door controller must not be stored in a dusty, wet, or humid environment.
Other:	• Any technical modifications to the door controller is not allowed.
	• The door controller must not be used before the entire installation is declared in accordance with the relevant directives, including 2006/42 / EC Machinery Directive

CONTROLLER OVERVIEW

Mains connection

MEMBRANE PUSH BUTTON CONNECTOR

Encoder connections

Remote comm. (SCip Protocol)

Safety edge connection

Programmable inputs

Integrated photocell amplifier

+24V DC OUTPUT

Programmable relays

Motor Connection

Programmable power relay

Please note that it is recommended to use a mains switch or CEE plug within reach of the controller to be able to switch off mains supply. Plug and cable must be able to handle power requirements from select controller model. Connect Mains supply as shown in section Mains connection.

Only trained personal should work and install with this equipment to comply with national security regulations.

BASIC WIRING

WARNING! ELECTRICAL HAZARD!
Disconnect mains supply before servicing the high voltage connections of the motor or the door controller.

MAINS CONNECTION

230 VAC 1 PHASE — SCD-750G SCD-1500G/GL

The order of these connections applies to all models in the SCD series, both with and without build-in mains filter.

N   L

400 VAC 3 PHASES — SCD3-2200G/GL SCD3-4000G/GL

L3   L2   L1
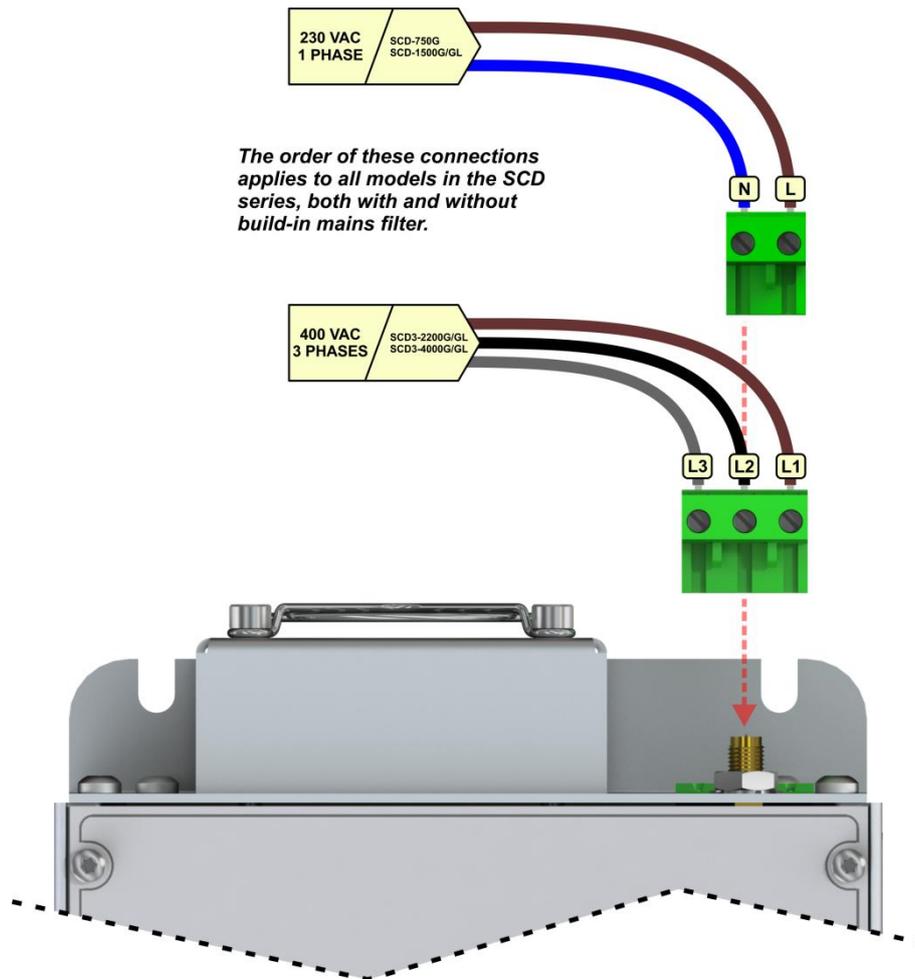
Please use mains filter type: *B 1309105 from company Block (www.block.eu/) to comply with EN61000.*

MOTOR CONNECTION

The controller chassis **MUST** be electrically connected to protective earth (PE) through a proper, low impedance, electrical connection.

CONTROLLER CHASSIS

STAR POINT EARTH CONNECTION

MOTOR CABLE SHIELD

MOTOR EARTH WIRE

U V W

R R

COM.

N/O

BRAKE RESISTOR

MOTOR PHASES

WARNING!

Electrical shock hazard: *Disconnect power and wait for at least 5 minutes before servicing these connections.*

MOTOR

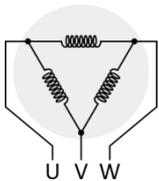MOTOR BRAKE LIVE

LIVE

Connect to: L1,L2, L3 or L

MOTOR BRAKE NEUTRAL
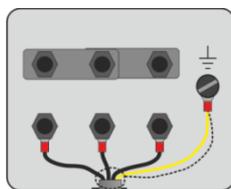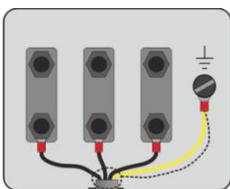
NEUTRAL N

X5

X6

RL2 RL3 RL4

Delta connection
230VAC (100-400V)

U V W

Star connection
400V (690V)

U V W
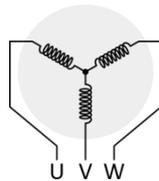
Important notes:

Proper grounding practice is mandatory when installing frequency converter drives. Not only because of personal safety, but also to ensure reliable operation.

- *Always terminate both motor earth and motor chassis to a common earth point using lowest possible impedance option available.*
- *Always use shielded, correctly rated cable.*
- *Do **never** route the motor cable in parallel with the encoder cable.*
- *Ensure that the shielding on the motor cable is properly connected in both controller and motor end.*
- *Do not separate or damage the cable in any way. The cable must be in one piece throughout the entire length, and all connections unbroken.*

MOTOR BRAKE

Some door applications requires that the motor is mounted with an electromechanical brake that restrains the motor while not running
*The example shown uses the power relay to control a 230V AC motor brake.*
Set System Config ▸ Outputs ▸ Power Relay = 1
This makes the power relay operate when the output frequency is > 0

Attention*:*
In a 400VAC installation using one of the 3 phases and the neutral for the brake,
there is a risk that the controller will not be able to see if either the phase or neutral is disconnected.
This could damage the motor or door if it tries to run with the brake engaged.
To avoid this situation connect the coil of an external 230VAC relay to the above mentioned phase and neutral and then connect the output of the relay to a 24V ON/OFF input.
This way the controller will not be able to run if this is missing.

BRAKE RESISTOR

WARNING!
ELECTRICAL HAZARD!
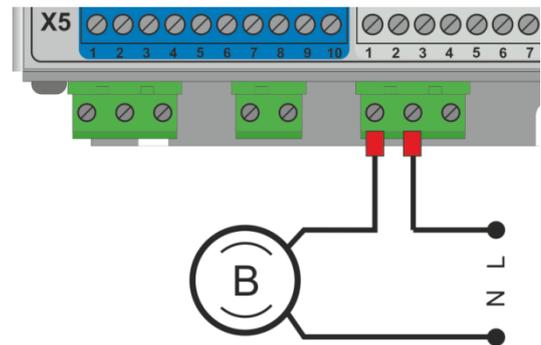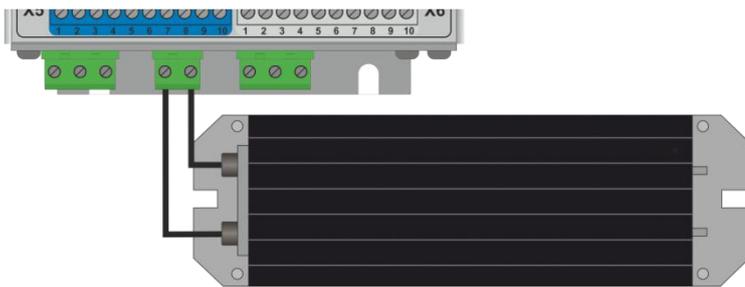
Recommended brake resistor values:

Disconnect mains and wait for at least 5 minutes before servicing the motor or brake output!

SCD model:	Recommended brake resistor specifications
SCD750	N/A
SCD1500	200Ω / 200W
SCD3-2200	200Ω / 200W
SCD3-4000	100Ω / 400W

ENCODER

The SCD door controller series supports various types of position sensors.
See the below table for connection of the most commonly used.

Set the type of pulse sensor under
Menu ▸ System Config ▸ Position
Sensor ▸ Type

SCD terminals for encoder connection:	SCE Quadrature/RS485	MIG	PMC	Kostal / GFA / MFZ
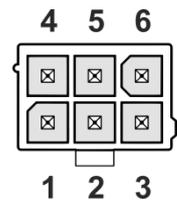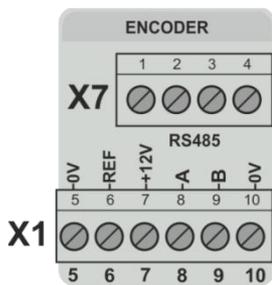
Connection table for encoders:

Encoder type: **SCD terminals:**

Name:	Type:	X1 7(+24V)	8(A)	9(B)	10(0V)	X7 1(+12V)	2(A)	3(B)	4(0V)
SC Encoder	Incremental*	Brown	Yellow	Green	White				
SCE Quadrature	Incremental*	Brown	Yellow	Green	White				
SKF Sensor	Incremental*	Red	White	Blue	Black				
MIG	Incremental*	Brown	Yellow	Green	White				
BTR	Absolute			Brown		Red	Green	White	Black
Kostal / MFZ / GFA / DALL /	Absolute					+12V Pin 6	RS485A Pin 4	RS485B Pin 2	0V Pin 3
SCE-RS485	Absolute					Brown +	Yellow RS485 A	Green RS485 B	White 0V

WIRE COLORS / PIN NUMBER

* Reference run necessary – see section Reference

REFERENCE LIMIT

It is necessary to have a reference switch / point when using Incremental encoders. The Door Controller does not know where the door is positioned when power is applied. Therefore it will start looking after its reference position (Position value 0). This is done in slow speed until the door activates the switch.
Note that the switch must only change one time during the complete travel of the door. If it is mounted in open position of the door it needs to be a normally open switch, if it is mounted the close position it needs to be a normally closed switch. This way the controller always knows which way to travel to reach the reference point.

Remember to set up the correct function for the desired reference under:
System Config ▸ Reference
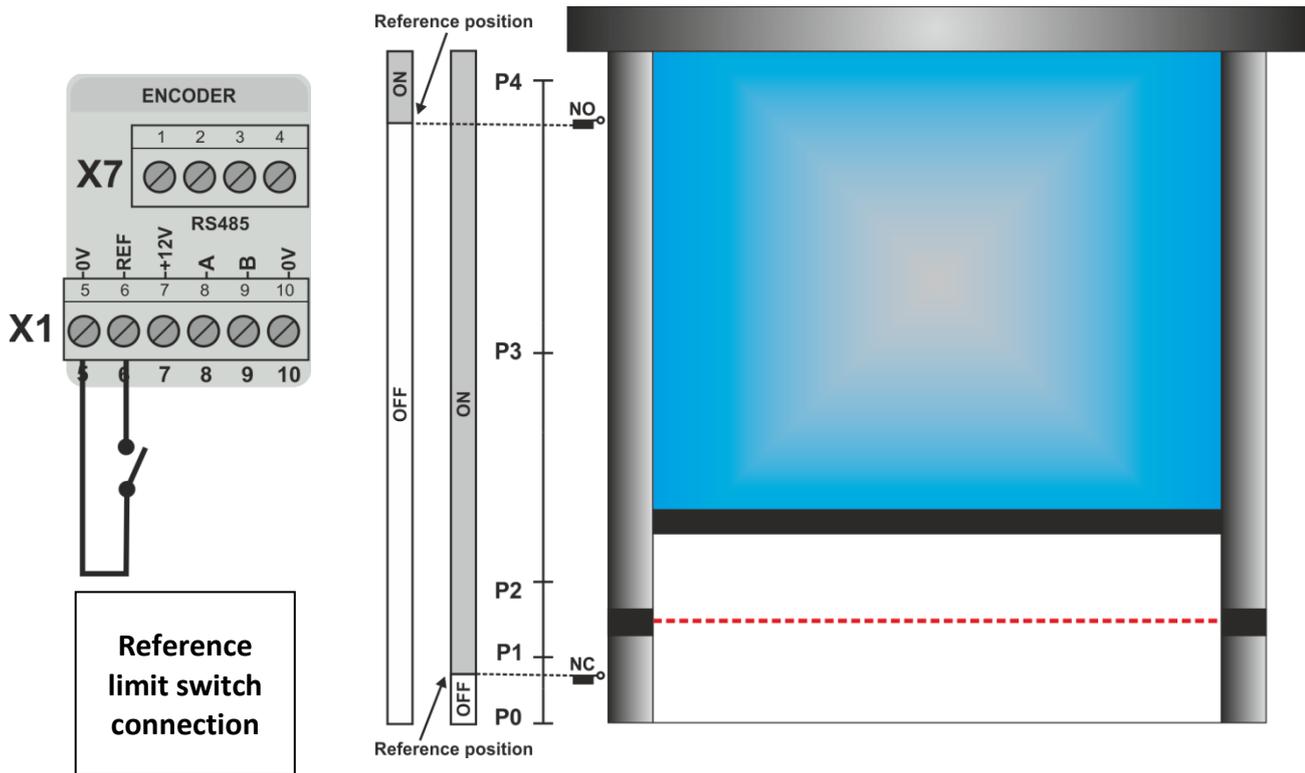
LIMIT SWITCHES

The SCD controller supports mechanical limit switches.
The minimum requirement is two switches, four is preferable.

If two switches are used then they should be "open" and "pre close". In this application the "pre close" switch/position will be used as reference.

The "pre close" limit should be set so that it activates before the "close" position, and remains active all the way to "close" position. All limit switches must be N/C (Normally Closed) type, i.e. when not activated connection is made.

To set up operation with mechanical limit switches go to

In the Quick Setup menu there is a function to test the switches and visualize that it is operating correctly.
This is done after checking the motor travel direction.

Typical limit switch assembly:

Switch no.:		SCD terminal:	Function:
1	▶	X2.2	Pre Open limit switch
2	▶	X1.9	Open limit switch
3	▶		Not used
4	▶		Not used
5	▶	X1.8	Close limit switch
6	▶	X2.1	Pre close limit switch (Reference)

Green marks the switches which are the __absolute minimum__ required.
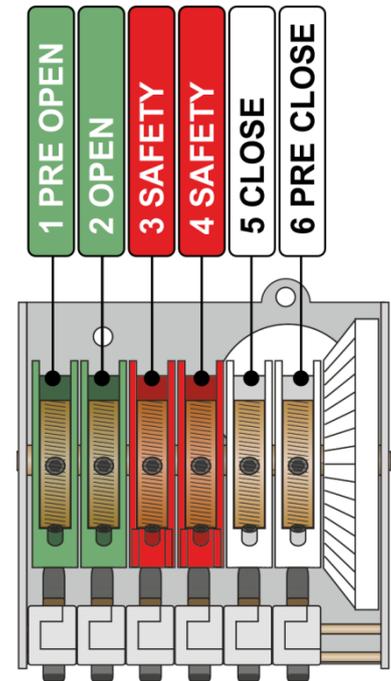
SAFETY EDGE

<table>
<tr><td>IMPORTANT</td></tr>
<tr><td>It is essential that safety edges are used in conjunction with the SCD door control.
The safety edge should comply with EN 12978.
Use only the dedicated safety edge inputs on terminals X1.1/X1.2 and X1.3/X1.4</td></tr>
</table>

CONDUCTIVE 8K2

Connect front edge to X1.1/X1.2, and rear edge to X1.3/X1.4 (if used)
The terminating resistor must be 8K2 Ohms.
The door can only be operated in dead man mode
if the safety edge is not properly connected.

Front edge:

SCD terminal:	Wire color:	Signal:	
X1.2	Brown	Input	N/C (8K2 Ohms when open connection)
X1.1	White	0V	Ground

Rear edge:

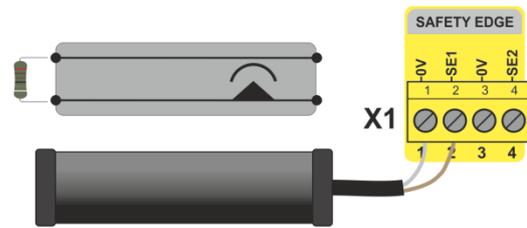| SCD terminal:	Wire color:	Signal:	
X1.4	Brown	Input	N/C (8K2 Ohms when open connection)
X1.3	White	0V	Ground

OPTO TYPE / 3 WIRE SYSTEM

Fraba 3 wire system:
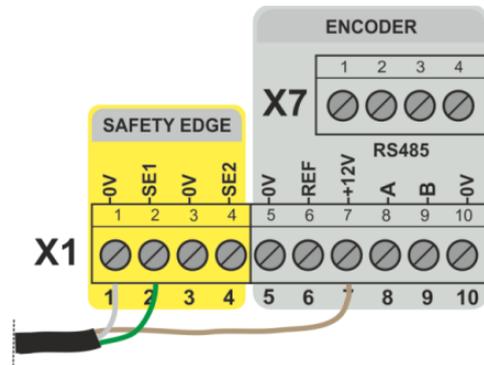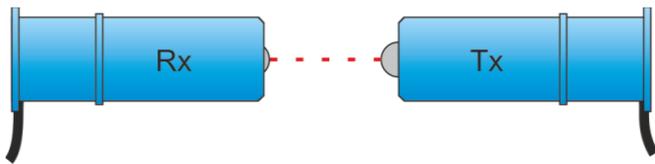
Connect the receiver and transmitter wires with the same color into the same terminal (Parallel).

Front edge:

SCD terminal:	Wire color:	Signal:	
X1.7	Brown	+12V	Supply
X1.1	White	0V	Ground
X1.2	Green	TR1	Signal output

Rear edge:

SCD terminal:	Wire color:	Signal:	
X1.7	Brown	+12V	Supply
X1.3	White	0V	Ground
X1.4	Green	R1	Signal output

PHOTOCELLS

The photocell input of the controller is able to interface with different types of photocells or lightcurtain.

INTEGRATED AMPLIFIER FOR D.O.T. SYSTEM OR TELCO SERIES LS100
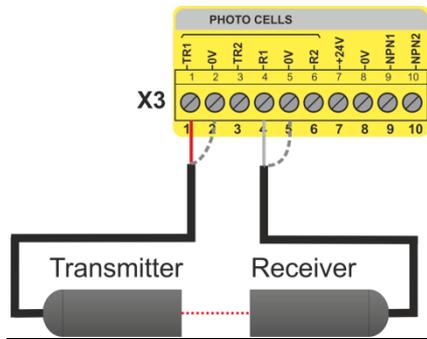
WARNING

To avoid damage to the system set up the correct photocell type before connecting to avoid damage to transmitter. See Safety devices section for further details.

Mounting
Always mount the receiver (white cable) on the side closest to the control panel.
This provides the best noise immunity. Mount the transmitter at approximately the same height on the opposite side of the door. The exact position can be adjusted for the best alignment using the control panel.

Installation
If two sets of photocells are to be used, connect and install one set before starting the second set. Switch off the supply to the control panel and connect.

ALIGNMENT

Go to the **Safety devices** menu to adjust alignment.
The received signal strength is displayed as a number.
Position the transmitter so that this number is as high as possible.
The minimum value is 3 for the system to work.
Finally try activateting the photocells whilst the door is closing to ensure proper operation.

Photocells can be ignored during travel at a user definable position using the "Photocell disable position". See section Limit setup for further information.

NPN OR PNP NC TYPE
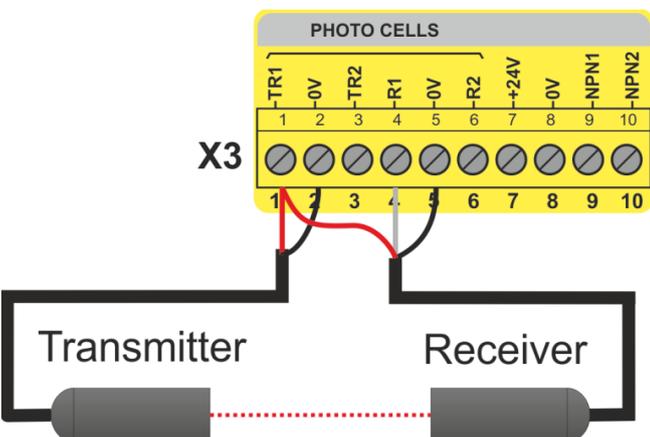
Photocells with either NPN or PNP output or Relay switch can also be connected directly
It is posibile to select two different type of operation with either NPN or PNP. One with check of the integrity of the photocell system (This requiers that the power is controlled from the TRx Output – 12V only) where the photocells are shut down when not used. The check is preformed before each close command. The seceond type of operation is just as normal photocell input with no check. Power can be supplied from one of the supply outputs.

LIGHT CURTAIN
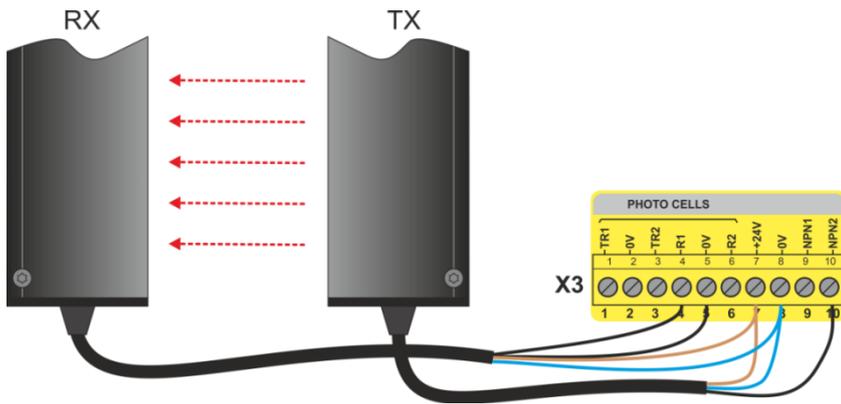
> **!** To reach safety level Cat 2. / P.L. D - NPN2 is used for performing self test of the light curtain before each close cycle.
>
> See Safety_devices section for configuring.

Telco Light Curtain SG14:

Receiver:

SCD terminal:	Wire color:	Signal:	
X3.7	Brown	+24V	Supply
X3.8	Blue	0V	Ground
X3.1	Black	TR1	Test Input

Transmitter:

SCD terminal:	Wire color:	Signal:	
X3.7	Brown	+24V	Supply
X3.8	Blue	0V	Ground
X3.4	Black	R1	SGR Output
X3.5	Black	0V	SGR Output
	White	0V	Blanking Control (0V if used)

O.S.E.

Cedes Gridscan/Mini:

SCD terminal:	Color:	Signal:	Description:
X5.(any)	Brown	+24V	Supply
X5.(any)	White	+24V or 0V*	Test input
X1.2	Black	FSS	Output
X1.1	Blue	0V	GND
Not used	Gray		
Not used	Green		

> **!** *Important!*
> *The output type must be*
> *O.S.E.: GRS/Mini-xx-xxxx-xx,xx,F,x,x*
>
> *If the test input is active "low" (GRS/Mini-xx-xxxx-xx,xx,x,L,x) connect this to +24V.
> If the test input is active "HIGH" (GRS/Mini-xx-xxxx-xx,xx,x,H,x) connect this to 0V/GND.

Telco SG15 O.S.E. - ES:

Receiver:

SCD terminal:	Wire color:	Signal:	
X3.7	Brown	+24V	Supply
X3.8	Blue	0V	Ground
X3.1	Black	TR1	O.S.E. output signal
N/C	White	Sync.	Synchronization

Transmitter:

SCD terminal:	Wire color:	Signal:	
X3.7	Brown	+24V	Supply
X3.8	Blue	0V	Ground
X3.8 or X3.7	Black	BL	Dynamic blanking. Connect to +24V if used Else connect to 0V.
N/C	White	Sync.	Synchronization

Important!
The syncronization wires must be connected together.

CONTROL SIGNALS
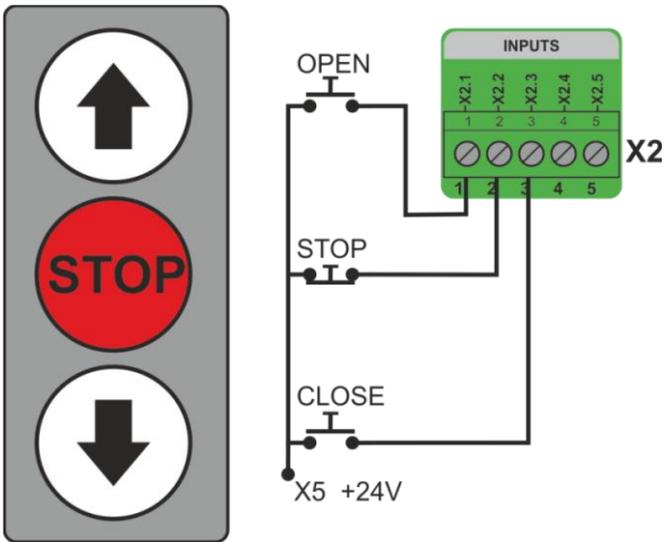
The function and level of each input can set up by parameter. This way the control can be programmed only to have the necessary inputs for each application.

For setting up control signals parameters please see System Config ▶ Inputs

All inputs are 12-24V DC tolerable
Function and Level (NO/NC) are programmable.

For emergency stop input to meet *Cat 2 / P.L. d it must be supplied from X5.6 to X5.10 in order to perform self test before each close cycle.*

FOIL BUTTONS
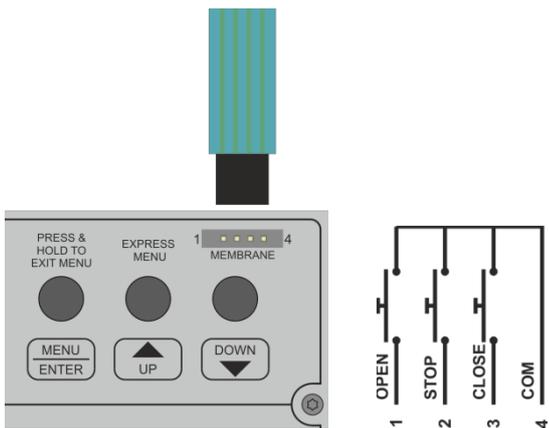
RED / GREEN LIGHT CONTROL
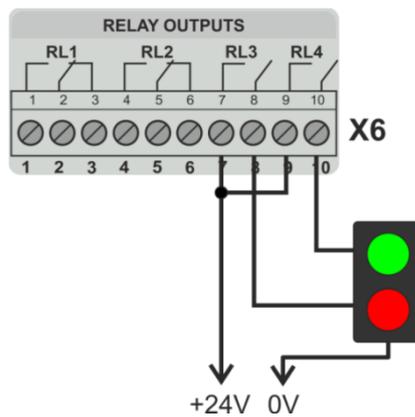
Output -> Relay 3 = Door Moving
Output -> Relay 4 = Open Light

POWER UP SEQUENCE

When power is switched on, the control panel will show the model information i.e. power, voltage rating, serial number, software version and active profile.

SCD V8
4.0 KW
400V

Type / Power range / Mains supply

! Note:
If wireless modules are installed then these will be detected and shown during the start up sequence.

SCD V8
SN: 000001

Product serial number

SCD V8
Software Version
1.0.0

Firmware version

SCD V8
Actual Profile
Static Profile 1

Active parameter profile

Speed Tech A/S

MENU SYSTEM

MENU TREE

Idle Menu — Express Menu

System Status
- Overview
- Photocells
- Position
- Reference
- Safety Edge
- Inputs
- Outputs
- Fault Log
- Cycle Counter
- Temperature
- DC Link
- Internal Levels

Door type
- Select Profile

Limit Setup
- Operation Mode
- Quick Setup
- Closed Position
- Pre Closed
- Pre Open
- Open Position
- Open Part 1
- Open Part 2
- Rev Edge OFF
- Photocell OFF

System Config
- Timers
- Outputs
- Inputs
- Position Sensor
- Reference
- Safety Devices
- Motor Config
- Frequencies
- Ramps
- System

Wireless Setup
- Add Device
- Device Setup
- Reset All
- Enable Host
- SC-Xnet

MAIN MENU

The Main menu is displayed as graphic icons on the display.
Enter the menu by pressing a short press at the MENU/ENTER button.
Now Navigate in the menu using the UP / DOWN buttons.
Make a short press at MENU/ENTER to enter the selected submenu.

SUB MENUS

The sub menus below the main menu is "text listed" menus.
Use the UP or DOWN buttons to scroll the menus.
The current select submenu is displayed as an inverted bar.
Enter the sub menu by pressing MENU/ENTER button.
At any time you can exit a menu by press and holding MENU/ENTER
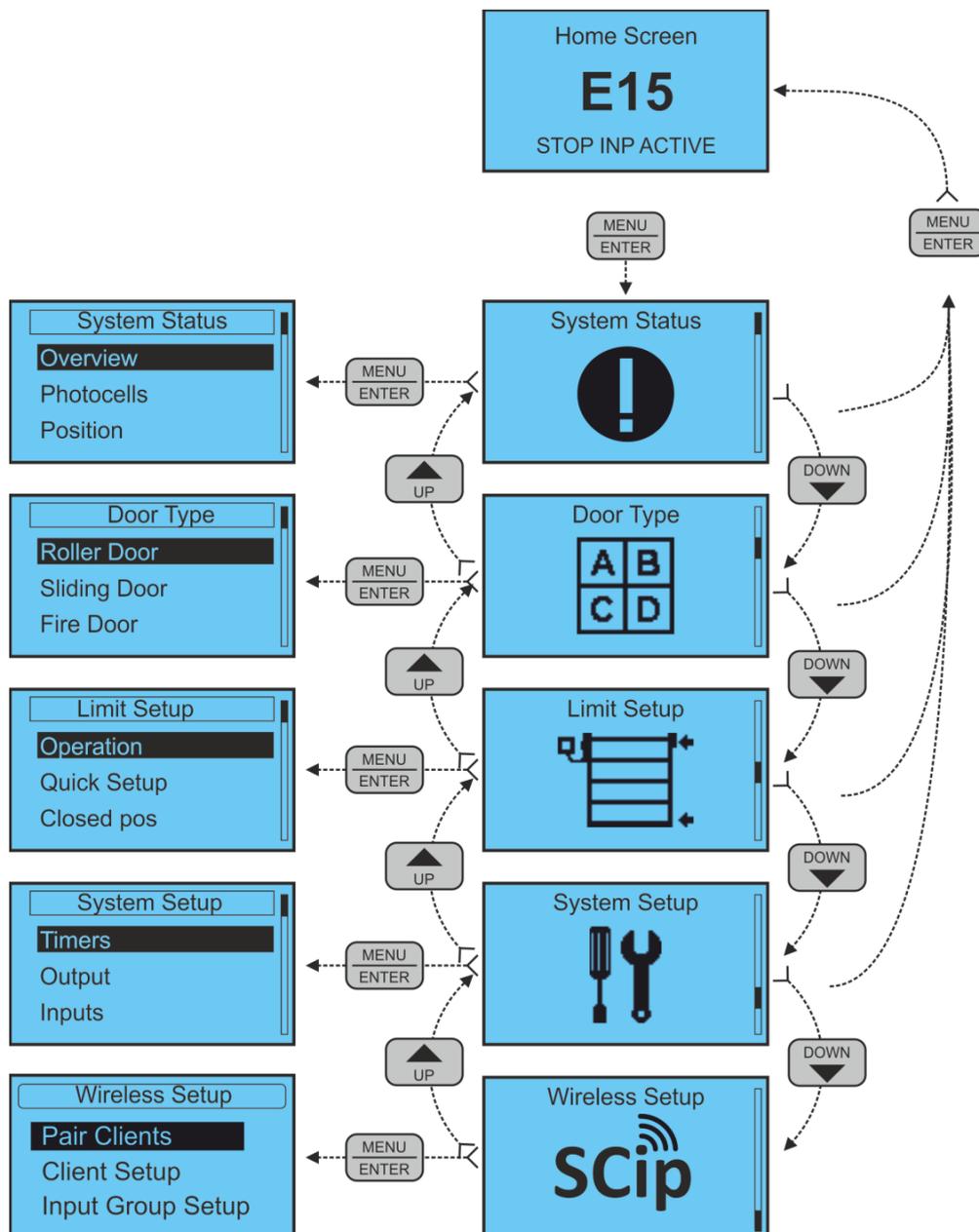
NAVIGATION

The door controller has a graphics display and 3 buttons for setting up the controller to the desired functions.

System display

Menu navigation buttons

LCD GRAPHICS DISPLAY

System Status

PRESS &
HOLD TO
EXIT MENU

EXPRESS
MENU

1 ▭ 4
MEMBRANE

MENU
ENTER

UP

DOWN

ENCODER

SPEED COMMANDER
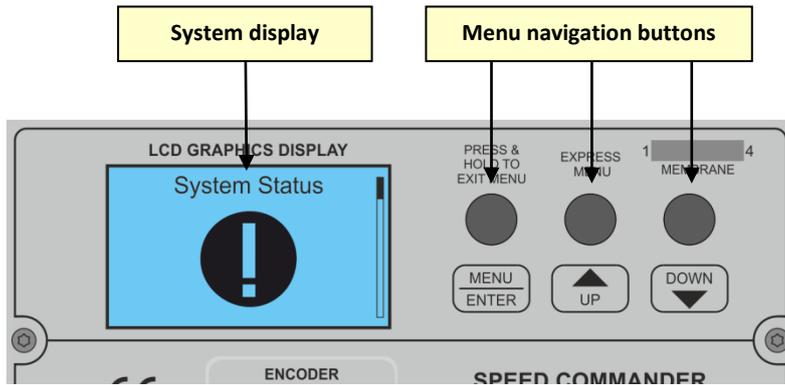
BUTTON FUNCTIONALITY

Button:	Short press Function	Long Press Function (> 2 seconds)
MENU / ENTER	Enter selected menu	Exit Select menu / Repeat exit after 2 seconds
UP	Navigate one step UP	Scroll UP
DOWN	Navigate one step DOWN	Scroll DOWN

ACCESS LEVEL

Some menus requires a code in order to gain access.
This is implemented to prevent unauthorized changes to the controller settings
which could result in potentially dangerous situations.
When a menu is protected by access code a request is prompted.
Enter the correct code to get access to menu.

Enter Code

🔒 0

Menu Locked

Contact supplier for access code

VALUES AND FUNCTIONS

Changing values:

When configuring the controller parameters such as speed positions and values in % will be encountered, below is an example of speed displayed in Hz.
Use the UP or DOWN buttons to change the value.

Open		Open		Open
50.0 Hz	UP / DOWN	**55.0** Hz	MENU ENTER	**55.0** Hz Stored

Store the changed value by a pressing MENU/ENTER.
The display shows "Stored" in the bottom line.
To exit without storing the changed value press and hold MENU/ENTER.

Selecting function:

If you enter a menu with different options, such as the settings for a relay output, you will see a text list based menu.
Use the UP or DOWN buttons to change the selection.
Then store the value by a short press at MENU/ENTER.
The inverted text illustrates the current selection, and if MENU/ENTER is pressed the box next to this is checked, marking the change.

Relay 1		Relay 1		Relay 1
■ No Function	UP / DOWN	■ No Function	MENU ENTER	☐ No Function
☐ Door Moving		☐ Door Moving		■ Door Moving
☐ Door Idle		☐ Door Idle		☐ Door Idle
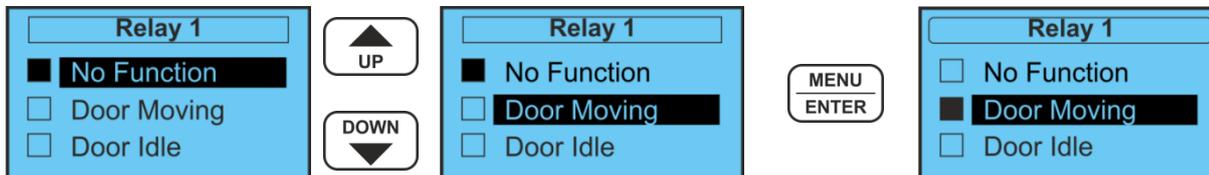
MENU DESCRIPTION

HOME SCREEN

CLOSED
X2.5 Active

The home screen is displayed during normal operation and if no menu is accessed.
The display is divided into the 3 following sections:

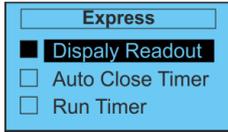|	
Top	Icons, shows status information about peripherals such as battery status and wireless operation.
Middle	Controller Status, shows information about the current status of the controller, if an error is present the error code will be shown here. See section Error codes for description of faults. If door is operating normal it will display one of the messages shown in table below.
Bottom	Event messages, When an external event occurs the source will be shown here for a short period or the duration of the event. E.g. if a stop input is active it will be displayed "Stop Active".

OPERATION MESSAGES

Message:	Description
OFF	Door Controller is off.
MID T.	Door is outside fully open / closed position.
FIND REF	Door needs to make an reference run in order to find its 0 position
LOCKED	Door is locked. Door cannot move before lock signal removed.
MAUNAL	Door is in manual operating mode. Door can only run in dead man mode.
CLOSED	Door is in its fully closed position.
CLOSING	Door is closing.
OPEN	Door is in it fully open position.
OPENING	Door is opening.
PART 1	Door is open to is Part open position 1
PART 2	Door is open to is Part open position 2
BREAK	Door is in breakout mode. Reset breakout to return to normal operation.
E15	Limits not set – Setup door open / close limits -> Quick Setup

The Express Menu provides a quick method for a user to edit commonly used parameters. Enter the menu by pressing the UP button from the idle menu. Scroll down through the menu with the UP or DOWN buttons. Press and hold the MENU/EXIT button to exit the Express menu.

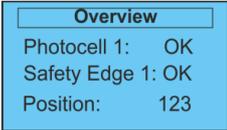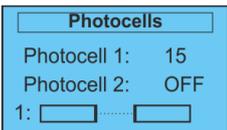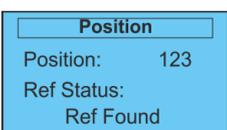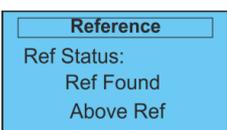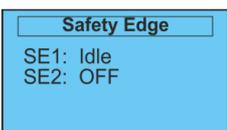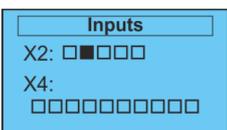| EXPRESS MENU	Sub menu:		Description:
☐ Express ■ Dispaly Readout ☐ Auto Close Timer ☐ Run Timer	Display Readout	Normal	Shows the actual status of door in text. Open / Close and displays if an error is present.
		Motor Current	Displays actual motor current measured by the control. This can be a useful tool for troubleshooting motor configuration.
		DC Link	Displays the internal DC Link voltage.
		Motor Slip	Shows the difference between the frequency put out to the motor and the frequency read from the encoder.
		Measured Frequency	Displays the measured frequency calculated from the encoder signal.
		Output Frequency	This is the frequency output to the motor from the inverter.
		Safety Edge 1	The analog input value of the Safety Edge Input 1 (X1.2).
		Safety Edge 2	The analog input value of the Safety Edge Input 2 (X1.4).
		Position mm	The current position shown in mm.
	Auto Close F.		The time period after which the door will close automatically from the position **Fully open.**
	Auto Close P.		The time period after which the door will close automatically from the position **Part open**.
	Auto Close O.		The time period after which the door will close automatically from position other than **Part open** or **Fully open**
	Run Timer		The maximum time a door travel can take before a timeout error is set. The time should be set to 5 seconds longer than the time required to close the door/gate. During a 'reference run' the time is 3 times the normal run time used
	Dead man Move		While in this menu the controller will operate in Dead man by use of the UP and DOWN buttons. Any connected safety inputs will be ignored to allow unrestricted movement of the door
	Reset		This menu is used to reset the controller. Controller will act as if the mains power was cycled.
	Update Firmw.		To set the controller in "Boot" mode when updating firmware.

The main menu is entered by pressing the Menu/Enter button from the Idle menu

MAIN MENU	Main menus:	Description:
System Status	**System Status**	Overview of controller input, outputs and internal information
Door Type	**Door Type**	Select witch profile to load to the active parameters. Reset to default settings.
Limit Setup	**Limit Setup**	Set up the door positions. Adjust positions already set.
System Config	**System Config**	Change the door controller settings for motor, peripherals, Speed / Ramps etc.
Wireless Setup	**Wireless Setup**	Connect new wireless devices, Set up the wireless devices etc.
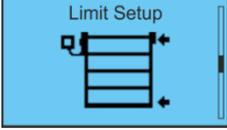
SYSTEM STATUS	Sub menus:	Description:
Overview Photocell 1: OK Safety Edge 1: OK Position: 123	**Overview**	See the status of the Photocells, safety edges and the current position. Change between Photocell 2 / Safety Edge 2 by pressing the UP button.
Photocells Photocell 1: 15 Photocell 2: OFF 1:	**Photocells**	Shows the analog value of the received signal strength, and it also gives an graphic illustration of the actual photocell status. Change to channel 2 by pressing the UP button. Use this function when aligning photocells. Adjust to maximum value.
Position Position: 123 Ref Status: Ref Found	**Position**	Shows the internal door position count. If using incremental encoder, information about the reference status is also shown.
Reference Ref Status: Ref Found Above Ref	**Reference**	Shows information about the current reference status. If reference position found or not. Reference switch connection error. If door is Above or below reference switch.
Safety Edge SE1: Idle SE2: OFF	**Safety Edge**	Shows the actual status of the safety edges
Inputs X2: □■□□□ X4: □□□□□□□□□	**Inputs**	Quick overview of the Control Panels inputs. Box is marked if input is active.

SYSTEM STATUS (CONTINUED)
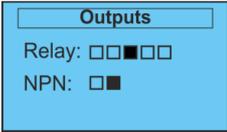
	Sub menus:	Description:
Outputs Relay: □□■□□ NPN: □■	**Outputs**	Quick overview of the Control Panels outputs. Box is marked if output is active
Log 1 of 10 Error: E10 On Cycle: 045	**Fault Log**	Log showing the last 10 faults. Shows the Error code and the door operation cycle it occurred on. Use the UP or DOWN buttons to navigate through the present errors
Log 1 of 10 Error: E10 On Cycle: 045	**Input Log**	Log showing the last 10 activated inputs. Shows the Input and the door operation cycle it occurred on. Use the UP or DOWN buttons to navigate through the log. Press UP + DOWN for 3 sec to clear
Cycle Counter 85421 Operations	**Cycle Counter**	Shows the number of operating cycles the door has preformed. (Open / Close = 1 Cycle). The display will cycle between Total no. of cycles (cannot be reset) and the no. of cycles since last service.
Temperaturs 330*	**Temperature**	Shows the internal temperature of the control panel. Note this is an raw analog value from inside of the controller. This is not shown in *C / *F.
DC Link 330V 300 - 370V DC	**DC Link**	Shows the internal DC Link voltage and the range it should be within.
Internal Levels Int 12V: 11.5V Int 24V: 22.0V	**Internal Levels**	Shows the internal controls supply voltages. Should display around 12V - +/- 1V for internal 12V and around 20-24 for internal 24V.
	Input Diagnostic	Plays a sound and shows in display when an input is activated.
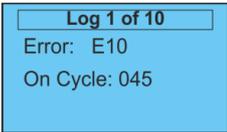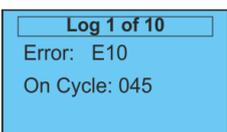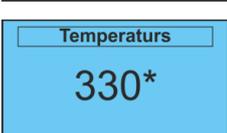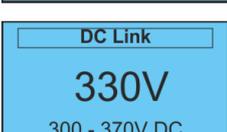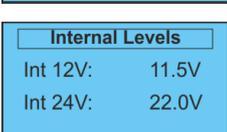
DOOR TYPE

Description:

Door Type

A	B
C	D
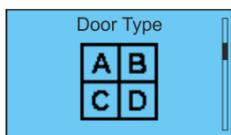
Because of the vast amount of customizable parameters the new SCD V8 now offers a method of defining profiles containing a pre-defined setup of the controller.

The profiles allows the installer to choose a set of parameters well suited for a specific door type providing a quick initial basis for the setup.

The pre-defined parameters in the profiles can only be changed by the manufacturer by updating the firmware.

All parameters are changeable as usual after a profile has been loaded.

WARNING

When loading a profile all related parameters will be overwritten with the defaults of the loaded profile!

DOOR POSITIONS

The door controller use position counts generated by the external encoder connected.

This is used to locate the door and thus navigate it to the various positions.

Depending on the encoder type it can be necessary to have a reference switch/point so that the door controller knows where the door is located after power up.

The example on the right shows a rolling gate with the different door positions located within the door travel.

Rolling door positions example:
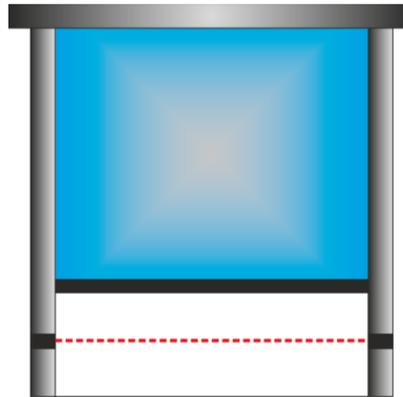
◀ "fully open" position
◀ Pre open
◀ Part open 1
◀ Part open 2

◀ Photocell OFF
◀ Safety edge OFF
◀ Pre closed
◀ Fully closed position

LIMIT SETUP	Sub menu:	Description:
	Operation Mode	Select the operating mode. - See Operating mode for descriptions.
	Quick Setup	Enters the Quick Setup. Set up limit positions. See Quick Set up section.
	Closed	
	Pre Closed	
	Pre Open	Manually set the position for the following door positions. Move the door with the UP or DOWN button and store or the external Foil buttons. Store position by pressing STEP/ENTER button when finished. Display shows stored and returns to previous menu
	Open	
	Open Part 1	
	Open Part 2	
	Rev Edge OFF	
	Photocell OFF	
	High Torque	This function is provided for sliding doors, gates where high torque is needed in the first and final part of the opening and closing. This enables the "High boost" value from fully closed position plus the set "position distance" in this parameter and also in the fully open position minus the distance in this parameter. Set to 0 to disable.

OPERATING MODES

Operating Mode
- ■ OFF
- ☐ Manual
- ☐ Service
- ☐ Auto
- ☐ Auto SE Check
- ☐ A. Deadman
- ☐ A. Deadman C
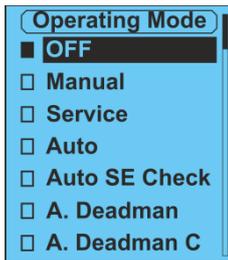
By default this is set to **Auto** after quick setup is done.

Operating mode:	Description:
☐ **OFF**	OFF - no output the motor.
☐ **Manual**	It is possible to run the motor in dead man operation with no limits. This is done with dead man speed.
☐ **Service**	N/A
☐ **Auto**	Automatic operations – the door runs in full speed to the programmed positions. The safety edge is checked before each close and is
☐ **Auto SE Check**	As Auto but requires that the safety edge is activated during each fully closed. (Used with pneumatic safety edges).
☐ **A. Dead man**	Runs within limits with the same ramps and speeds as in automatic. But operates in dead man
☐ **A. Dead man C.**	Automatic open / dead man close. Runs within limits with the same ramps and speeds as in automatic

SYSTEM SETUP

System Setup

Sub menu:	Description:
Timers	Set up the door control timers
Outputs	Set up the door control outputs
Inputs	Set up the door control inputs
Position Sensor	Set up the door control position sensor
Reference	Select the reference for the door positioning
Safety Devices	Set up Safety edges / Photocells / light curtain
Motor Config	Set up motor related settings
Door Speeds	Set up door speeds in the different states
Ramps	Set up door ramps – Acceleration / Deceleration
Specials	Special Custom functions – Move assist / Delta Slip
System	System settings

TIMERS	Options:	Description:
	Auto Close F.	Set the value for the Auto close timer that is used when the door is in the fully open position.
	Auto Close P.	Set the value for the Auto close timer that is used when the door is in the part open position.
	Auto Close O.	Set the value for the Auto close timer that is used when the door is not in the fully open or part open position.
	Run Timer	The maximum time a door travel can take before a timeout error is set. The time should be set to 5 seconds longer than the time required to close the door/gate. During a 'reference run' the time is 3 times the normal run time used.
	Timer 1	Timer Value: Set the time value for the following timers. Time base is 1/10 seconds. Timer Functions: Set the function for the timer, see table below.
	Timer 2	
	Timer 3	

TIMER FUNCTIONS	Description:
No Function	Timer has no function
Auto Close Timer Part1	Auto close from part open 1
Auto Close Timer Part2	Auto close from part open 2
Safety Close	If safety edge or photocell has been activated the auto close time is changed to this Safety Close time instead.
Pre Warn Time	Used in combination with output function. Timer starts when the auto close timer reaches the set pre-warn time.
Air curtain	Delayed open. The door open is delayed by the timer. Relay function Air curtain is active when the timer starts.
Delay To Close	Open command is delayed with the set time before the door closes
Auto Ref. Timer	The door will start an automatic reference run after power up after the timer runs out.
Open Alarm	Activates output function when door has been open longer than the time set. Timer start when door position > fully closed
Delayed Door Closed	Starts when door is fully closed – Activates output function Delayed Door Closed when it runs out.
Auto Open Timer	Opens door automatically when door is fully closed and timer runs out. Used for Cycle test.

OUTPUTS	Output:	Description:
Outputs Relay 1 Relay 2 Relay 3	**Relay 1**	Relay outputs max. 1A @ 24V DC 0.5A @ 120V AC Resistive loads only.
	Relay 2	
	Relay 3	
	Relay 4	
	Power Relay	Power relay output max. 5A @ 240V AC - Resistive loads only.
	NPN 1	Open collector max. 30V DC, 50mA non-inductive
	NPN 2	
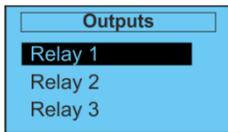
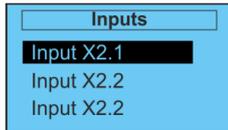| OUTPUT FUNCTIONS	Description:
☐ **No Function**	Relay not active
☐ **Door Moving**	Active when output frequency is > 0.5Hz
☐ **Door idle**	Active when output frequency is < 0.5Hz
☐ **Door Open**	Active when door is above fully open position
☐ **Door Closed**	Active when door is below fully closed position
☐ **Door Not Closed**	Active when door is above fully closed position
☐ **Open Partial**	Active if door is opened to part open 1
☐ **Door Opening**	Active while door opening
☐ **Door Closing**	Active while door closing
☐ **Delay To Close**	Active while Delay to close timer is > 0
☐ **Air Curtain**	Active when the Air Curtain timer starts and is not active when the door reaches the fully closed position. Used for Air Curtains.
☐ **Auto Close Active**	Active while Auto close timer is > 0
☐ **System Error**	Active if there is an error present.
☐ **Pre-Warn**	Active if pre-warn time is > Auto close timer
☐ **Open Alarm**	Active if door has been open longer than the open alarm timer.
☐ **Service Counter**	Operation counter has exceeded the Service Counter value.
☐ **Brake After Run**	Active at half the timeout of After Run Pressure – For mechanical brake. (For sliding doors with seals)
☐ **Delayed Door Closed**	Activates when the door is fully closed and the timer runs out. Timer is started when door is fully closed. Used for mechanical lock
☐ **System OK**	Function optimized for Door Open light signal
☐ **Closed Light**	Function optimized for Door Closed light signal
☐ **Part open Light**	Function optimized for Door Part Open 1 light signal
☐ **Door Locked**	Active when door is locked from Lock input.
☐ **1 sec pulse Opn**	Active 1 sec when the door is fully open.
☐ **1 sec pulse Clo**	Active 1 sec when the door is fully closed.
☐ **1 sec Active**	Active for 1 sec when an open input is activated

INPUTS	Input:	Sub menus:	Description:
Inputs Input X2.1 Input X2.2 Input X2.2	X2.1 to X2.5	Input	Select witch input to configure.
		Function	Select function for the input. See table below for descriptions of input functions.
	X4.1 to X4.10	Name	Select text associated with input.
		Logic	Select the logic function for the input NO / NC.

INPUT FUNCTIONS	Description:
☐ No Function	If input is unused set to this
☐ Flip Flop	Toggle to open or close the door – Starts auto close timer 2
☐ Open Fully	Open door to fully open position
☐ Open Fully with auto close	Open door to fully open position and starts auto close timer 1
☐ Stop	Stops the door with stop ramps
☐ Close	Closes the door
☐ Emergency Stop	Stops the door with emergency ramps
☐ Open/Close	Opens Door to fully open position. Closes door if open. Override safety devices if pressed more than 2 sec and error present. Starts reference run if power has been off.
☐ Photocell	Stops and opens the door – disabled by par. 10
☐ Lock Open	Locks the door in open position
☐ Lock Close	Locks the door in closed position
☐ Open Dead man	Opens door while input is active else door is stopped.
☐ Close Dead man	Closes door while input is active else door is stopped.
☐ Breakout	Stops the door and enables dead man operation
☐ Open Part 1	Open door to port open 1 position
☐ Open part 2	Open door to port open 2 position
☐ Open Part 1 with auto close	As "Open Part 1" but with auto close timer active
☐ Open part 2 with auto close	As "Open Part 2" but with auto close timer active
☐ Flip Flop Open Reverse	Flip / Flop with reverse function
☐ Flip Flop Open Part 1	Open to Part 1 pos and close

INPUT FUNCTIONS (CONTINUED)	Description:
☐ **Flip Flop Open Part 2**	Open to Part 2 pos and close
☐ **Opn/Clo / part**	Opens Door to part open position. Closes door if open. Override safety devices if pressed more than 2 sec and error present. Starts reference run if power has been off.
☐ **Motor Thermo**	Special function for motor overheat protection.
☐ **Door Lock**	Stops door – Can be override by input Code lock
☐ **Code Lock**	Opens door even if Door lock is active. Activates auto close timer 1
☐ **Ext open**	Opens door to fully open position. Activates auto close timer.
☐ **Ext Close**	Closes door.
☐ **Fire Signal**	This input enables the "Fire mode" witch disables operation of the door. It set's the error code E27 and can only be reset by pressing the emergency stop for more than 3 sec.

POSITION SENSOR	Encoder setup:		Description:
Position Sensor Type Pulse Count Scale	**Type**	☐ **2 Phase Encoder**	Quadrature A/B signal
		☐ **SKF Encoder**	Quadrature A/B signal – Enables internal pull-up resistors.
	Pulse Count		**Pulses:** The **pulse** count is the number of pulses on a full motor rotation (360°). **Positions:** Because the controller triggers on both rising and falling edges of each of the pulses, the A and B signal results in a quadrupling of rotational location data, hence the name "Quadrature encoder". Thus, to find the number of pulses on a full rotation, rotate the shaft 360° and then divide this number with **four** and vice versa.
	Pos Pr Meter		Set the number of positions pr meter.
	Scale		Divide the position count by 2/4/8 etc.

Pulse Sensor Types:

Type:	Details:
2 Phase Encoder	Requires reference see section Reference.
Limit Switches	2 to 4 limit switches – No encoder feedback. No closed loop regulation.
PMC Encoder	Pulse output connect to X1.8 for closed loop regulation.
AWG absolute encoder	Absolute encoder. No closed loop feedback.
Dynaco Encoder	Absolute encoder. No closed loop feedback.
GFA absolute encoder	Absolute encoder. No closed loop feedback.
Feig TST Encoder	Absolute encoder. No closed loop feedback.
Dall Encoder	Absolute encoder. No closed loop feedback.
SCE-RS485*	Absolute encoder.

Please note for SCE-RS485 that pulse count must be calculated as Pulse count = (200/4) / Gear ratio
E.g. Gear ratio 1/7 -> 50/7 = 7.

REFERENCE	Reference type setup:	Description:
Reference X1.6 W. Res X1.6 No Res Opto 2 NC	**Mec. Open**	Mechanical stop in open position. Door travels to the open position until it meets mechanical end stop and sets that to the 0 position.
	Mec. Close	Mechanical stop in closed position. Door travels to the closed position until it meets mechanical end stop and sets that to the 0 position.
	X1.6 W. Res	Mechanical switch with resistor supervision. The connection of the switch is monitored through resistor network for maximum safety. Use a 470ohm and 2K2 ohm resistor Switch must be a NO contact if mounted in Open position or NC contact if mounted in closed position,
	X1.6 No Res	Mechanical switch with no resistor safety. Switch must be a NO contact if mounted in Open position or NC contact if mounted in closed position.
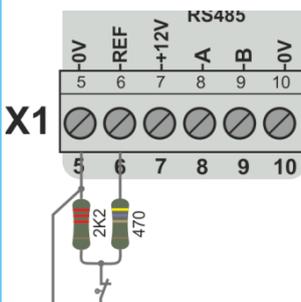
SAFETY DEVICES	Safety device setup:		Description:
Safety Devices Safety E. Front Safety E. Rear Photocell 1 Photocell 2 Safety Mode Retry Count	**Safety Edge Front**		Select the type of connected safety edge. See table below for different types.
	Safety Edge Rear		
	Photocell 1		Select the type of connected photocells. See table below for different types.
	Photocell 2		
	Safety Mode	☐ **Normal**	Door stops and returns and then tries again with normal speed.
		☐ **Slow Retry**	Door stops and returns and then tries again with dead man speed until it reaches past the point it was activated.
		☐ **Stop**	Door stops.
	Retry Count		Set the number of retries the door makes before it stops. **No Retry / 1 / 2 / 3 / 4 / 5 / 10 / Unlimited retries**

SAFETY E. XXXXX

Safety edge setup:	Description:	
☐ OFF	No safety edge connected	**WARNING** *Operation without safety edge is* **not recommended.** *Please note that the installer must make sure that the system complies with the safety related standards in the specific location of installation.*
☐ NO with 8K2	Normally Open with 8K2 resistor	

Menu screens shown:
- Safety Devices
  - Safety E. Front
  - Safety E. Rear
  - Photocell 1
  - Photocell 2
  - Safety Mode
  - Retry Count
- MENU ENTER
- Safety E. xxxxx
  - ■ OFF
  - ☐ NO with 8K2
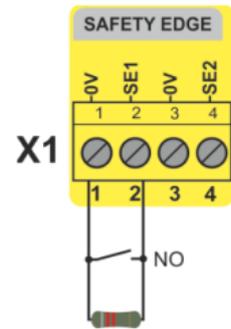
PHOTOCELL TYPES

Photocell setup:	Description:
OFF	Channel is turned off
Telco LS 100 series	The integrated opto amplifier is used when system is selected. See connection section.
NPN CHK NC	NPN NC type Photocell is used – Powered by X3.1 or X3.3 – Note only +12V supply from this terminal
PNP CHK NC	PNP NC type Photocell is used – Powered by X3.1 or X3.3 – Note only +12V supply from this terminal
NPN NC	NPN NC type Photocell is used.
PNP NC	PNP NC type Photocell is used.
Telco G14 NC	Normally closed contact Light curtain connected – Test signal connected to X3.1 or X3.3
Telco G14 NO	Normally open contact - Light curtain connected – Test signal connected to X3.1 or X3.3 – Please not that test signal must be connected to X3.10 (NPN2)
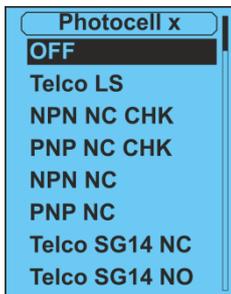
Menu screen shown:
- Photocell x
  - OFF
  - Telco LS
  - NPN NC CHK
  - PNP NC CHK
  - NPN NC
  - PNP NC
  - Telco SG14 NC
  - Telco SG14 NO

Motor Config
NP Speed
Direction
VF Open

Motor setup:		Description:
Motor Speed		This is the normal motor speed at its given frequency i.e. 1350rpm at 50Hz. See motor label for speed rating. This is used for the internal slip measuring.
Direction		**Motor / Encoder direction:**
	☐ **Normal**	No change
	☐ **Motor Rev**	Motor reversed
	☐ **Enc Rev.:**	Encoder reversed
	☐ **Motor & Enc Rev.**	Motor and encoder reversed
VF Open		This is the point at which the maximum voltage is delivered to the motor. **This is relevant when the door opens in automatic mode.**
VF Close		This is the point at which the maximum voltage is delivered to the motor. **This is relevant when the door closes.**
Boost Open/ Boost Close		The Torque boost increases the link voltage and thus the torque when the motor is accelerating or ramping up. If the boost is set too low the door/gate may not move, and if too high it could result in an over current event. Due to the large number of door/gate types this is individual for each installation. **This is relevant when the door opens/closes in automatic mode.**
High Boost		Changing this value enables high boost which will be used when door opens between position "Fully closed" and position "High Torque". If parameter "high boost distance" is different from 0 the high boost feature will also activate under the conditions described in High Boost Distance. Set to 0 to disable and thus the function of High Boost Distance.
Switch F. Open / Switch F. Close		Depending on the type of motor certain switch frequencies can result in unpleasant noise from the motor windings. By changing the pulse frequency in the range from 2.5 to 8.0 kHz this noise can be reduced. (Recommended value: 2.5 kHz). *Note: Increasing this setting will increase the switch power loss and heat up the motor.*
Position Tol.		This sets the tolerance within which the supply can be switched off to the motor when it reaches its end of travel positions. When the door/gate reaches its position tolerance then the supply to the motor is removed and the position relays, door/gate open and door/gate closed are activated. *Example: If the fully open position is set at 700 and Position tolerance is set to 5 then the supply to the motor will be switched off when it reaches 695, and the door open relay will operate.*

MOTOR CONFIG (CONTINUED)

```
Motor Config
NP Speed
Direction
VF Open
```

Motor setup:	Description:
Relay Tol.	This sets the tolerance within which the door/gate position relays remain activated. *Example:* If the Fully open position is set at 700 and Position Tolerance is set to 5 Relay Tolerance is set to 30 then the Door open relay will operate when it reaches 695, the relay will de-energize when the door/gate closes and passes the position 670.
DC Brake Cur.	DC braking is used to inject DC current into the motor windings when the actual door/gate position is inside the position tolerance at the end of travel, i.e. fully open or fully closed. This DC braking helps to bring the door/gate to a stop before the motor brake operates.
DC Brake Time	For Freezer areas DC braking can be set to prevent the drive from freezing up. DC Brake time should be set to 100 so that the motor receives a constant DC current. DC Brake Cur. should be selected to provide the correct temperature.
Motor Heat	Set the level of the DC heating of the motor when the door is not moving. 0-100%. If movement is detected then the heating is turned off for 10 sec.
F. Close	Time where the door is forced closed after the Fully closed position is reached.
F. Open	Time where the door is forced open after the Fully open position is reached.
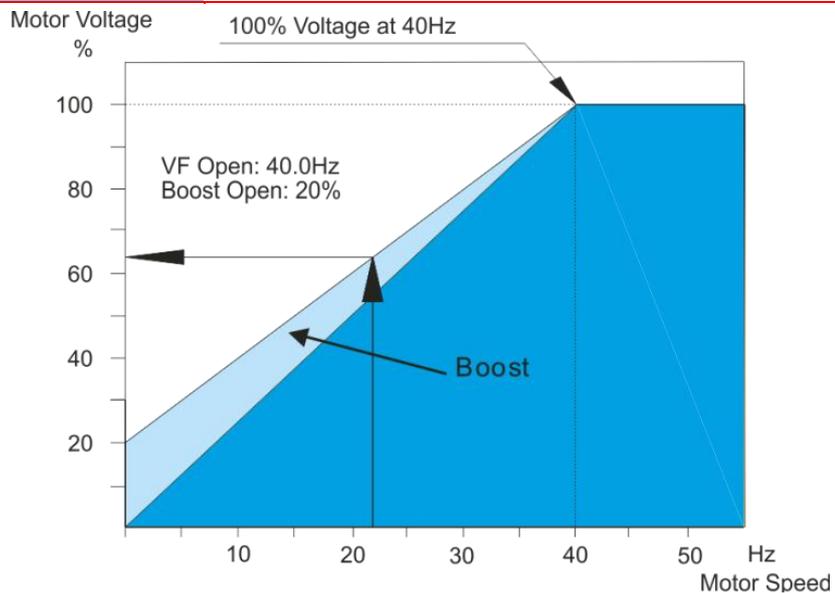
Frequencies
Open
Pre Open
Close

Event:	Description:
Open	Max speed used between closed and pre-open position.
Pre Open	Max speed used between pre-open and the fully open position.
Close	Max speed used between open and pre-closed position.
Pre Close	Max speed used between pre-closed and the fully closed position.
Dead man	This parameter sets the speed that the door/gate operates when it is operating under "dead man operation" or during a reference run. (dead man speed)
Minimum	Set this value equal to the motor slip.
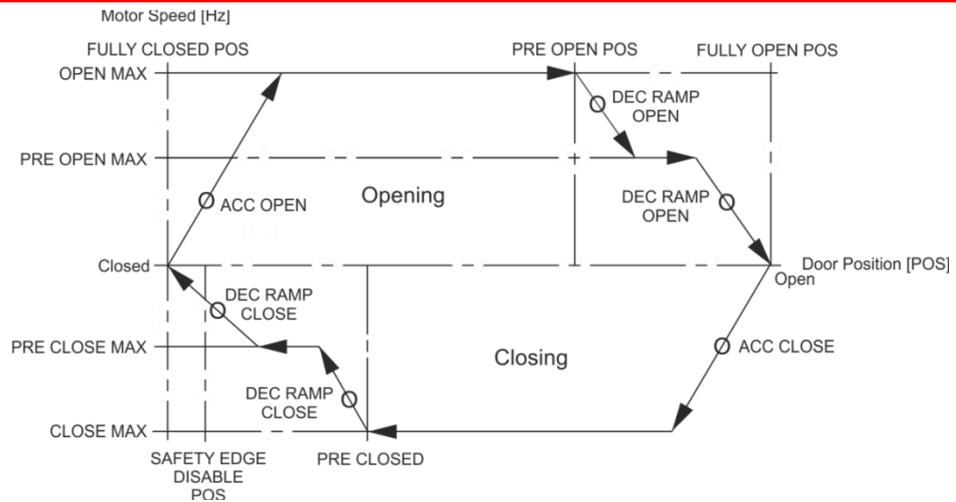
Ramps
Acc Open
Acc Close
Dec Open

Ramp type:	Description:
Acc Open	The ramps change the rate at which the motor reaches its operating speed. The higher the value the faster the motor changes to its intended operating speed. This parameter is used when opening the door.
Acc Close	The ramps change the rate at which the motor reaches its operating speed. The higher the value the faster the motor changes to its intended operating speed. This parameter is used when closing the door.
Dec Open	Ramp down deceleration used when the door is opening and stopping to reach the fully open position.
Dec Close	Ramp down deceleration used when the door is closing and stopping to reach the fully closed position.
Dec Stop Open	If the door/gate is opening and the stop button is activated it will stop quickly dependant on the value set for this parameter. This parameter should be set so the door stops without excessive force on the drive mechanism.
Dec Stop Close	If the door/gate is closing and the stop button is activated it will stop quickly dependant on the value set for this parameter. This parameter should be set so the door stops without applying excessive force on the drive mechanism.
Dec Emergency	If the door/gate is closing and the safety edge is activated it will stop quickly dependant on the value set for this parameter and then reverse. This parameter should be set so the door/gate stops quickly to ensure that safe closing force is not exceeded.

SPECIALS

Special options:		Description:
Move Assist	☐ **OFF**	Disable the move assist function
	☐ **OPEN**	Move assist detects manual movement of the door and then it starts to open/close the door in dead man speed. Set direction to assist.
	☐ **CLOSE**	
	☐ **OPEN/CLOSE**	
Move Assist Sens.		Sets the sensitivity of the move assist.
Delta Slip		Set the sensitivity of the Delta slip measuring. Set how many percent of delta slip allowed before setting slip error.

SYSTEM

System options:	Description:
Clear Fault Log	Clear fault log. User will be prompted to acknowledge to clear log.
Clear Counter	Clear cycle counter. User will be prompted to acknowledge to clear counter to 0.
Service Limit	Set the no. of operations before the service flag is set. This value is multiplied by 100. So for instance the value of 250 equals 25000 operations.
Sound	Turn sound ON / OFF
Backlight	Turn backlight ON / OFF
Contrast	Set the display contrast
SW Update	Enter firmware update / Boot mode
System Info	Shows system information: Type / Power Size / Voltage Rating
SW Info	Displays software version
Service	Special parameter for manufacturer/service

SCipBox Wireless System

The new generation of the Speed Commander Door controllers introduce the SCip wireless system, this system is designed for quick, reliable and cost-effective connection of peripherals to the system without the need for physical communication wires.

Wireless setup

The wireless setup menu includes all the necessary parameters for adding, removing and configuring SCip devices. This menu is accessed from the main menu tree by pressing the menu/enter button after selecting the system setup icon as below.
Note that some of the menus consist of additional menu levels which are accessed and navigated the same way as the first level.

Wireless setup menu navigation

Use up/down buttons to navigate to the wireless menu	Single press to access Press & hold to exit	Use up/down buttons to navigate the wireless menu	Single press to access sub menus Press & hold to exit
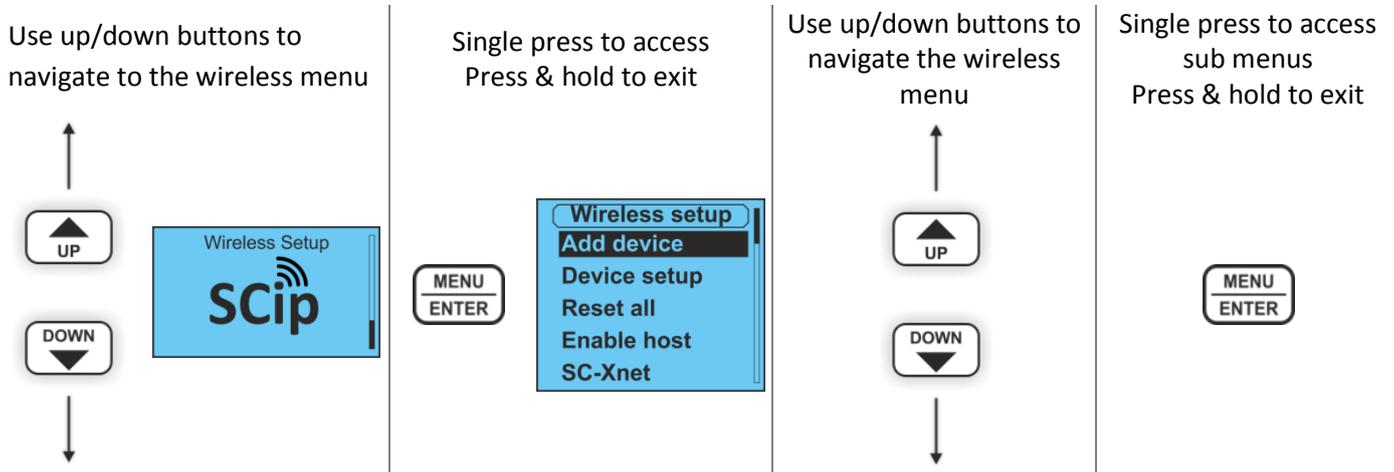
Wireless setup menu overview

Wireless setup	
Add device	◀ This menu is for adding SCip devices
Device setup	◀ This menu is for configuring added devices
Reset all	◀ This menu resets all
Enable host	◀ This menu is for enabling/disabling host antenna
SC-Xnet	◀ This menu is for configuring SC-Xnet parameters

ADD DEVICE

Wireless setup
- Add device
- Device setup
- Reset all
- Enable host
- SC-Xnet

Description:

To pair an SCip device:

1. Select this menu; pairing mode is initiated. Activate SCip device(s) according to the respective manual of the device(s).
   Note: If multiple devices must be added activate these subsequently without exiting the pairing mode.

2. Exit pairing mode by pressing `MENU ENTER`

Add Device
Waiting
For Device

PAIRED
Hand Remote
Serial: XXXXXX

DEVICE SETUP

Wireless setup
- Add device
- Device setup
- Reset all
- Enable host
- SC-Xnet
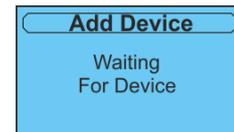
Description:

Set up the parameters of the paired devices.
Please refer to the manual of the unit that you want to setup.

RESET ALL

Wireless setup
- Add device
- Device setup
- Reset all
- Enable host
- SC-Xnet

Description:

Clears all pairing and configurations.
Reconfigures the radio channel to a random value.

ENABLE HOST

Wireless setup
- Add device
- Device setup
- Reset all
- Enable host
- SC-Xnet

Description:

☐ OFF	Check this to disable SCip host functionality
☐ Ext	Check this to use external SCip host device (SCip host antenna)
☐ Internal	Check this to use internal SCip host device (SCip host antenna)

SC-XNET

Description:

Enable	☐ **Enable**	Enable the wireless X –net *This option requires a special hardware module connected to X2 RS485*
	☐ **Disable**	Disable the wireless X-net
Discover		Find other X-net devices in range
Connect		Allow access to other X-net devices
X-Lock		Wireless air lock for up to 5 controllers
Clear all		Reset all to Xnet settings to factory default
Settings	**Channel**	
	Network ID	

Menu navigation:

Wireless setup
Add device
Device setup
Reset all
Enable host
SC-Xnet

MENU / ENTER

SC-Xnet
Enable
Discover
Connect
X-Lock
Clear all
Settings

SETUP

QUICK SETUP

Step:	Display:	Action:	
1	**Check encoder direction:** Quick Setup Press & Hold UP To Open Door 0mm	Use **UP** button to move door in the open direction. Now check that the count is counting positive and door is moving against open position. The door stops automatically, release the button and if the direction is **OK** press **UP**, if **WRONG** press **DOWN.** Pressing **DOWN** will change the direction at this point.	▲ UP or ▼ DOWN
2	**"fully open" position:** Open Limit Move Door To Open Limit 0mm	Move the door to the fully open position using the **UP** or **DOWN** button. Store this position by pressing **MENU / ENTER**	▲ UP or ▼ DOWN MENU ENTER
3	**"fully closed" position:** Closed Limit Move Door To Closed Limit 0mm	Now move the door to the fully closed position using the **UP** or **DOWN** button. Store the position by pressing **MENU / ENTER** **Incremental encoder:** If you are using an incremental encoder the controller will now perform a reference run to calculate the position values to be stored.	▲ UP ▼ DOWN MENU ENTER
4	**Finished:** Quick Setup Done	Quick setup is done. The calculated are now stored. The operation mode is set to "Auto"	**Error:** Quick Setup Aborted If something went wrong the error code E17 will show. Limits are reset. **Go to step 1 and try again.**
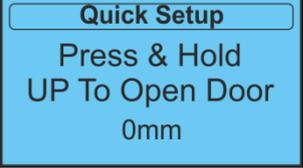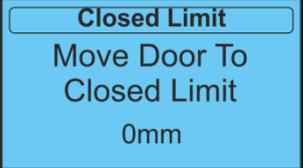
Please note that if position counter exceeds during setup then auto setup will be aborted. Then use encoder scale to reduce count. See System Setup -> Position Sensor -> Scale.

To verify that position is within the count range of the controller (-32000 -+32000) use System diagnostic -> Position and run the door fully open and fully close in deadman by foil buttons. Then check that value is within the range.

SPECIFICATIONS

PRODUCT LABEL
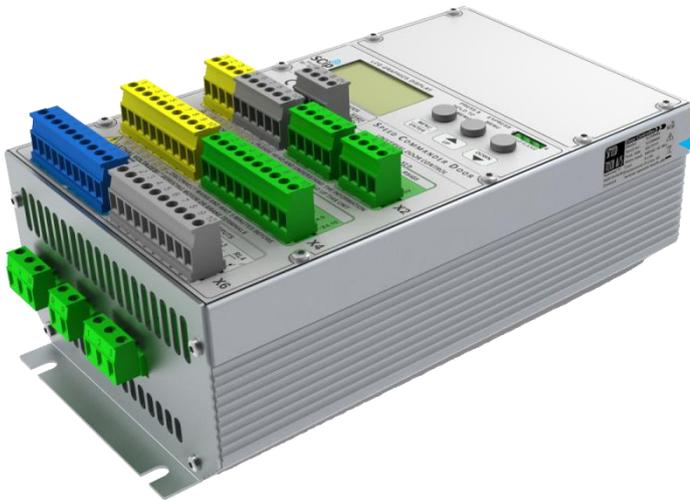
The product label contains relevant information about the specific controller on the SCD series door controllers this is located on the side of the upper right corner of the unit.

MODEL IDENTIFICATION

	I out				Mains input		Mains filter	Recommended mains fuse		Brake chopper	Recommended brake resistor value	
	3 x 4A	3 x 10A	3 x 9,5A	3 x 5,5A	230VAC (1 Phase)	460VAC (3 phases)		16A	3x10A		200Ohm 200W	100Ohm 400W
SCD 750G	●				●			●				
SCD 1500G		●			●			●		●	●	
SCD3-2200G			●			●			●	●	●	
SCD3-4000G		●				●			●	●		●
SCD 750GL	●				●		●	●				
SCD 1500GL		●			●		●	●		●	●	
SCD3-2200GL			●			●	●		●	●	●	
SCD3-4000GL		●				●	●		●	●		●

MECHANICAL DIMENSIONS

SCD XXXX**G**
(short version without mains filter)
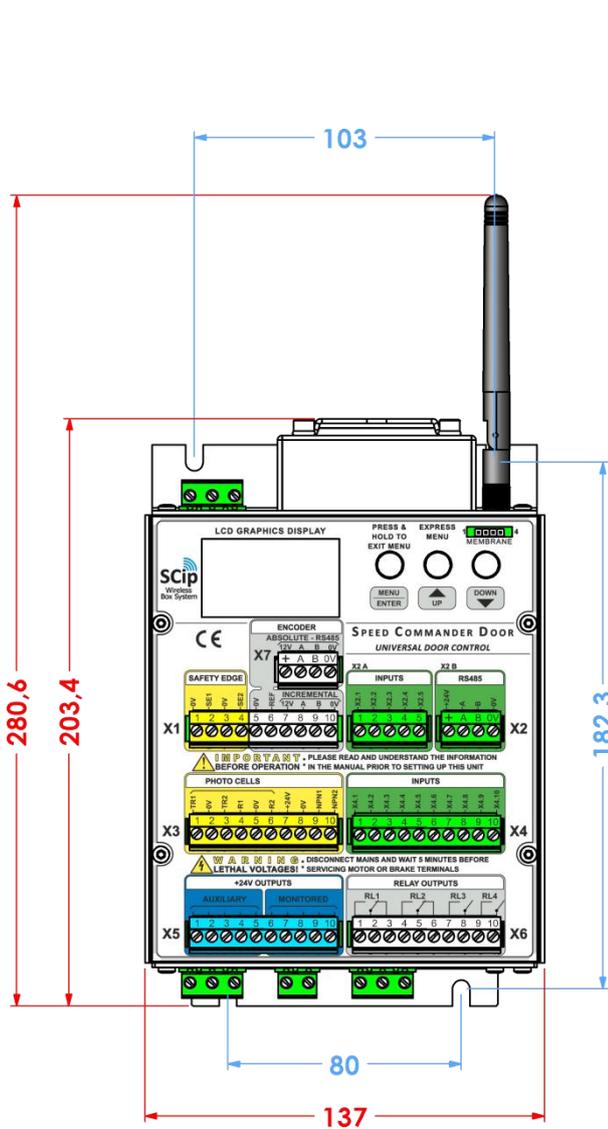
SCD XXXX**GL**
(long version with mains filter)
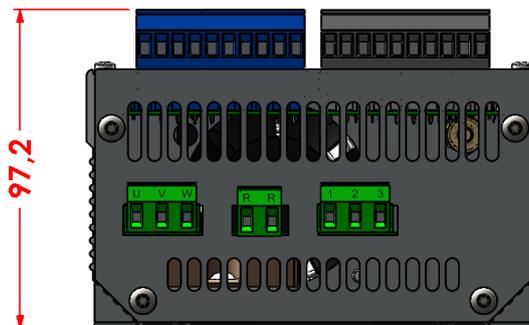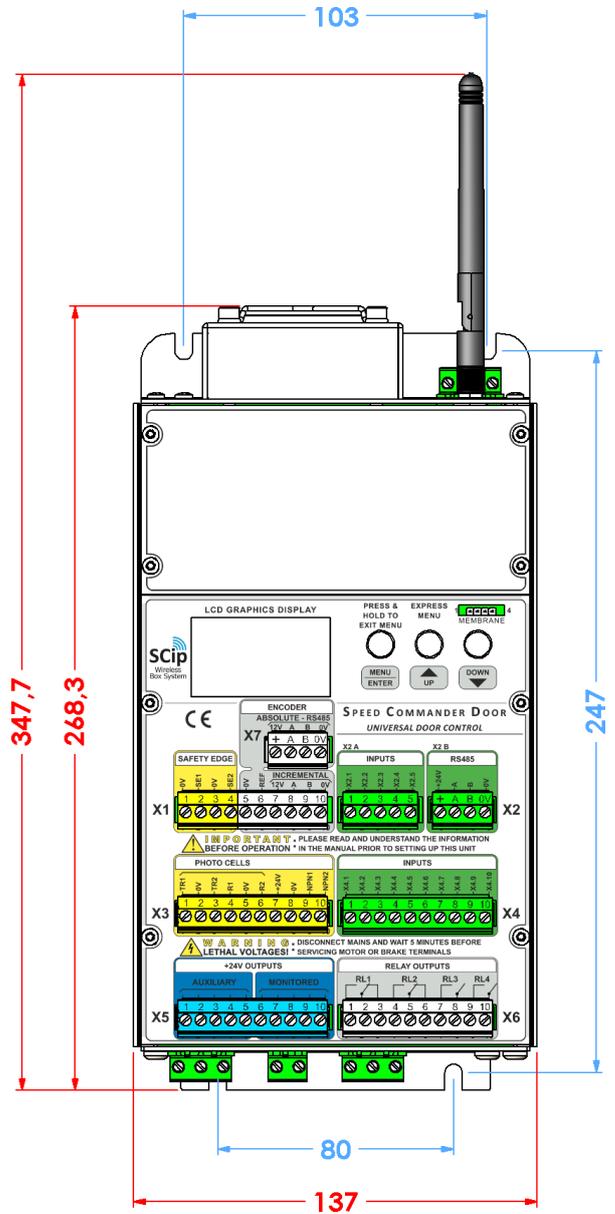
All units are in millimeters.
Overall dimension tolerance: ±1mm.

TECHNICAL SPECIFICATIONS

Ingress Protection class rating:		20	
Cooling:		Internal fan	
Installation:		Wall mount - none vibrating. ***It is highly recommended to install the controller in a protective enclosure to avoid dust, humidity and liquid substances to enter the electronics.*** For high altitude installations contact supplier.	
Humidity:		RH <90% (Non-condensing)	
Ambient Operating Temperature:		-10°C to +40°C	
Noise levels:		47dB (A)	
Mains Input: ***Note:*** *To comply with EN61000 Use mains filter B 1309105 from Block*		**230V model:** Mains voltage: 207 to 244VAC Frequency: 50/60hz Recommended fuse: 16A	**400V model:** Mains voltage: 3 x 207 to 244VAC Frequency: 50/60hz Recommended fuse: 3 x 10A
Internal power supply ratings:		+24V/0.5A – Fused - Monitored / +12V/0.2A – Current limited - Monitored	

Outputs:	**Face plate:**		
	X1.7	12V output for O.S.E. safety edge	
	X2.1	24V output for RS485 connection	***Warning:*** *Do not exceed 0.5A current consumption on +24V outputs, and 0.2A on +12V*
	X3.7	24V output for photocells and light curtains	
	X5.1 to X5.5	24V outputs for general purpose	
	X5.6 to X5.10	24V outputs switchable for safety check	
	X6.1 to X6.10	4 x General purpose relays:	***Relay ratings:*** *1A @ 24VDC (non-inductive)*
	Bottom plate:		
	R and R	Brake resistor output	***Recommended resistor specifications:*** *Under 4KW - 200Ohm/200W* *Over 4KW - 100Ohm/400W*
	U, V and W	Motor output terminals	***Performance level d, Category 2.*** *Motor speed is monitored by external encoder signal feedback and compared to output speed.*
	1 to 3	Power relay terminals	*Max.: 5A @ 240VAC*
	Top plate:		
	L and N	Mains connection 230VAC model	*1 phase*
	L1, L2, L3	Mains connection 400VAC model	*3 phases*

Inputs:	**Face plate:**		
	X1.1 to X1.4	Safety edge connection	***Performance level d, Category 2 X1.2 & X1.4***
	X1.5 to X1.10	Inc. encoder and ref. connection	*12 to 24V tolerable*
	X2.1 to X2.5 (X2 A)	General purpose inputs	*12 to 24V tolerable*
	X2.6 to X2.10 (X2 B)	RS485 communications	*Terminated with 120 Ohm*
	X3.1 to X3.10	Photocell connection	**X3.4 & X3.6 Performance level d, Category 2** NPN1 is used for testing light curtain. ***NPN output max. ratings:*** *Open collector max. 30V DC, 50mA non-inductive*
	X4.1 to X4.10	General purpose inputs	*12 to 24V tolerable*

APPENDIX

DECLARATION OF CONFORMITY

According to EC-Machinery Directive 2006/42/EC

Manufacturer: Speed-Tech A/S
Address: Nybrovej 97, DK-2820 Gentofte, Denmark, www.speed-tech.dk

Herewith declare under solo responsibility that the Speed Commander Door controller with type markings:
Serial number: **SCD 123456 [000000....999999]**

EN 12453   Safety in use of power operated doors - requirements.

EN 13849-1:2006   Safety of machinery -- Safety-related parts of control systems.
                      Part 1: General principles for design

EN 61800-3   Product Standard for power drive system.

EN 61000-6-3   Electromagnetic compatibility (EMC) – emission.
EN 61000-6-2   Electromagnetic compatibility (EMC) – immunity.

EN 60335-1   Safety of household and similar electrical appliances. Par 1: General requirements

And is conformity with Low voltage directive 2006/95/EC and EMC directive 2004/108/EC.
The manufacturer furthermore declares that it is not allowed to put the equipment into service until the machinery into which it is to be incorporated, or of which it is to be a component has been found and declared to be in conformity with the provisions of the Directive 2006/42/EC and with national implementing legislation, i.e. as whole, including the equipment referred to in this Declaration.
Speed-Tech A/S, DK-Gentofte, September 2011

_____
René Jørgensen, President

TROUBLESHOOTING

Error Code:	Cause:	Check:
UU	The mains voltage is too low	
OV	Over voltage. Either the mains voltage is too high or the deceleration is too fast	
OH	Over heating inside the panel, the inverter is too hot. check ventilation. Check parameter j*=1.	
OC1	The drive is overloaded. The motor current exceeds the Inverter rating by 210%	
OC2	The motor current has exceeded the inverter rating by 150% for more than 30 seconds.	The inverter or the drive is overloaded. Check for obstructions, check the operator selection.
OC3	Over current whilst accelerating, the acceleration is too fast.	
OC4	Over current whilst dc braking operates.	The dc braking is too aggressive, reduce parameter h*
OC5	Severe overload, possibly permanent damage to the controller.	Check for a short, or the motor is stalled, brake not releasing, or parameter b is set too high
HE1	Low internal 12V supply.	Check I/O wiring for short
HE2	Low internal 24V supply.	Check I/O wiring for short
E01	Mechanical overload (slip monitoring) or missing signal from the encoder.	Check the encoder wiring and possible mechanical obstruction.
E02	Direction error.	Check encoder wiring. Confirm that the pulses count up while opening and down when closing the door.
E03	No signal from the encoder - (only during installation).	The connections to the panel and for mechanical obstruction.
E04	Another input than the expected has been activated.	The position of the reference point
E05	The reference switch is shorted or broken.	The reference switch
E06	The reference switch operates in the wrong position.	If using an incremental encoder the reference switch has operated in the wrong position or if using limit switches the pre-close limit is open circuit
E07	Run time exceeded.	Check the setting of parameter 6*.
E08	The safety edge test has failed.	Check the connections to the safety edge.
E09	Connection fault on safety edge 1	Check the connections to safety edge 1
E10	The safety edge 1 has operated.	Check if there is a mechanical obstruction in the door opening
E11	Connection fault on safety edge 2	Check the connections to safety edge 2
E12	The safety edge 2 has operated.	Check if there is a mechanical obstruction in the door opening/closing
E14	Communications error with the absolute limit switch	Check the wiring to the absolute limit switch.
E15	Reset limit positions failed	Try to repeat the quick step installation or run the position setup (quick setup) again. / Auto setup
E17	Fire signal activated	Check input for fire signal
E18	X-net - Wireless Airlock Failed to Authorize Opening	
E19	X-net - Wireless No Response	
E21	SCip Wireless - Remote Timeout	
E22	SCip Wireless - Edge timeout	
E23	SCip Wireless - Edge connection fault	
E24	SCip Wireless - Host connection fault	
E25	Safety Device test fault Ch1	Check that test signals are connected correctly
E26	Safety Device test fault Ch2	Check that test signals are connected correctly
E27	Critical input active during power up	Make sure that Inputs are not activated during power up
E28	Internal self test failed - RAM / ROM / EEPROM	Reload door profile – If problem consists contact supplier
E30	Test of safety critical inputs failed	Make sure monitored input are connected to the monitored +24V supply at X5.5 – X5.10

WARNING! ELECTRICAL HAZARD!
Always disconnect mains supply and wait for 5 minutes before servicing the high voltage connections of the motor or the door controller.

Lethal voltages inside:
Do not take the controller apart in an attempt to repair it, this is related to serious danger and is a task for a qualified technician only.

If you need technical support or if the product is damaged please contact your supplier.

The product should be disposed and treated as WEEE (Waste Electrical and Electronic Equipment).
disposed and treated as WEEE (Waste Electrical and Electronic Equipment).

CHANGE LOG

Revision:	Description:	Initials:	Date:
V1.0.0	Initial version	ASN	31-10-2013
V1.0.1	Updated Various – New Layout with colors	ASN	09-09-2015
V1.0.2	Updated Various	ASN	09-09-2015
V1.0.3	Updated Various	ASN	09-09-2015
V1.0.4	Corrected Declaration of conformity & minor layout	ASN	22-09-2015
V1.0.5	Technical specifications section and other various updates	AEC	03-12-2015
V1.0.6	Limit switches section updated	AEC	08-02-2016
V1.0.7	Limit switches section updated	AEC	14-03-2016
V1.0.8	Mains and motor connection section updated	AEC	06-04-2016
V1.0.9	Cedes light curtain connections added	AEC	13-05-2016
V1.1.0	Cedes light curtain connections updated	AEC	07-06-2016
V1.1.1	Bug corrected – DC brake time vs DC brake current	ASN	10-02-2017