

STANDBY®

When attention matters.

CS300 Control System Service

Manual

Standby AB
2024-04-24

Table of contents

Introduction	2
System Contents	4
CS300 Basic Package.....	4
CS300 Optional	5
Connection.....	5
CAN-loop	5
Power supply	6
Contacts and definitions	6
SE05 Medium control unit (ID:1).....	7
T4 Control panel (ID:38)	12
Configuration – setting parameters.....	19
General information	19
First configuration with T4	19
Reconfiguration with T4	20
Factory reset with T4	21
Parametrar.....	22
Selecting country – 178.....	22
Light bar Standby CAN-model: front, rear – 139.....	22
Flash pattern light bar Standby CAN-model – 210	22
Amber light – 13, 121, 275, 278, 285 and 310	23
Climate, Extra light/work light – 8, 25, 54, 81, 83, 89 and 120.....	23
Amber warning light – 138, 197, 205, 206 and 251	23
Inputs – Low/High	23
System voltage	24
Error message	24
Breakdown table for battery levels.....	25
Options.....	26
Standby CAN-charger	26
Extra heater – Eberspächer.....	28
Electrical diagram.....	29

Introduction

The CS300 is a powerful control system for service/utility vehicles.

There are 2 different configurations to choose from:

- CS300
- CS300 with Eberspächer control

The system is operated via Standby T4 panel (4-inch touch panel) with distinct buttons, IP 65 class and built-in light sensor for a safer vehicle environment.

Distinct warning indicator when the door/hatch/shutter is open to prevent you from driving away when something is open.

Operation of the roof sign with a distinct warning indicator when it is raised and the roof sign goes down automatically when the P-brake is released.

Control of C-lock motors so that the superstructure is locked at the same time as the car.

Interior light with two functions, timer function (turns off automatically after a certain time) or can be turned on/off manually. There is also an interior light output with dimmer function.

Easily operate the lights on the vehicle such as extra lights front and roof, side and rear work lights, reversing lights and forward/reverse warning lights and 360 degrees.

Climate control with control of the Eberspächer heater (set the desired temperature and the system will handle it automatically). Also control of ventilation fan.

If W3 light bar is installed, it provides additional functions such as charge indication, side work light, flashing pattern selection, running light, forward/reverse warning light, airport mode and cruise light.

Standby battery charger with intelligent charging can be connected as an integrated unit in the system, providing 230V charge indication in the W3 light bar and in the system's display. The battery symbol in the display clearly shows the charge level of the vehicle battery.

The built-in voltage monitor switches off functions gradually depending on the voltage level to not deeply discharge the vehicle battery.

The system is easily configured via the touch panel, which simplifies the installation.

Functions SE05:

- Warning open door/hatch/shutter/roof sign
- C lock control superstructure (20A)
- Amber Front Warning Light (3A)
- Amber warning light Rear (3A)
- Amber warning light 360 (6A)
- Interior Light 1 (6A)
- Interior Light 2 (6A)
- Rear work light (10A)
- High beam output front (3A)
- Eberspächer steering (optional)
- Ventilation fan (10A, 6A PVM)
- Roof sign up/down (3A)
- Support for Standby Chargers
- Charge indicator output (3A) with Standby charger 230V
- Voltage monitoring to protect the vehicle battery
- Work light left (6A)
- Work light right (6A)
- Reversing light (6A)
- Dimmable interior light (6AA)
- High beam output roof (20A)
- Warning light 360 (20A)

Functions with W3 light bar:

- Charge indication with Standby charger 230V
- Work lights; Left and Right
- Turning off lights forward and/or backward
- Traffic guidance yellow running light (right, left, center)
- ICAO mode (airport mode)
- Cruise light
- Choice of blink pattern

Technical data:

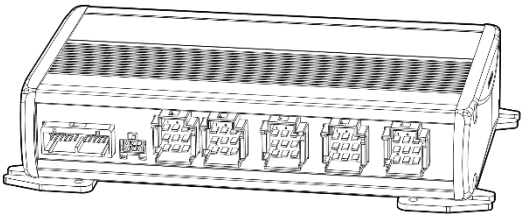
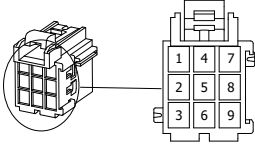
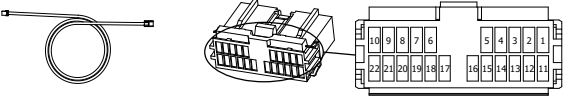
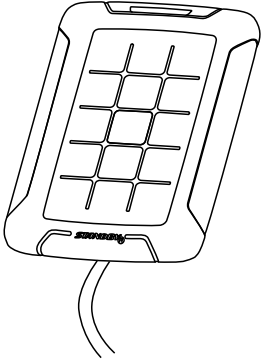
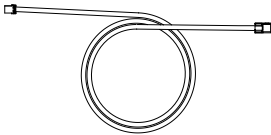
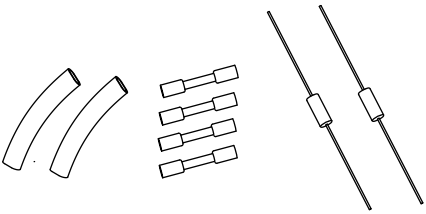
- Dimensions T4 touch panel: 126 x 87 x 19.5 mm
- Dimensions SE05 Medium: 237 x 144 x 52 mm
- 10-30V
- -20 to +70°C
- T4 panel IP 65 classified
- Automotive connections

Approvals:

- ECE R10 – EMC

System content

CS300 Basic package

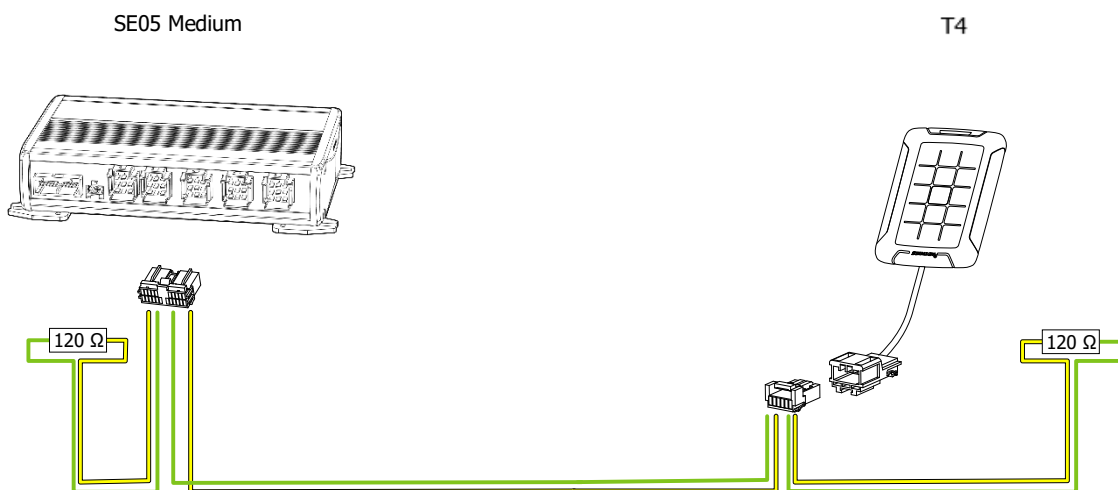
<p>1 x SE05 Medium – ID:1 Part no: 60539401_0041 Part no: 60539501_0041 with Eberspächer control</p>  <p>P9 PROGR P1 P2 P3 P4 P5</p>	<p>Contacts: P1, P2, P3, P4, P5 5 x Housing Part no: 39900219 45 x Contact sleeve Part no: 39900085</p>  <p>Contact: P9 1 x Cable harness 22pol Green JAE 0,3m Part no: 60580248</p> 
<p>1 x T4 – ID:38 Part no: 60530172</p> 	<p>1 x Cable harness JAE 6-pol 6m. Standby part no: 60480239</p> 
<p>1 x End Resistor Kit Part no: 60580114</p> 	<p><u>Content:</u></p> <ul style="list-style-type: none"> 2 x Heat shrink tubing 4 x Splice sleeve with glue 2 x Resistor 120 Ohm

CS300 Optional

Product	Part number
Standby charger (CAN-12V)	69530401
W3 light bar front/rear	Contact Standby for the right variant
Standby Software Tool (SST) PC Software	Contact Standby
Programming cable	60580217

Connection

CAN-loop



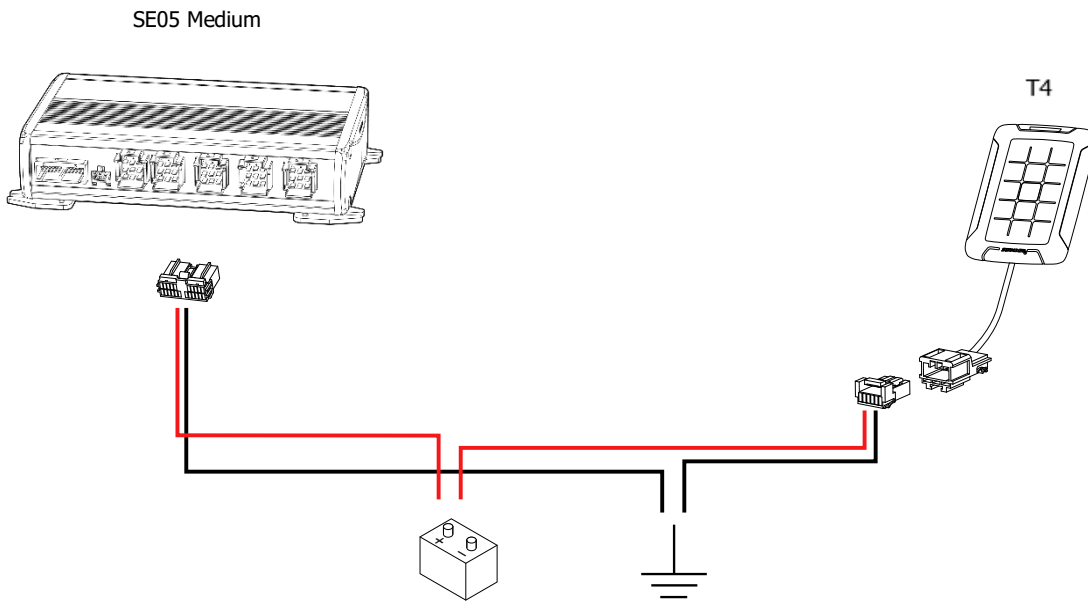
Standby CAN

The units in the system are connected in series and there should be an end resistor of 120 ohms at each end of the CAN loop.

The units can be placed in any order between the end resistors.

It is important that the CAN loop is twisted at 40 loops/meter.

Power supply



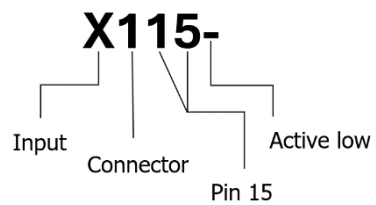
Each unit should be connected separately to the power supply and ground. Refer to the wiring diagram for detailed information and for information on fuses.

Contacts and definitions

Definitions

- U = Voltage
- T = Time
- X = Input
- Y/YD = Output
- S = Power supply

Example



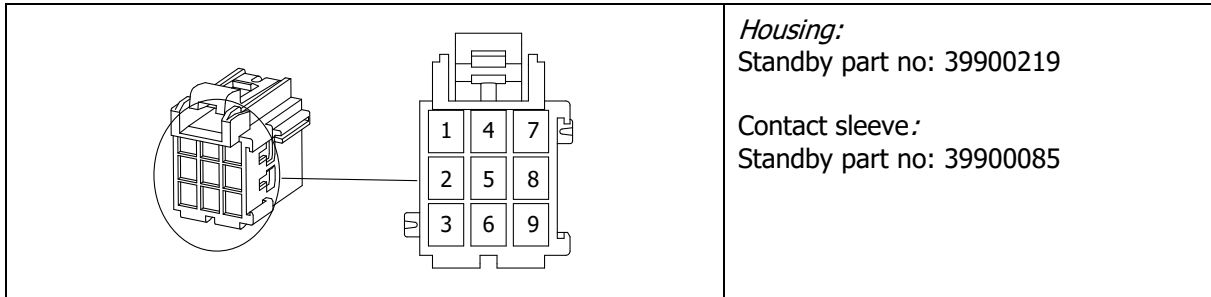
The first digit of the name describes the number of the connector, and the digits after describes the number of the pin.

- + *active high*
- *active low*





SE05 Medium control unit (ID:1)

Max continuous current consumption 110A.

SE05 – Contact P1, P2, P3, P4 and P5







SE05 – Contact P1 – Outputs

Contact: Pin	Output (I max)	Function
P1:1	YD11+ (3A)	Extra light front (Connect to relay) Follows the input signal high beam when the button  is selected (The frame of the button is red)
P1:2	YD12+ (3A)	Amber light front Following Amber light 360. Button  turn Off the Output.
P1:3	YD13+ (3A)	Power outlet 1 Follows main switch.
P1:7	YD17+ (3A)	Charge indication Output is On when Standby charger is plugged in.
P1:8	YD18+ (3A)	Amber light rear Following Amber light 360. Button  turn Off the Output.
P1:9	YD19+ (3A)	Roof sign up/down Up/Down with button  provided that P mode is active. If P-mode is not active, the sign goes down.

SE05 – Contact P1 – Power supply

Contact: Pin	Input	Function
P1:4	S14+	Power supply
P1:6	S16-	Ground

SE05 – Contact P2 – Outputs

Contact: Pin	Input (I max)	Function
P2:1	YD21+ (6A)	<p>Interior light 1</p> <p><u>If parameter 13 is selected:</u></p> <p>The lights are switched on and a timer (40 min) for switching off is started if a door/hatch or shutter is opened.</p> <p>The time can be changed using parameter 13 in the SST tool.</p> <p>The time is reset and starts over with a new countdown when the button  in the display is pressed.</p> <p>The button lights up when any hatch is open.</p> <p><u>If parameter 13 is not selected:</u></p> <p>The lighting only follows the button.</p>
P2:2	YD22+ (6A)	<p>Interior light 2</p> <p>Follows output YD21+</p>
P2:4	YD24+ (6A)	<p>Amber light 360</p> <p>Activated via Amber light 360 in display</p>
P2:8	YD28+ (10A)	<p>Work light rear On/Off with </p> <p>Follows reverse gear input if parameter 8 is selected (Enabled in the configuration menu in the T4 panel or with the SST tool). Can be turned off with the button  if the output Reverse gear is activated.</p>
P2:9	YD29+ (6A)	<p>Ventilation fan</p> <p>The fan is started/stopped with a short press of the button .</p> <p>Starts at 50% the first time after the system is powered. The speed is changed with the Plus and Minus button on the fan menu. The last set value is saved when the system is shut down.</p> <p>The fan menu is opened by holding down the button for 1.5s or by stepping with the right arrow button to page 5 Fan menu.</p> <p>(The function is activated in the configuration menu in the T4 panel)</p>

SE05 – Contact P2 – Power supply

Contact: Pin	Input	Function
P2:3	S23+	Power supply for YD21, YD22 and YD24
P2:6	S26+	Power supply for YD28 and YD29
P2:7	S27-	Ground





SE05 – Contact P3 – Outputs

Contact: Pin	Output (I max)	Function
P3:1	YD31- (20A)	No function
P3:3	YD33+/- (20A)	<p>C-lock - engines 3–7(quantity)</p> <p>Locks with input C-lock signal. Lock with a plus pulse of 0.5s.</p> <p>Unlocks with input C-lock signal. Unlock with a minus pulse of 0.5s.</p> <p>(The function is activated in the configuration menu in the T4 panel)</p>
P3:7	YD37-	No function
P3:9	YD39+/-	<p>C-lock - engines 3–7(quantity)</p> <p>Locks with input C-lock – signal. Lock with a minus pulse of 0.5s</p> <p>Unlocks with input C-lock – signal. Unlock with a plus pulse of 0.5s.</p> <p>(The function is activated in the configuration menu in the T4 panel)</p>

SE05 – Contact P3 – Power supply

Contact: Pin	Input	Function
P3:4	S34-	Ground
P3:6	S36+	Power supply



SE05 – Contact P4 – Outputs

Contact: Pin	Output (I max)	Function
P4:1	YD41+ (6A)	<p>Extra reverse light</p> <p>Follows the input signal reverse gear if button  is activated.</p> <p>The Extra reverse light function is activated via the configuration menu in the T4 panel or the SST tool with parameter 120.</p>
P4:2	YD42+ (6A)	<p>Work light right On /Off with Button .</p> <p>(The function can be deactivated with the SST tool)</p>
P4:4	Y44+ (6A)	<p>Work light left On/Off with button .</p> <p>(The function can be deactivated with the SST tool)</p>
P4:8	YD48+ (10A) PVM (6A)	No function
P4:9	YD49+ (6A)	<p>Extra interior light (dimnable)</p> <p>On/Off with button  in the display. Press and hold the button to lower the brightness. Release and tap again to increase.</p> <p>(The function is activated in the configuration menu in the T4 panel)</p>

SE05 – Contact P4 – Power supply

Contact: Pin	Input	Function
P4:3	S43+	Power supply for YD41, YD42 and YD44
P4:6	S46+	Power supply for YD48 and YD49
P4:7	S47-	Ground

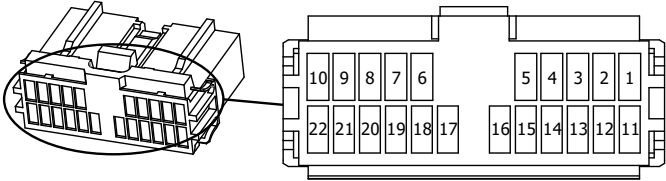
SE05 – Contact P5 – Outputs

Contact: Pin	Output (I max)	Function
P5:1	YD51- (20A)	No function
P5:3	YD53+ (20A)	Extra light roof Follows input high beam if button  is active. (The frame of the button lights red). (The function is activated in the configuration menu in the T4 panel)
P5:7	Y57- (20A)	No function
P5:9	YD59+ (20A)	Amber light 360 On/Off with button  in Main Menu 1 or in the Amber light menu. (The function is activated in the configuration menu in the T4 panel)

SE05 – Contact P5 – Power supply

Contact: Pin	Input	Function
P5:4	S54-	Ground
P5:6	S56+	Power supply

SE05 – Contact P9

	<p>Included in cable harness Part no: 60580248</p> <p><i>Housing:</i> JAE, part no: IL-AG5-22S-D3C1</p> <p><i>Pin:</i> JAE, part no: IL-AG5-C1</p>
---	--

SE05 – Contact P9 – Inputs

Contact: Pin	Input	Active level	Function
P9:6	XD96+	High	Sensor roof sign up
P9:7	XD97+	High	High beam
P9:8	XD98+	High	Open shutter
P9:9	AX99+	Temp1	Inner temperature
P9:10	AX910+	Temp2	
P9:16	XD916+/-	High /Low	Door Switch Rear/Sides (Configured to high or low via the configuration menu in the T4 panel)
P9:17	XD917+/-	High /Low	P Mode/Handbrake (Configured to high or low via the configuration menu in the T4 panel)
P9:18	XD918+	High	Reverse gear
P9:19	XD919+/-	High /Low	C- Lock Signal Lock (Configured to high or low via the configuration menu in the T4 panel)
P9:20	XD920+/-	High /Low	C-lock signal Unlock (Configured to high or low via the configuration menu in the T4 panel)
P9:21	S921-	Temp1	Inner temperature
P9:22	S922-	Temp2	

SE05 – Contact P9 – CAN

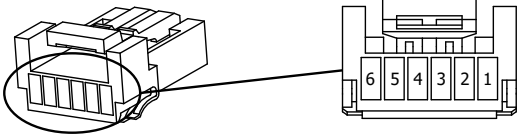
Contact: Pin	Input	Cable Color	Function
P9:2	CANH1	Yellow	Standby CAN high 1
P9:3	CANH2	Yellow	Standby CAN high 2
P9:4	CAN term. Pol. 1		-
P9:5	External _BUS_1		External CAN high. Connects to pin 4 on connector XB6/4 on Eberspächer unit.
P9:12	CANL1	Green	Standby CAN low 1
P9:13	CANL2	Green	Standby CAN low 2
P9:14	CAN term. Pol. 2		-
P9:15	External _BUS_2		External CAN low. Connects to pin 2 on connector XB6/4 on Eberspächer device.

SE05 – Contact P9 – Power supply

Contact: Pin	Input	Function
P9:1	S91+	Power supply (Fuse 5A)
P9:11	S911-	Ground

T4 Control panel (ID:38)


T4 – Contact P1


	<p>Included in cable harness part no: 60480239</p> <p><i>Housing:</i> JAE, part no: IL-AG5-6S-S3C1</p> <p><i>Pin:</i> JAE, part no: IL-AG5-C1</p>
---	---






T4 Contact P1 – CAN and power supply

Contact: Pin	Input	Cable Color	Function
P1:1	CANL2	Green	Standby CAN low
P1:2	CANH2	Yellow	Standby CAN high
P1:3	CANL1	Green	Standby CAN low
P1:4	CANH1	Yellow	Standby CAN high
P1:5	S15-	Black	Ground
P1:6	S16+	Red	Power supply (Fuse 5A)

T4 – Symbol and function

All amber lights, except Running and CRUISE, which are preselected in the Amber light menu, will turn on/off with a short press of the button .

Left, right and rear work lights turns on/off with a short press of the button .

Menu pages can be opened with long press (1.5s) on the buttons , ,  and  or by going to the next page with the button .

When hatches are opened, a large flashing warning triangle appears in the entire display, it becomes smaller whit a press anywhere on the display and then an information page appears that shows the status, e.g. door open. The warning triangle will continue to flash, in small format, on Main menu page 1 as long as at least one hatch is open.

Some symbols are only visible if the function is activated with parameter setting, see section on configuration.

At low voltage, some buttons are greyed out and cannot be pressed. They return when the voltage level is restored.

Main menu page 1

	 40m	
C-lås AV		

Main menu page 2

	R 	

Amber light menu

		CRUISE

Climate menu

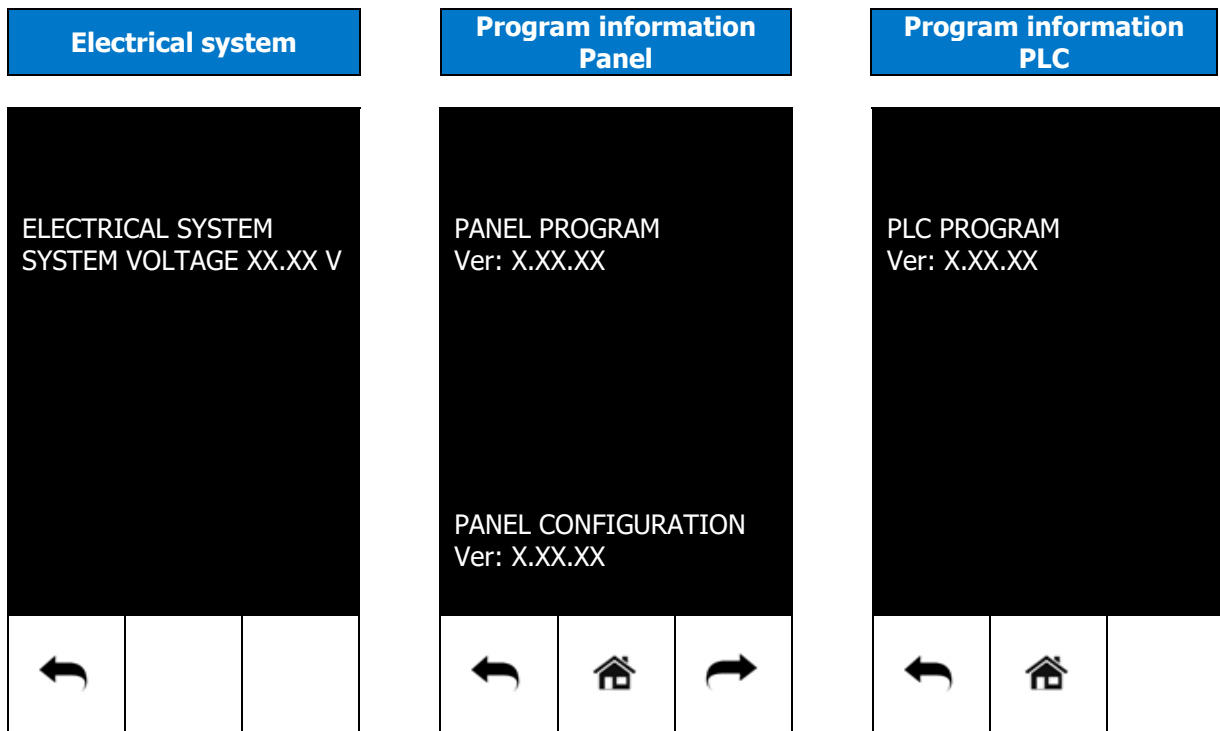
VALD		
22°C		
		INNE
		21°C

Fan menu

	VENT	
	50%	
	+	
	-	








Other










	<i>i</i>	


















T4 – Symbol and function

Button	Color	Function	Control by parameter	Indication
	Yellow	Extra light roof On/Off (The function is activated in the configuration menu in the T4 panel)	81	Active: The button lights up The frame is red when the function is selected.
	Yellow	Extra light front On/Off (The function is activated in the configuration menu in the T4 panel)	25	Active: The button lights up The frame is red when the function is selected.
	Yellow	Take down On/Off (Function is only selected in the SST tool and is only available as a function in the W3 light bar - CAN)		Active: The button lights up
	Yellow	Work light left On/Off	204 83	Active: The button lights up
	Yellow	Work light right On/Off	204 83	Active: The button lights up
	Yellow	Work light rear On/Off	119	Active: The button lights up

Button	Color	Function	Control by parameter	Indication
	Yellow	Reversing light On/Off (The function is activated in the configuration menu in the T4 panel)	120	Active: The button lights up when Reverse light is On and reverse gear is engaged. The frame is red when the function is selected.
	Yellow	Turns left, right and backwards work lights on and off	-	Active: The button lights up when one of the work lights is on.
	Orange	Amber light 360° On/Off Amber light 360°, front and rear (The function is activated in the configuration menu in the T4 panel)	138	Active: The button lights up and the frame flashes red 1 time per second. The frame flashes for 2 seconds and is off for 0.5 seconds when Amber light 360° and ICAO button is On If parameter 285 is selected, the frame lights up red at: - off position when Yellow light 360° is On - failure in 360° light in standby ramp of CAN model
	Orange	Amber light front On/Off Amber light 360° needs to be activated (The function is activated in the configuration menu in the T4 panel)	205	Active: The button lights up and the frame flashes red 1 time per second. The frame is red when the function is selected. In the event of a monitoring error in the Standby CAN light bar, the button get "greyed out" = not pressable. This occurs if both corners of the arch are broken. Not pressable when ICAO blink is active.
	Orange	Amber light rear On/Off Amber light 360° needs to be On . (The function is activated in the configuration menu in the T4 panel)	206	Active: The button lights up and the frame flashes red 1 time per second. The frame is red when the function is selected. In the event of a monitoring error in the Standby CAN light bar, the button gets "greyed out" = not pressable. This occurs if both corners of the arch are broken. Not pressable when ICAO blink is active.
	Orange	Amber running light left On/Off (The function is activated in the configuration menu in the T4 panel)	197	Active: The button lights up and the frame flashes red at 1 time/s.
	Orange	Amber running light mid outward On/Off (The function is activated in the configuration menu in the T4 panel)	197	Active: The button lights up and the frame flashes red at 1 time/s.

Button	Color	Function	Control by parameter	Indication
	Orange	Amber running light left On/Off (The function is activated in the configuration menu in the T4 panel)	197	Active: The button lights up and the frame flashes red at 1 time/s.
	Orange	ICAO - flash On/Off (The function is activated in the configuration menu in the T4 panel)	251	Active: The button lights up The frame is red when the function is selected.
CRUISE	Orange	CRUISE Light On/Off (The function is activated via SST only)		Active: The button lights up
	Yellow	Roof sign Up/Down (The function is activated in the configuration menu in the T4 panel)	275	Active: The button lights up The frame flashes red as long as the input signal Sensor roof sign is activated. If the input is not activated, the frame will flash for 30 seconds during activation and deactivation. The button is grey when P mode is not activated.
	Green Yellow Red	Battery status A press of the button opens the status page, which is then open for 10s	-	 = Discharged Low voltage – the voltage is lower than the value of parameter 147 (U1= First degradation step).  = Fully charged Battery voltage greater than the value of parameter 146.  = Charging Low voltage charge indication (steps 1-4, in Standby charger).  Charge indication when fully charged (step 5= trickle charging, in the Standby charger). Charge indication only available when Standby charger is connected.
INNE	Grey	Inner temperature – appears in the Climate menu	-	Displays inner temperature.
21°C				
VALD		Set temperature – appears in the Climate menu	-	Displays the selected inner temperature.
22°C				
	Grey	Rise inner temperature	-	

Button	Color	Function	Control by parameter	Indication
	Grey	Lowering the inner temperature	-	
	Grey	Ventilation fan On/Off - Direction exhaust Long press (1.5s) opens the Fan menu. In the Fan menu, the button is also used for On/Off . (The function is activated in the configuration menu in the T4 panel)	89	Active: The button lights up
+		Increases the speed of the ventilation fan	-	
-		Reduces the speed of the ventilation fan	-	
VENT		Ventilation fan speed in percentage	-	
50%				
	Grey	Extra heater (Eberspächer) Heat On/Off More information under the section <i>Extra heater</i> . (The function is activated in the configuration menu in the T4 panel)	54	Active: The button (grey) and frame (red) light up brighter when activated. The frame flashes red at 2 sec intervals in the event of a fault. The frame lights up red when the heater has started the heat.
	Grey	Extra heater (Eberspächer) Ventilation On/Off More information under the section <i>Extra heater</i> . (The function is activated in the configuration menu in the T4 panel)	54	Active: The button lights up
 40m	Green	Interior light On/Off <u>If parameter 13 is not selected:</u> The button has an On/Off function. <u>If parameter 13 is selected:</u> The lights come on and the timer for switching off is started if the door or shutter is opened. The timer can be reset with the button. The default time for the timer is 40 min (Can be changed with SST, parameter 13).	121 13	Active: The button lights up The frame of the button will start flashing 5 minutes before the lights turn off with the timer. The time is displayed in the button if parameter 13 is selected. The time can be changed with the SST tool if you want a time other than 40 minutes and the change takes place in real time only when the doors are closed. (When the button is not lit). The maximum time is 60 minutes.
	Green	Extra Interior light On/Off (dimnable) Dims if the button is pressed. (The function is activated in the configuration menu in the T4 panel)	278	Active: The button lights up

Button	Color	Function	Control by parameter	Indication
	Grey	<p>Main switch</p> <p>A short tap switches to the next page.</p> <p>Long press (3s) shuts down the system.</p> <p>The system goes into power down after 60s that the system is turned off and no inputs are active.</p>	-	If the frame double-flashes = node failure in the CAN loop.
	Grey	<p>Configuration mode</p> <p>Press and hold 10s to activate the configuration menu.</p>	-	The configuration menu appears
C- Lås AV		<p>C-lock Off</p> <p>Temporarily disconnects the C-lock function in cabinets.</p> <p>Reset at the next locking with a remote control key or after 10 minutes.</p> <p>(The function is activated in the configuration menu in the T4 panel)</p>	310	Active: The button lights up
	Grey	<p>Screen lock for cleaning display</p> <p>The button locks the touch function for 15 seconds</p>	-	Active: The button lights up and the frame is red when the screen is locked.
i	Grey	<p>Information</p> <p>Displays software versions</p>	-	
	Red	<p>Warning</p> <p>Appears on the entire display when an alert is activated.</p> <p>A press of the button brings up the warnings page.</p> <p>Reverts to normal size (2 button size) when the alert page is closed.</p>	Warning message	<p>Flashes red when the door/shutter is open or the roof sign is up.</p> <p>The button is greyed out as there is no error.</p>
	Grey	Previous page	-	
	Grey	Next Page	-	
	Grey	Main menu	-	
	Grey	<p>Status page</p> <p>Displays the current battery voltage</p>	-	
	Green	Save settings	-	

Configuration – setting parameters

General information

The first time the system is configured, it must be done with the T4 panel.

Further configurations will then be possible with T4 and for functions with a number in front of the text in the parameters with the Standby Software Tool (SST) (see options).

SST is also used when it comes to the voltage levels for the degradation of the functions. See *Breakdown table for battery levels*.

For the SST a programming cable (See Options table) is needed to connect the SE05 to the computer.

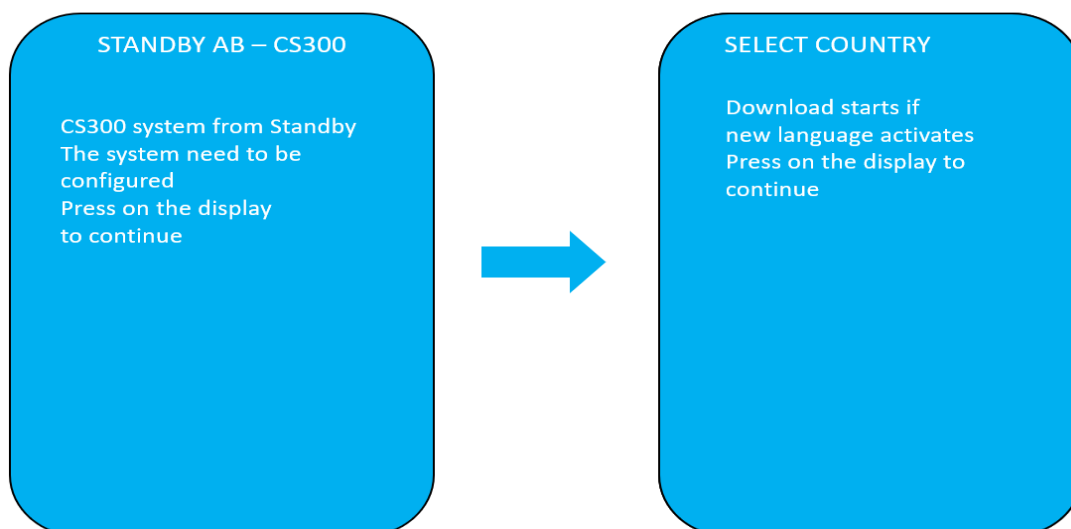
Every country has its own preselected settings so if any other settings are desired add or change them during the configuration.

If the country option needs to be changed after the first configuration is saved, a factory reset is required.

In case of system loses power and restarts before the changes are saved, the old settings will remain and a new configuration with the new desired settings will have to be made again.




First configuration with T4

For the first configuration a message will show up on the display saying that a configuration is needed.



- Note that the message "Fault" will show as a blink in the display when the parameter is loading.
- Some functions are not available in the basic version of the CS300 system, but require additional components, such as a light bar.



For the first configuration:

1. To get to the next step tap on the display.
2. The first setting is country selection. If Sweden or Norway is selected the language will be Swedish and for all other countries the language will be English. The display will show the message "Loading UI configuration" while the country parameter is loading.
3. Factory settings are shown by blue boxes  on respective parameter, Unselected parameters are shown with a black box.
4. Select the desired settings by tapping on the row for the desired parameters.
5. To save the settings you want, go to the last page and select **Save settings**.
6. Press and hold the button  for 3 seconds, The button flashes 3 times and then lights up green for 3 seconds when the settings are saved.
7. If the changes should not be saved tap the button .
8. If any parameter is changed without being saved, the previous settings will remain.

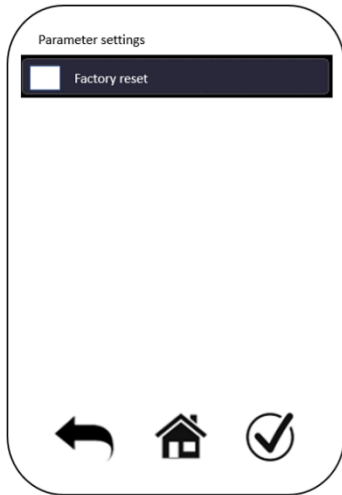
Reconfiguration with T4

If the selected parameters need to be changed at a later stage, this can be done with T4 or with the Standby Software Tool (SST) (see option), which provides additional possibilities to change parameter values. For SST, a programming cable (see option) is needed to connect the SE05 to the computer.

For reconfiguration with T4:




1. Go to **Settings & Status** and hold the button  for 10 seconds to enter configuration mode.
2. Select the desired parameters.
3. To save the desired settings, go to the last page and select **Save settings**
4. Press and hold the button  for 3 seconds, the button flashes 3 times and then lights up green for 3 seconds when the settings are saved.
5. If any parameter is changed without being saved, the previous settings will remain.

Factory reset with T4



When a factory reset is done all settings will be reset to factory settings and if there are any desired settings selections, these must be made again.

To do a factory reset:

1. Go to **Settings & Status** and hold the button  for 10 seconds to activate configuration mode.
2. Press the **Factory Settings row** until the box flashes blue 3 times.
3. The box will be blue for 3 seconds before the factory reset begins.
4. When the factory reset is complete, the first page of **Country Selection** will be displayed, select the country and tap  to move on.
5. Factory settings are shown with a blue box on each parameter but can be changed to custom selections if desired.
6. To save the desired settings, go to the last page and select **Save settings**.
7. Press and hold the button  for 3 seconds, the button will flash 3 times, and then light up green for 3 seconds when the settings are saved.
8. If any parameter is changed without being saved, the previous settings will remain.

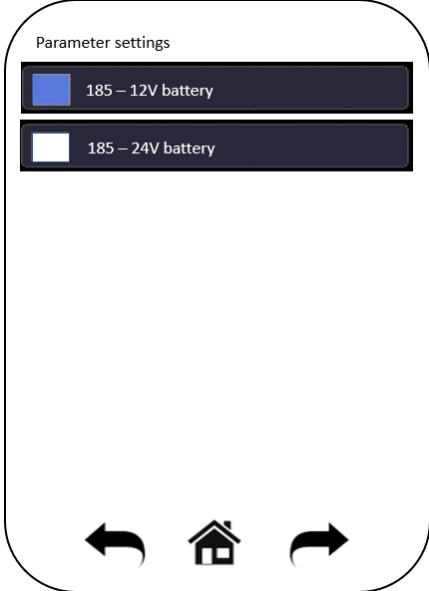
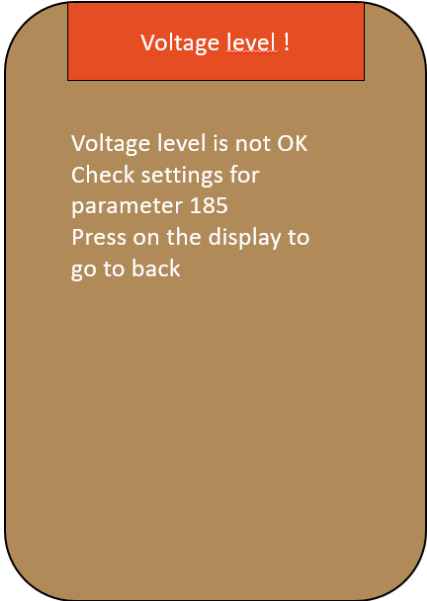
Parametrar

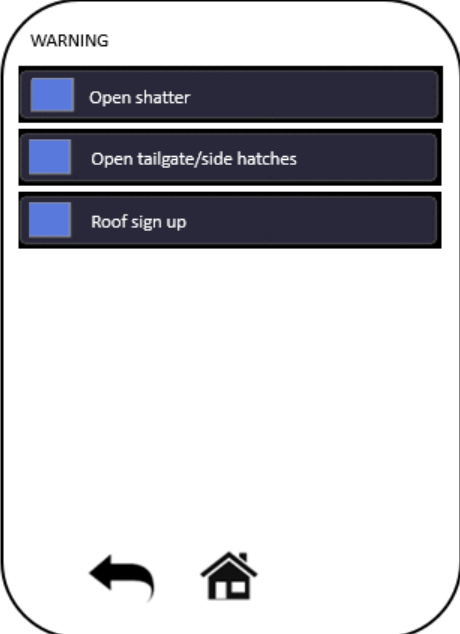
Selecting country – 178	Light bar Standby CAN-model: front, rear – 139
	<p>Parameter 139 shall only be ticked if Standby CAN-connected light bar is used. When using other light bars, the boxes must be left unmarked.</p>

Flash pattern light bar Standby CAN-model – 210	Flashes alternately																		
	<table border="1"> <tr> <td style="text-align: center;">No.0</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">No.1</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">No.2</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">No.3</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">No.4</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">No.5</td> <td></td> <td></td> </tr> </table>	No.0			No.1			No.2			No.3			No.4			No.5		
No.0																			
No.1																			
No.2																			
No.3																			
No.4																			
No.5																			

Amber light – 13, 121, 275, 278, 285 and 310	Climate, Extra light/work light – 8, 25, 54, 81, 83, 89 and 120
<p>Parameter setting</p> <ul style="list-style-type: none"> <input type="checkbox"/> 285 – Amber light Status monitoring active <input checked="" type="checkbox"/> 121 – Interior light <input checked="" type="checkbox"/> 13 – Timer function interior light <input type="checkbox"/> 278 – Extra interior light (Dimmable) <input type="checkbox"/> 310 – Central lock <input type="checkbox"/> 275 – Roof sign <p style="text-align: center;">← 🏠 →</p>	<p>Parameter settings</p> <ul style="list-style-type: none"> <input type="checkbox"/> 89 – Ventilation fan <input type="checkbox"/> 54 – Extra heater - Eber <input type="checkbox"/> 81 – Extra light roof <input checked="" type="checkbox"/> 25 – Extra light front <input type="checkbox"/> 8 – Work light rear Active with reverse gear <input type="checkbox"/> 120 – Reverse light Active with reverse gear <input type="checkbox"/> 83 – Work light Conditions position light on <p style="text-align: center;">← 🏠 →</p>

Amber warning light – 138, 197, 205, 206 and 251	Inputs – Low/High
<p>Parameter settings</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 138 – Amber light 360 <input type="checkbox"/> 205 – Amber light front Set by front button <input checked="" type="checkbox"/> 205 – Amber light front Set by 360 button <input type="checkbox"/> 206 – Amber light rear Set by rear button <input checked="" type="checkbox"/> 206 – Amber light rear Set by 360 button <input type="checkbox"/> 197 – Running light Set by 360 button <input type="checkbox"/> 197 – Running light Set by button <input type="checkbox"/> 251 – Amber light– ICAO button <p style="text-align: center;">← 🏠 →</p>	<p>Parameter settings</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> P-Mode/Hand brake (Low) <input type="checkbox"/> P-Mode/Hand brake (High) <input type="checkbox"/> C-lock signal (Low) <input checked="" type="checkbox"/> C-lock signal (High) <input checked="" type="checkbox"/> Switch tailgate (Low) <input type="checkbox"/> Switch tailgate (High) <p style="text-align: center;">← 🏠 →</p> <p style="text-align: center;">High = input signal is 12/24V Low = input signal is 0V (Ground)</p>

System voltage	Error message
	

Warning message in T4	
	<p>Warning triangle full screen</p> <ul style="list-style-type: none"> • Displayed when any door/hatch/shutter is open. • Also displayed when P mode is deactivated if any door/hatch/shutter is open or roof sign is up. <p>Message page</p> <ul style="list-style-type: none"> • Appears with a tap on the warning triangle full screen or warning triangle on the first page. <p>Warning triangle on the first page</p> <ul style="list-style-type: none"> • Shown as long as any door/hatch/shutter or roof sign is up.

Breakdown table for battery levels

12/24V system

To avoid damage to the battery, the system shuts down functions at low voltage, this is done in three levels.

The values in the table are factory settings and with the SST tool you can change the time (T) it takes for the shutdown and the voltage level (U) to change. The U3 has a higher switch-off level than the U1 and U2 to save the battery life and to avoid too high a charging current.

U = Voltage level for shutdown.

T = Time before shutdown.

* = Ok to reset the system.

- Level 1 = U1 first level of shutdown (Parameter 147)
- Level 2 = U2 second level of shutdown (Parameter 215)
- Level 3 = U3 system is switched off (Parameter 216)

- Time 1 = T1, is activated after level 1 is reached (Parameter 214)
- Time 2 = T2, is activated after level 2 is reached (Parameter 148)
- Time 3 = T3, is activated after level 3 is reached (Parameter 149)

Normal voltage level= U0, is indicated with green colour in the battery button in the T4 panel.

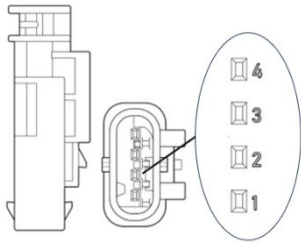
The functions reactivates when the voltage level is above U0 for 3 seconds.

Function	Level 0 (U0) Reset level	Level 1 (U1) T1 minutes after U1 is activated	Level 2 (U2) T2 minutes after U2 is activated	Level 3 (U3) T3 minutes after U3 is activated
Work light left/right	*	Shuts down	-	-
Work light rear	*	Shuts down	-	-
Amber light front	*	Shuts down	-	-
Amber light front in Standby CAN light bar	*	Shuts down	-	-
Amber light rear	*	Shuts down	-	-
Amber light rear in Standby CAN light bar	*	Shuts down	-	-
Extra light front/roof	*	Shuts down	-	-
Amber running light	*	Shuts down	-	-
Extra interior light	*	Shuts down		
Interior light 1 and 2	*	Shuts down		
Extra heater Eberspächer	*	-	Shuts down	-
Amber 360	*	-	Shuts down	-
Ventilation fan	*	-	Shuts down	-
Roof sign	*	-	Shuts down	-
System/main Switch	*	-	-	Shuts down
Factory setting voltage 12V	U0 = 13,3V	U1 = 12,1V	U2 = 12,0V	U3 = 12,2V
Factory setting voltage 24V	U0 = 26,6V	U1 = 24,2V	U2 = 24,0V	U3 = 24,4V
Factory setting time in seconds before switching off	-	T1 = 60	T2 = 60	T3 = 60

Options

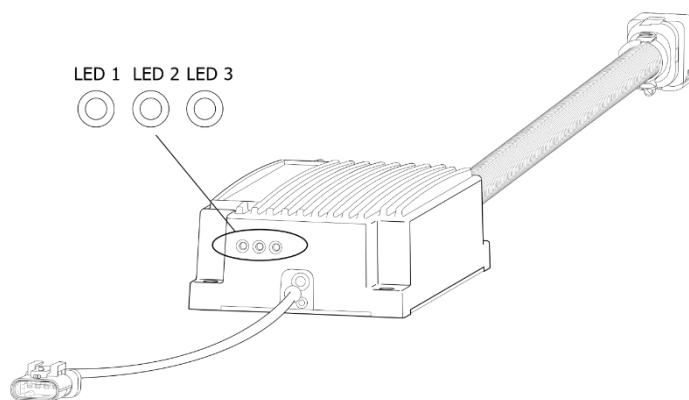
Standby CAN-charger

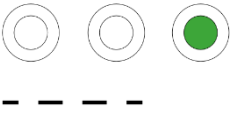

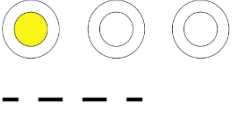
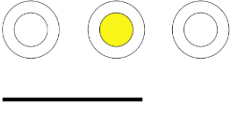
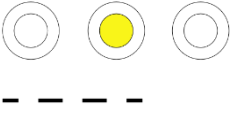
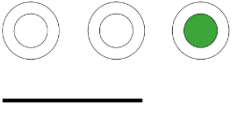
CAN-contact P1



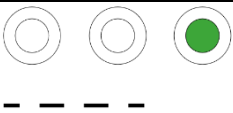
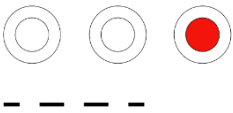
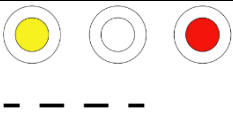
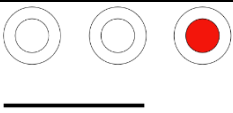
Contact: Pin	Input	Cable color	Function
P1:1	CANL1	White	CAN BUS low 1
P1:2	CANH1	Brown	CAN BUS high 1
P1:3	CANL2	Green	CAN BUS low 2
P1:4	CANH2	Yellow	CAN BUS high 2
P2:1	Plus	Red	Power
P2:2	Jord	Black	Ground

Indication



Step	LED Indicators	Description
Start		Charging not started.
1		Charging ongoing.
2		
3		
4		
5		

Troubleshooting & Service

LED Indicators	Description
	Charging has not started, possible causes: <ul style="list-style-type: none"> • Low battery voltage. • No battery attached. • Time after start is less than 1 min • The charger is waiting for CAN communication.
	Battery temperature >50°C
	Time error (timeout), the battery is probably too large for the charger.
	The charger is set in wrong position.


Extra heater – Eberspächer

Connection - Eberspächer


CAN – See section SE05 - Contact P9.

Feeding/Fuse – See manual for each heater.

Heat - Eberspächer

- The heating function is activated/deactivated using the Extra heater button 
- The heater is automatically regulated to the set temperature in the T4 panel. When the heater is running, the frame of the button is red.
- When the heater stops, it takes 4 minutes for the heater to burn out the exhaust gases "after running".
- The heating function is deactivated if the ventilation is started or if the 230V charger is connected (parameter 271)
- The heater and its ventilation can be running even if the system is switched off (parameter 272). The maximum operating time is 60 minutes when the system is turned off.
- The heater is controlled via the temperature sensor in the standby system (no additional sensor for the heater is needed).
- Switches off at low voltage (level U1)

Ventilation - Eberspächer

- The ventilation function is activated/deactivated using the Extra ventilation button 
- The ventilation will be turned off if the heater is started or if the 230V charger is connected.
- If the heating is on when the ventilation is started, it takes 4 minutes for the ventilation to start due to the heater's after run time.

Other – Eberspächer

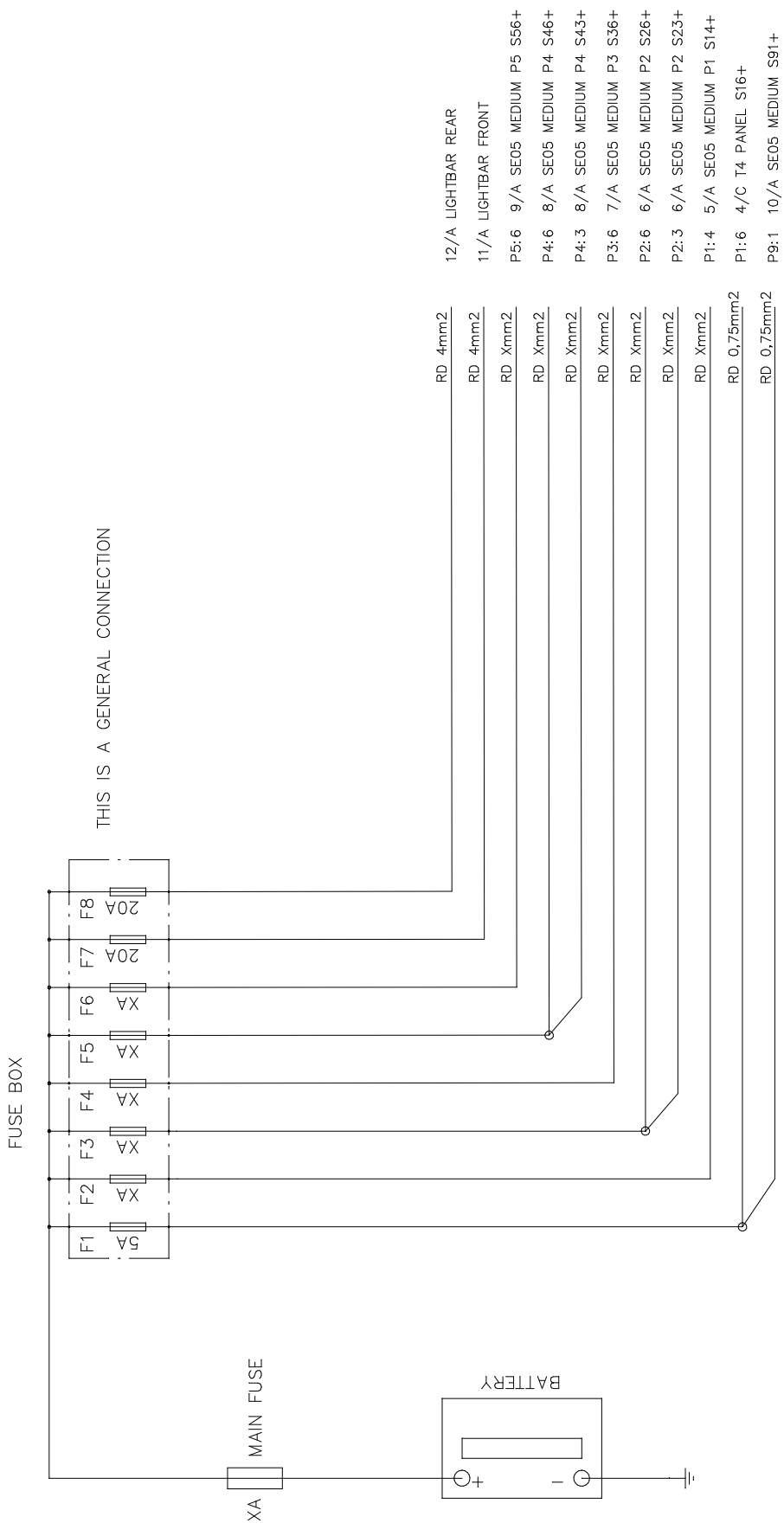
If the heater is in error mode, the button frame will start flashing red. Try restarting the entire system and the heater. If that doesn't help, contact a service center.

Heaters that can be used with CAN communication are:

	252721050000 Airtronic S2 D2L 12V Commercial
	252720050000 Airtronic M2 D4L 12V Commercial
	252746050000 Airtronic AM2 D4R 12V

POWER SUPPLY

XA is calculated after consumers load

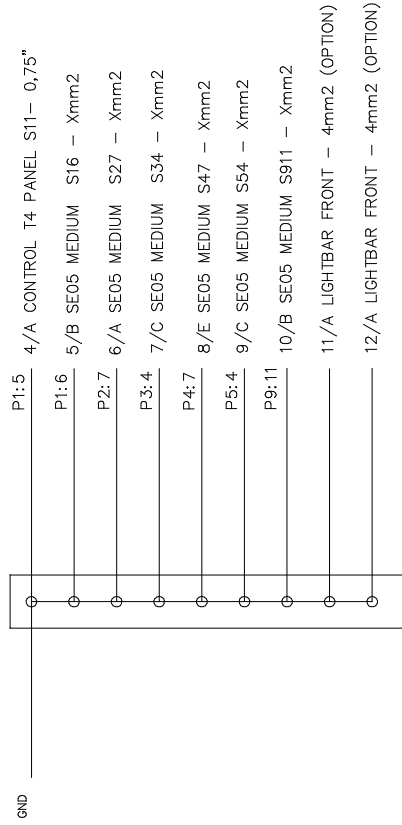


THIS IS A GENERAL CONNECTION

F – Connection diagram

STANDBY	Issued by	SK	Phone	—	Product	EI CS300 Control System Service		Document number	F640471xx		
	Product owner	SK	Phone	—	Connection diagram		File	P: \\F640471xxA.DWG			
	Date	2024-04-08	Scale	—	Part no.	640471xx	Issue	A	Page	1	Next page

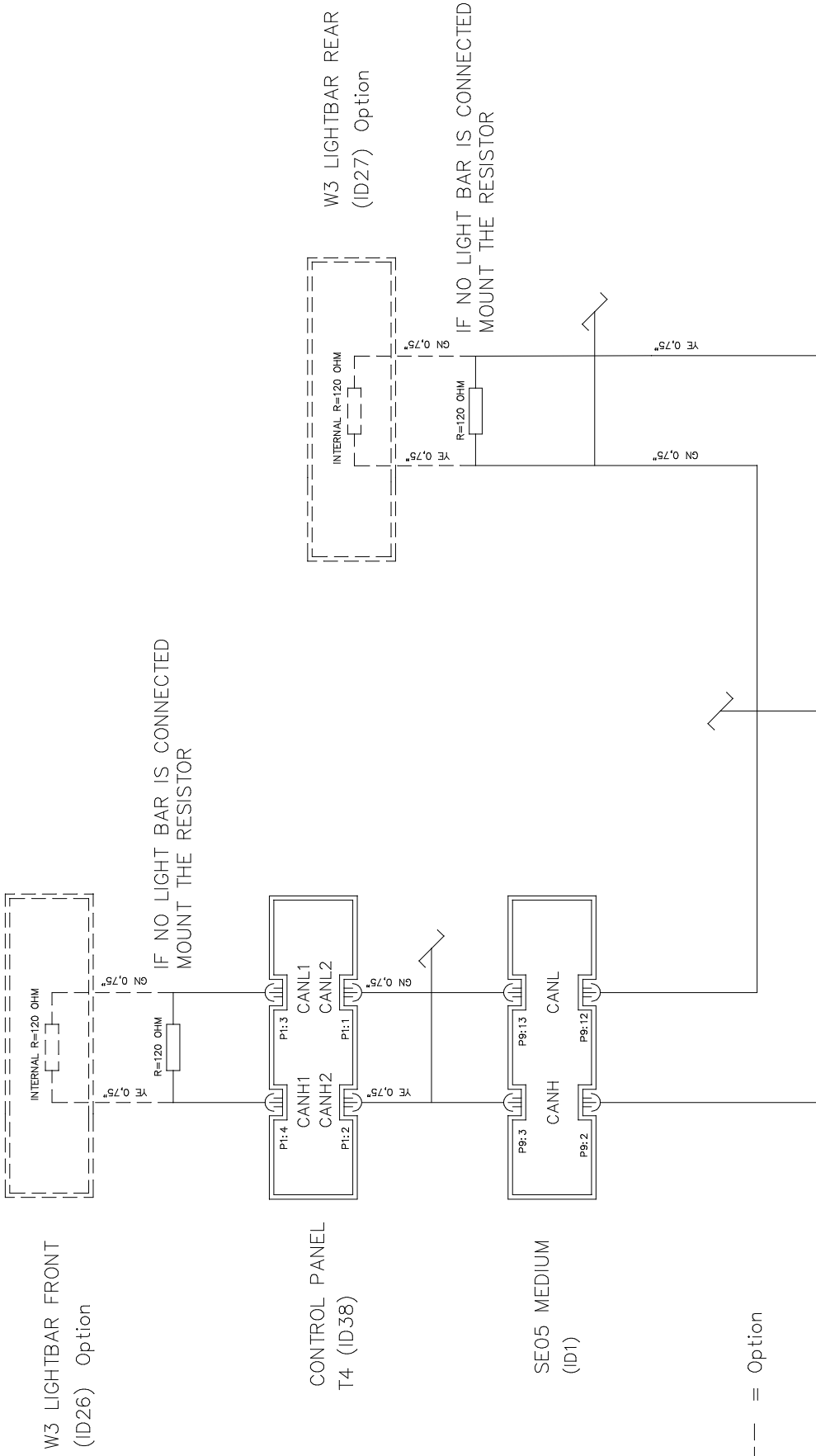
GROUND CONNECTION



		Issued by	Phone	Product	Document number
		SK	-		
		Product owner	Phone	Connection diagram	File
		SK	-		
		Date	Scale	Issue	Page
		2024-04-08	-	A	2
				Part no.	Next page
				640471xx	3

OVERVIEW CAN BUS

T4 AND M94M CAN BE PLACED IN ANY ORDER



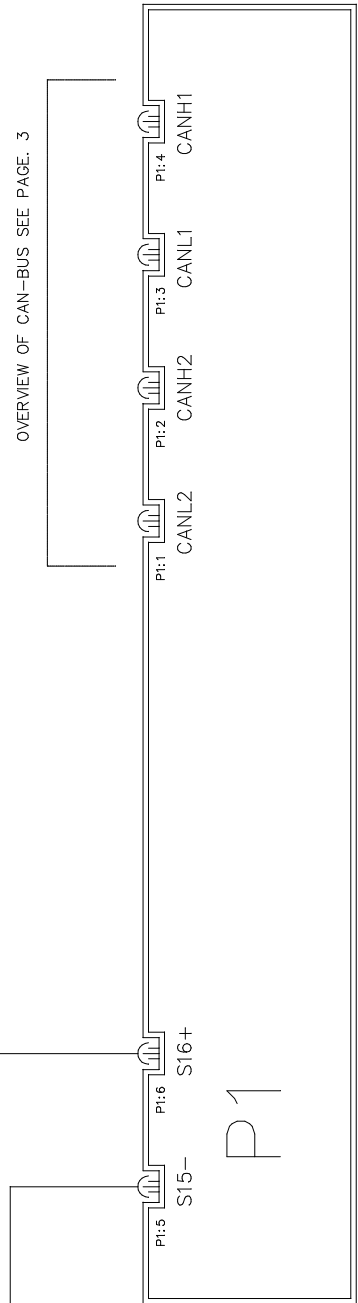
F - Connection diagram

		Issued by	SK	Phone	---	Product	EI CS300 Control System Service	Document number	F640471xx
		Product owner	SK	Phone	---	Part no.	640471xx	File	P: \\F640471xxA.DWG
Date	2024-04-08	Scale	---			Issue	A	Page	3
								Next page	4

CONTROL PANEL T4

1/H RD 0,75mm²
FUSE 1

2/D SB 0,75mm²
GND



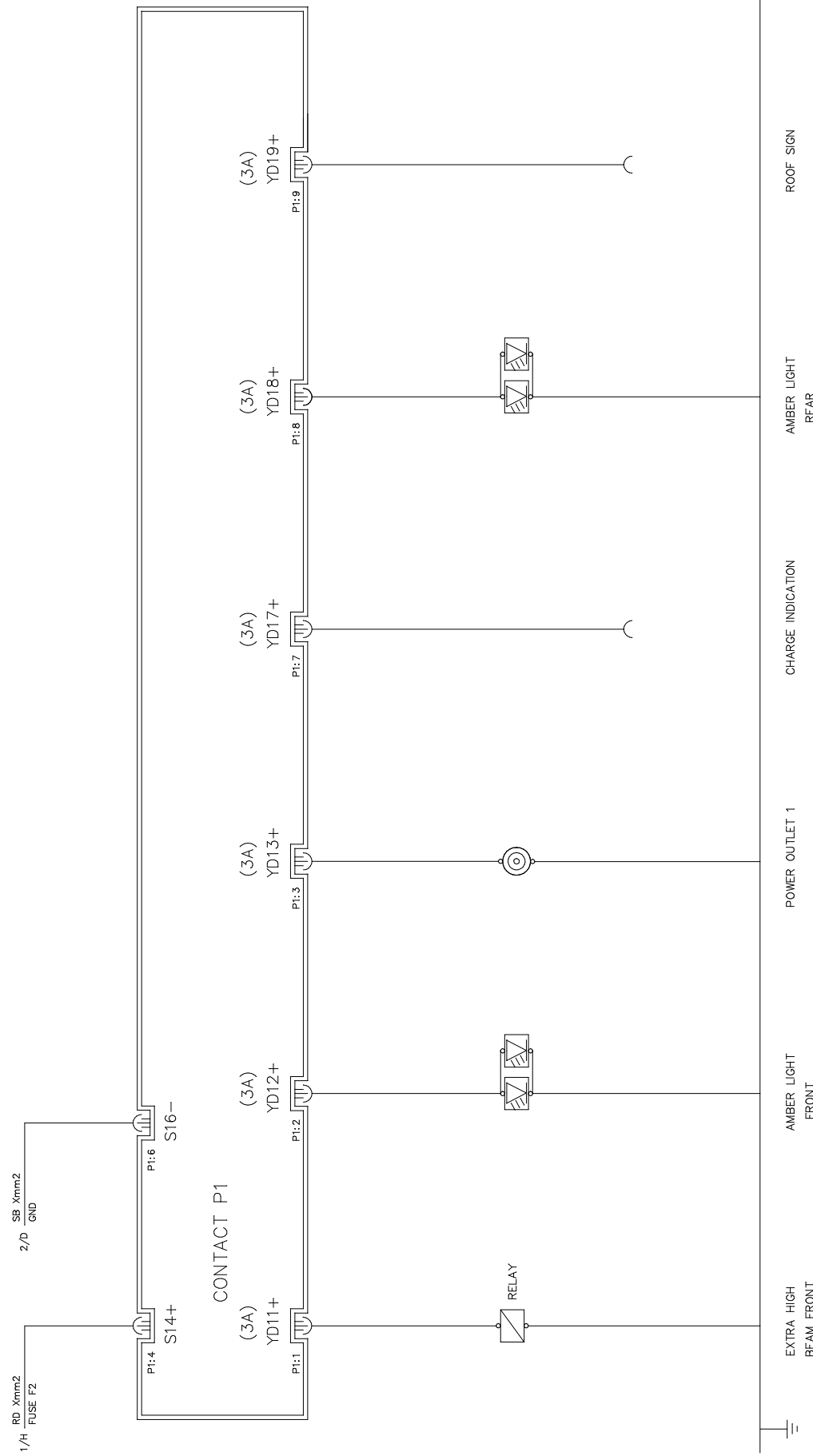
F - Connection diagram

STANDBY	Issued by	SK	Phone	-	Product	EI CS300 Control System Service	Document number	F640471xx
	Product owner	SK	Phone	-	Date	2024-04-08	File	P: \\F640471xxA.DWG
	Date	2024-04-08	Scale	-	Part no.	640471xx	Issue	A
			Scale	-	Part no.	640471xx	Page	4
			Scale	-	Date	2024-04-08	Next page	5

F — Connection diagram

SE05 MEDIUM (Master)

Xmm2 is calculated after consumers size, max 2,5mm2



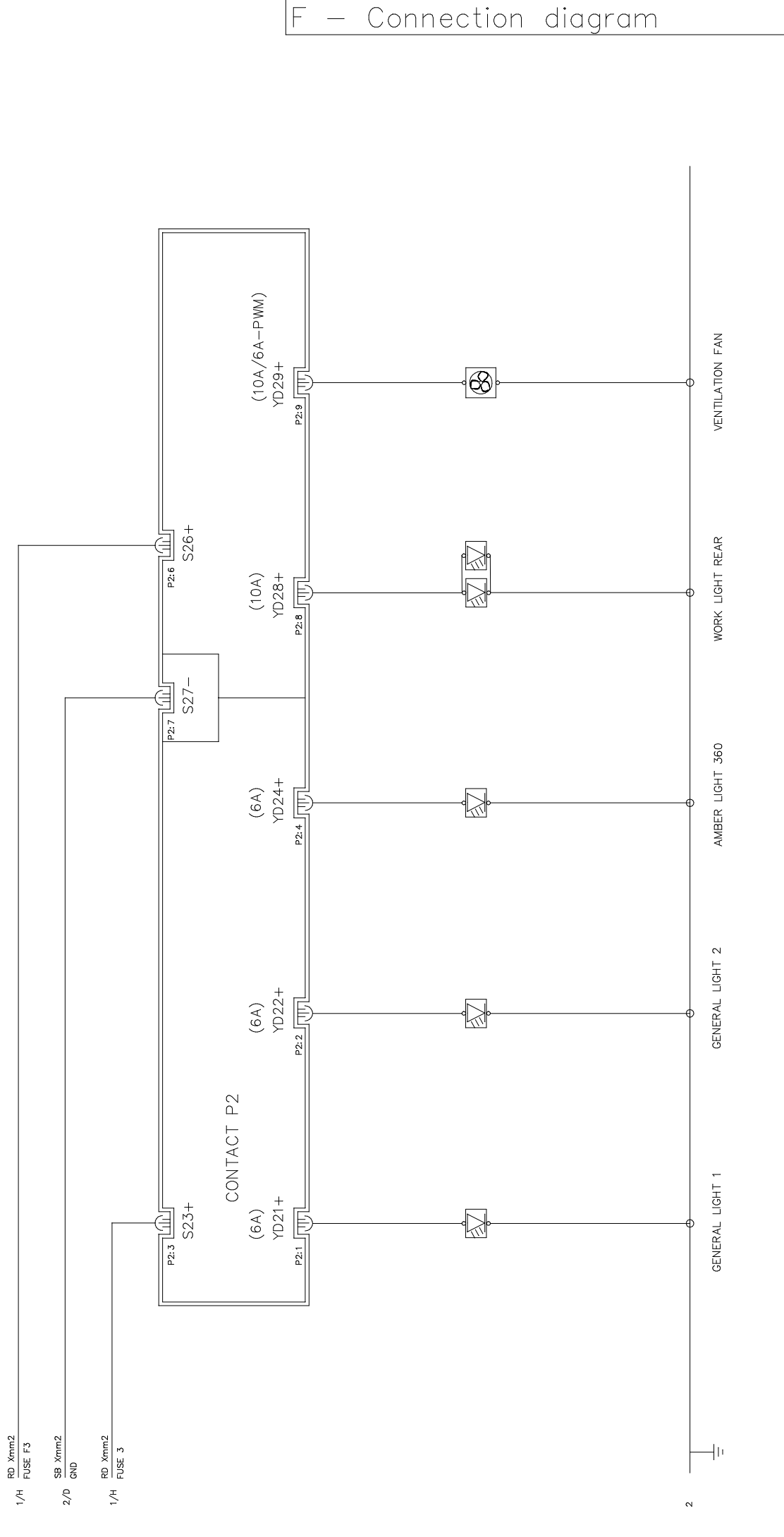
2

		Issued by	SK	Phone	—	Product	EI CS300 Control System Service		Document number	F640471xx	
		Product owner	SK	Phone	—	Connection diagram	Part no.	640471xx	File	P: \\F640471xxA.DWG	
		Date	2024-04-08	Scale	—			Issue	A	Page	5
								Next page			6

F - Connection diagram

SE05 MEDIUM (Master)

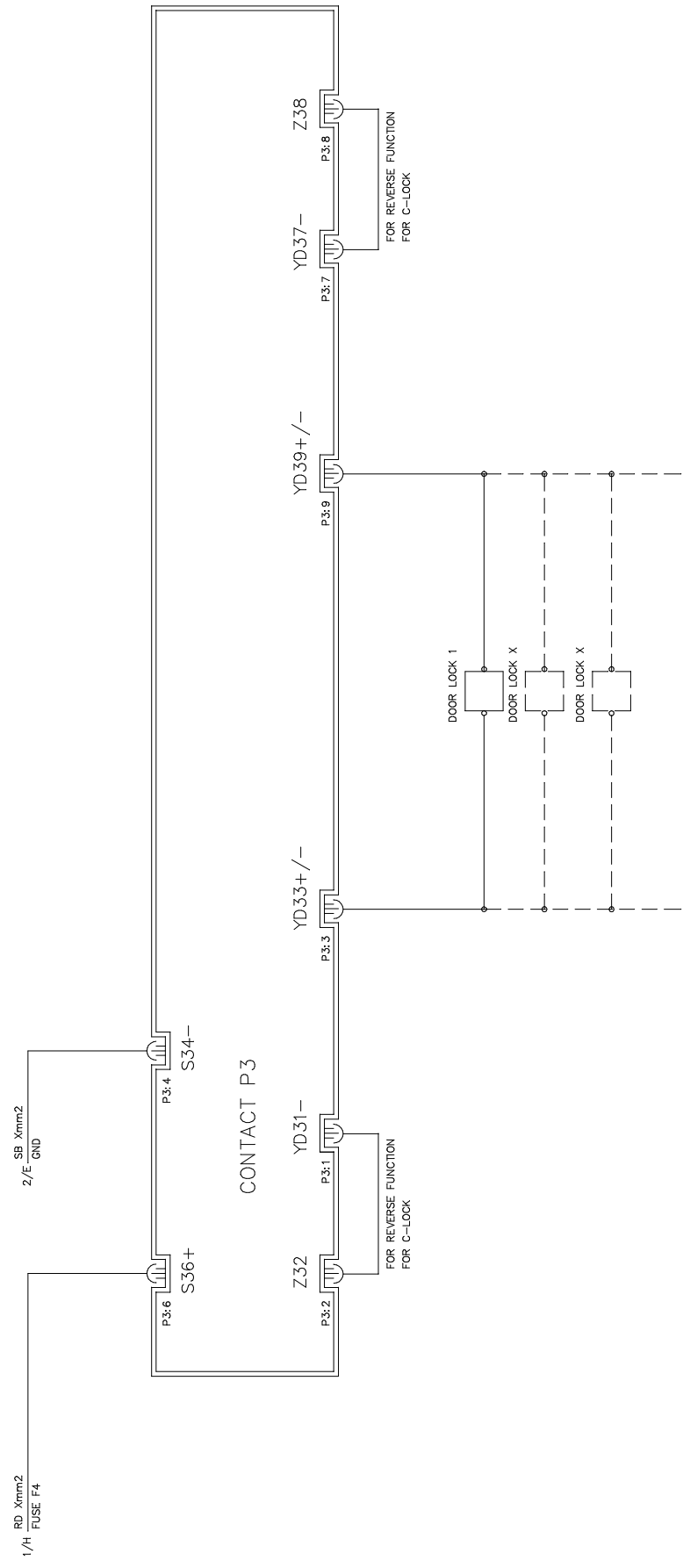
Xmm2 is calculated after consumers size, max 2,5mm2



		Issued by	SK	Phone	-		
		Product owner	SK	Phone	-		
<p>Product EI CS300 Control System Service</p> <p>Part no. 640471xx</p>		Date	2024-04-08	Scale	-		
		<p>Document number F640471xx</p> <p>File P:\\F640471xxA.DWG</p>		Issue	A	Page	6

SE05 MEDIUM (Master)

Xmm2 is calculated after consumers size, max 2,5mm2



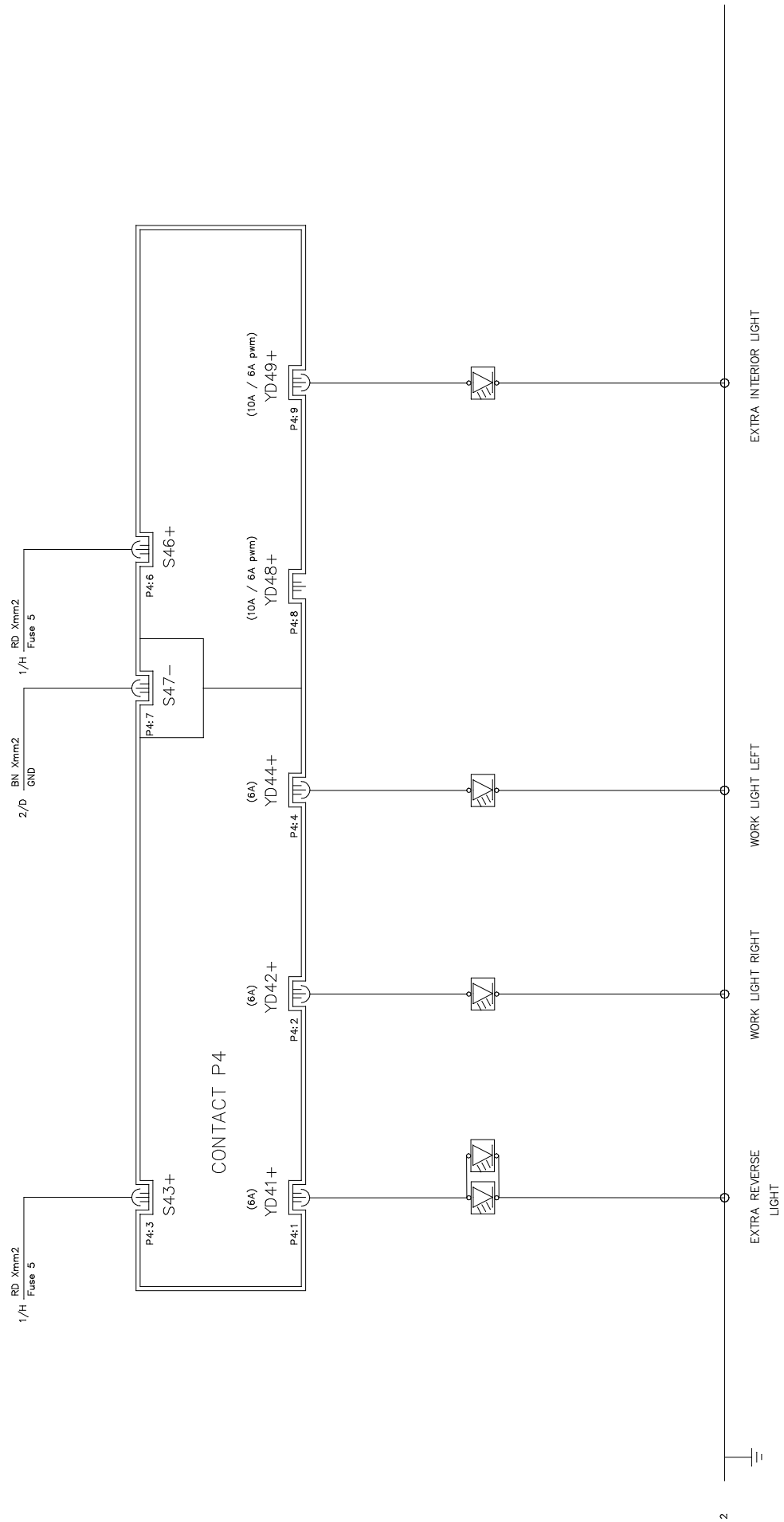
2

— C-LOCK

		Issued by	SK	Phone	—
		Product owner	SK	Phone	—
<p>Product EI CS300 Control System Service</p> <p>Part no. 640471xx</p>		Date	2024-04-08	Scale	—
		Product	EI CS300 Control System Service		
Document number		F640471xx			
File		P: \\F640471xxA.DWG			
Issue	A	Page	7	Next page	8

SE05 MEDIUM (Master)

Xmm2 is calculated after consumers size, max 2,5mm2

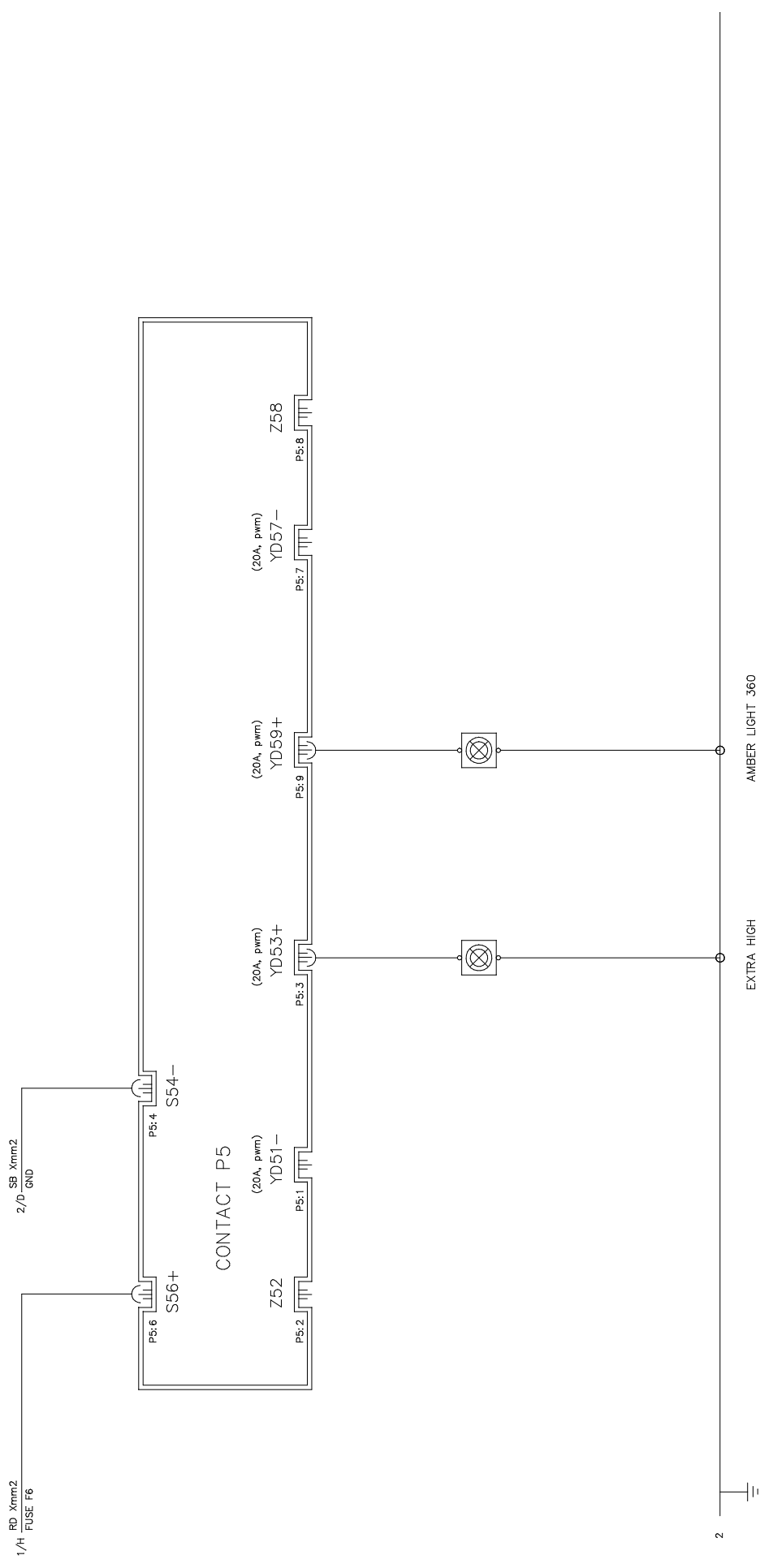


F – Connection diagram

		Issued by	SK	Phone	-	Product	EI CS300 Control System Service		Document number	F640471xx	
		Product owner	SK	Phone	-	Connection diagram	Part no.	640471xx	File	P: \\F640471xxA.DWG	
		Date	2024-04-08	Scale	-			Issue	A	Page	8
								Next page			9

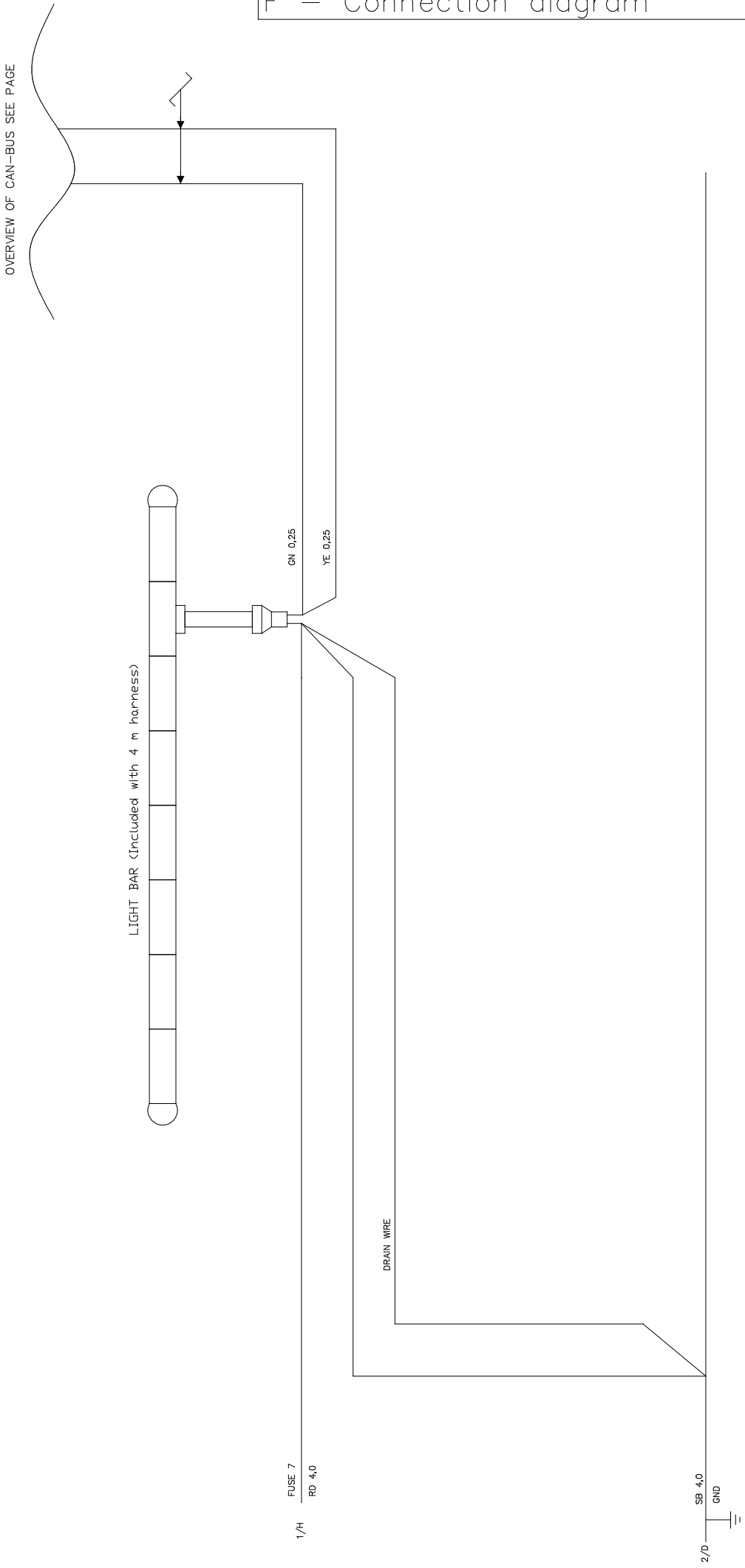
SE05 MEDIUM (Master)

Xmm2 is calculated after consumers size, max 2,5mm2



		Issued by	SK	Phone	—
		Product owner	SK	Phone	—
<p>2024-04-08</p>		Date	2024-04-08	Scale	—
		Part no.	640471xx	Product	EI CS300 Control System Service
<p>640471xx</p>		Part no.	640471xx	Product	EI CS300 Control System Service
<p>9</p>		Page	9	Document number	F640471xx
<p>10</p>		Next page	10	File	P: \\F640471xxA.DWG
<p>A</p>		Issue	A	Issue	

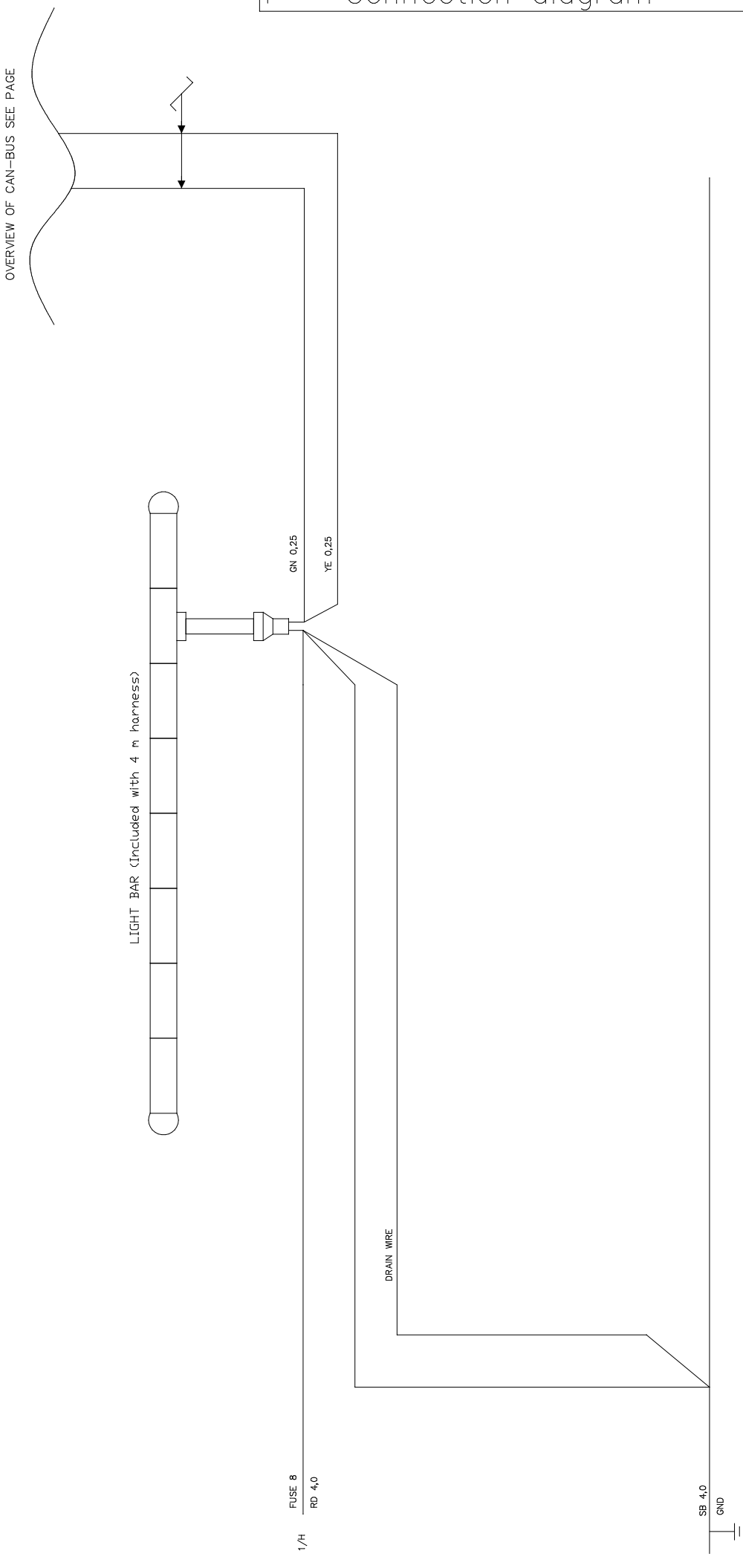
STANDBY FRONT LIGHT BAR W3 (option)



F — Connection diagram

	Issued by	SK	Phone	—	Product	EI CS300 Control System Service	Document number	F640471xx		
	Product owner	SK	Phone	—	Connection diagram	File	P: \\F640471xxA.DWG			
	Date	2024-04-08	Scale	—	Part no.	640471xx	Issue	A		
							Page	11	Next page	12

STANDBY REAR LIGHT BAR W3 (option)



F — Connection diagram

	Issued by	SK	Phone	—	Product	EI CS300 Control System Service	Document number	F640471xx
	Product owner	SK	Phone	—	Connection diagram		File	P: \\F640471xxA.DWG
	Date	2024-04-08	Scale	—	Part no.	640471xx	Issue	A
							Page	12
							Next page	—