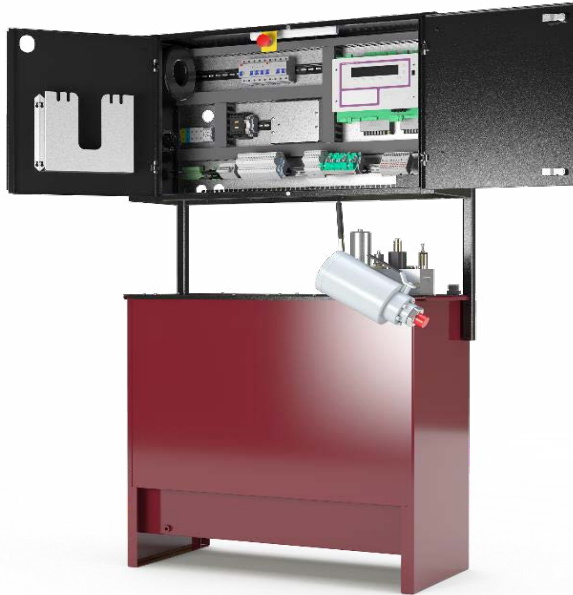
 Hydroware Hydroware AB, Box 66, SE-342 21 ALVESTA, Sweden	HydroElite 3G - 5.20 Quick guide Installation and commissioning Drive and control system	Dokumenttyp / Document type Technical documentation	
		Dokumentnr / Document no. T 101 53 EN	
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Process INSTALLATION		Signatur / Signature ML/PW	Sida/ Page 1 (16)

HydroElite 3G - 5.20

QUICK GUIDE

Installation and commissioning



VENI



VIDI



MRL



MINI

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9890211

**Support
 tool
 HydroApp**



**Hydroware Support:
 Commissioning, troubleshooting**
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+46-472-45156

1 Before installation

Check:

- that the right materials have been supplied (quantities, dimensions, etc.) as stated in the delivery note.
- that the tank is clean and does not contain any water.
- and read through lift data, the connection table and inputs and outputs.

Contact Hydroware immediately if anything is missing or incorrect.

NOTE!

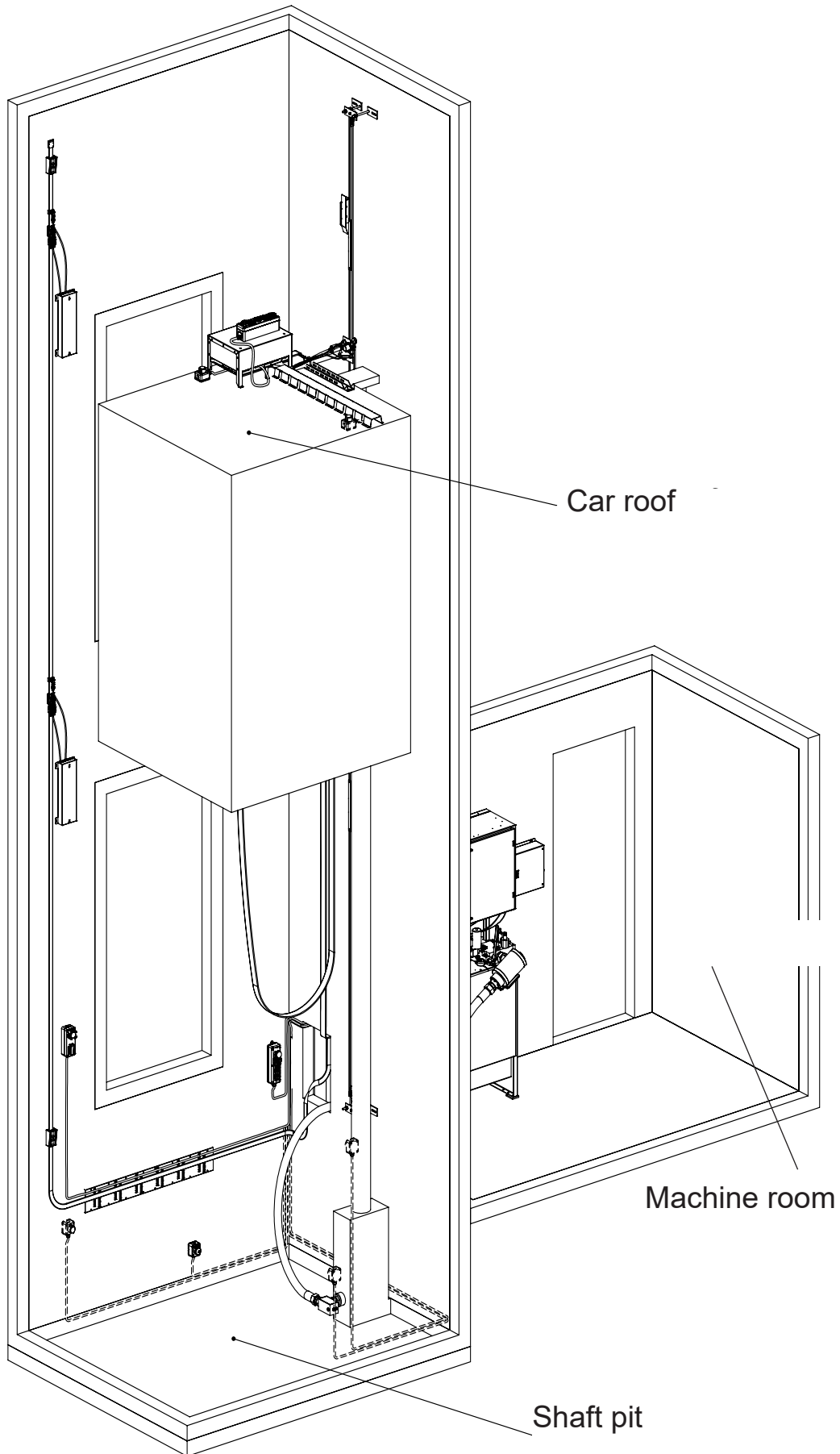
Check and push the connectors on flat cables in controller cabinet and junction boxes.

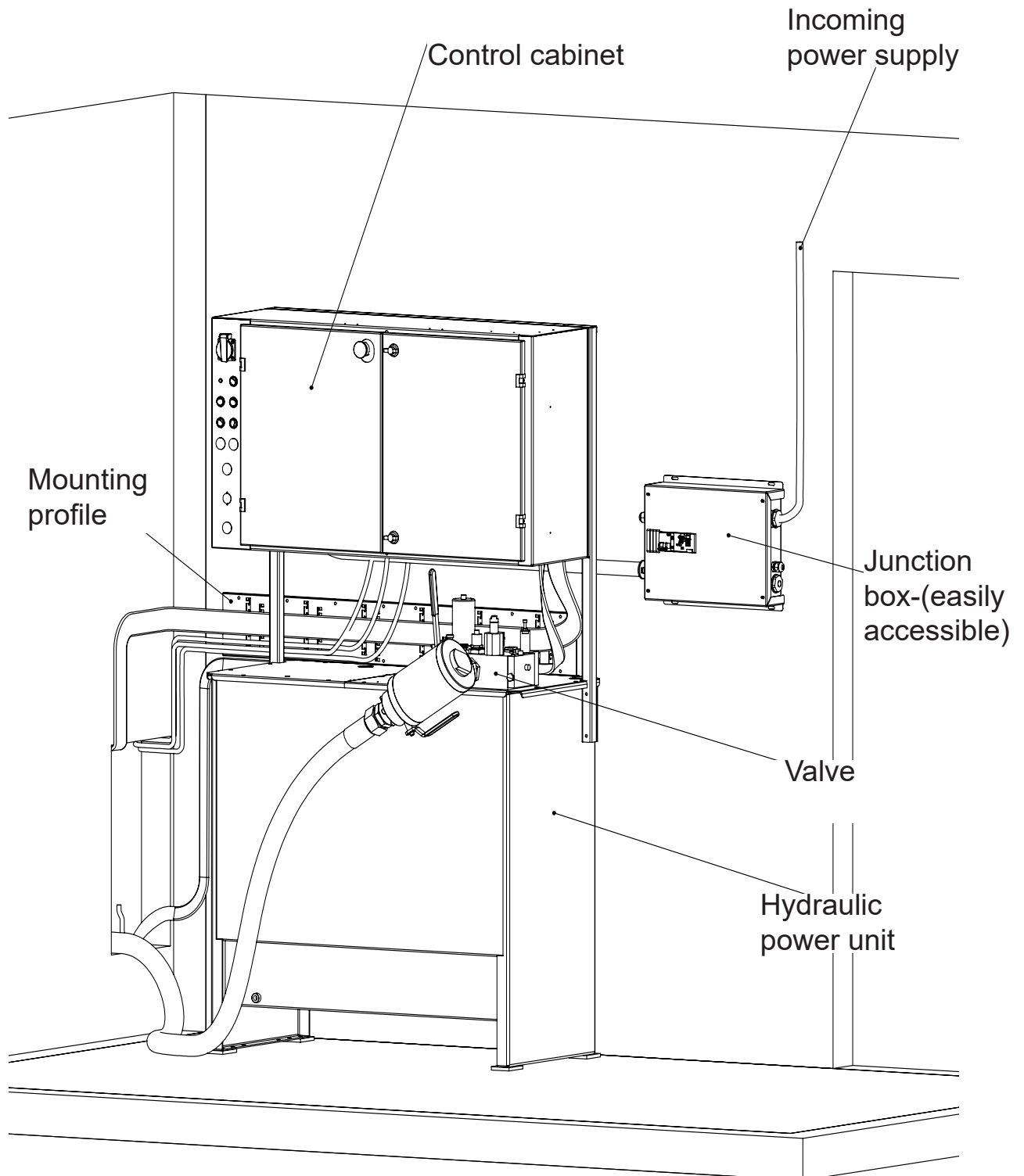
Check and tighten screws on terminals, relays and other electrical equipment in controller cabinet and junction boxes.

Although this is done at the factory before delivery, these may have come loose because of vibrations in the transport.

Supplementary documents

Document	Designation	Location
T101 29	Installation instructions	Installation material
T100 92	ECOBUS connector	Installation material
T101 06	Absolute encoder located on the car roof	With abs. encoder
T100 60	Interference suppression of peripheral equipment	Installation material
T101 62	Troubleshooting	Documentation folder
T101 52	Lift test	Documentation folder
T101 71	Quick guide pressure settings	Documentation folder





2
Installation sequence
WARNING!

THE POWER MUST BE SWITCHED OFF FOR ALL CONNECTION WORK!

1. Place the hydraulic unit in the machine room and top up with the hydraulic oil supplied.
2. Connect the mains ground (PE) to the junction box (or the control cabinet, if no junction box is included). Check all ground connections in the junction box and control cabinet.

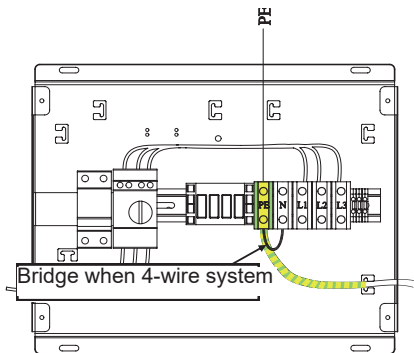


Figure 2: Connect the mains ground to the junction box

Tip!

The hose to the junction box can be moved to the other short side. A piece of the hose may then need to be cut off to ensure that the cabling is long enough.

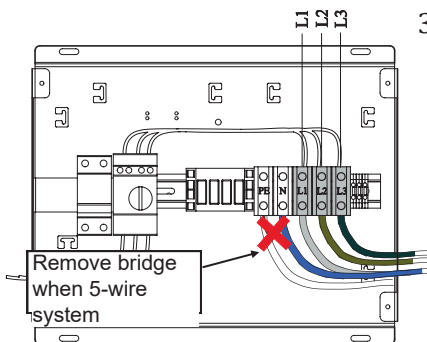


Figure 3: Connect the mains 3 phases

3. Connect the mains 3 phases. When existing connect neutral as well, but in that case remove the bridge between the mains ground (PE) and neutral (N). Measure the resistance between PE-N less than 10 ohm. In the event of a value above 10 ohm, contact the caretaker before continuing work.

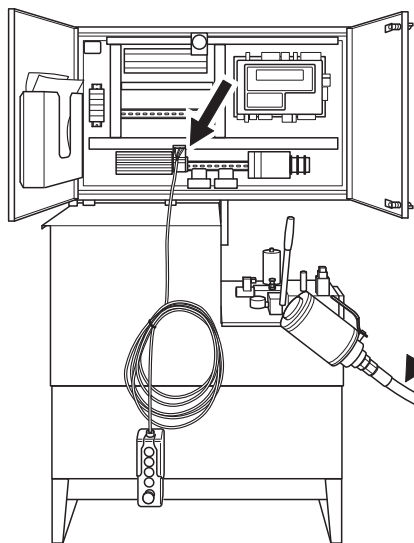


Figure 4: Connect installation handle and hydraulic hose

4. Connect the hydraulic hose to the shut-off valve and connect the installation handle* to terminal X16.

*** Note:**

- The inspection handle to the shaft pit may be used provisionally if necessary. If it is not long enough, a handle with a longer cable or a wireless handle can be ordered from Hydroware.
- If the wireless handle is used, must besides the connector X16 also its separate neutral conductor be connected (X16:9).

5. Switch on the power for the first time. (Main power switch + fuses F01, F02 and F04, F08 when existing, also residual current device RCD01).

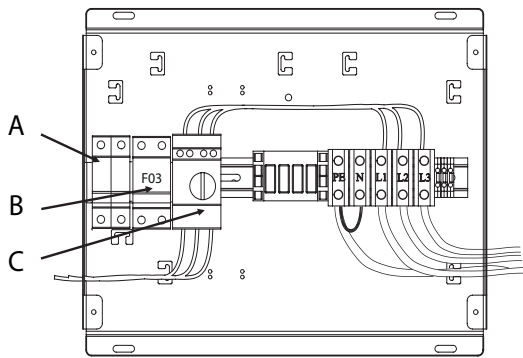


Figure 5 Fuses in the junction box

- A. Depending on the configuration of the lift, variations with more fuses may occur, e.g. F10 - shaft lighting
 B. F03 - car lighting
 C. Main power switch

Fuses in control cabinet

F01*	Safety circuit	RCBO16	Speed gov. coils
F02*	Internal 24V	F20*	Battery
F04	Control transformer	F21	Shaft door 1
F05	3-pole, retracting ramp motor	F22	Shaft door 2
		F24	Swing door opener
F07	Oil heater		
F08	Transformer safety circuit		
F11	Door drive 1		
F12	Door drive 2		
F13	Door drive 3		
RCBO14	Transformer, retracting ramp/anticreep device.		
F15	Rectifier - retracting ramp/anticreep device.		

Residual current devices in control cabinet

RCD01*	Safety circuit
RCD11	Car doors

Junction box

RCBO03*	Fuse, car lighting
RCBO10	Fuse, shaft lighting
F101	Motor circuit breaker, motor 1 (double cabinet)
F102	Motor circuit breaker, motor 2 (double cabinet)

* Available on all lifts

See the fuse list for a complete list of fuses and residual current devices.

412	Start Bleeding	1 999.999
	Inspectionmode,(m-room)	0 ■
	Push UP	0 INS. MR
back		21.1 0.00

Figure 6: Menu 412 - Bleeding

422	Installation run	1 999.999
	Inspectionmode,(m-room)	0 ■
	Push UP / DOWN	0 INS. MR
back		21.0 0.00

Figure 7: Menu 422 - Installation run

6. Bleed the system (menu 412). *See section 20 for a summary of the control panel.* Loosen the air-bleed screw on the lift jack and press the up button on the handle until oil emerges.

If setting of overload pressure must be changed, it can be done in menu 5211. Setting of overload pressure is described in document T10171EN.

7. Test the lift using the handle (menu 422).

If the lift does not start upwards because the pressure relief valve opens, the setting of the pressure relief valve may need to be changed as described in document T10171EN.

The speed can be set in menu 613141 (for upward travel) and 613241 (for downward travel).

(Up Higher value = Higher speed)

(Up Lower value = Lower speed)

(Down Higher value = Lower speed)

(Down Lower value = Higher speed)

Tip!

Particularly applicable to lifts with low pump flows

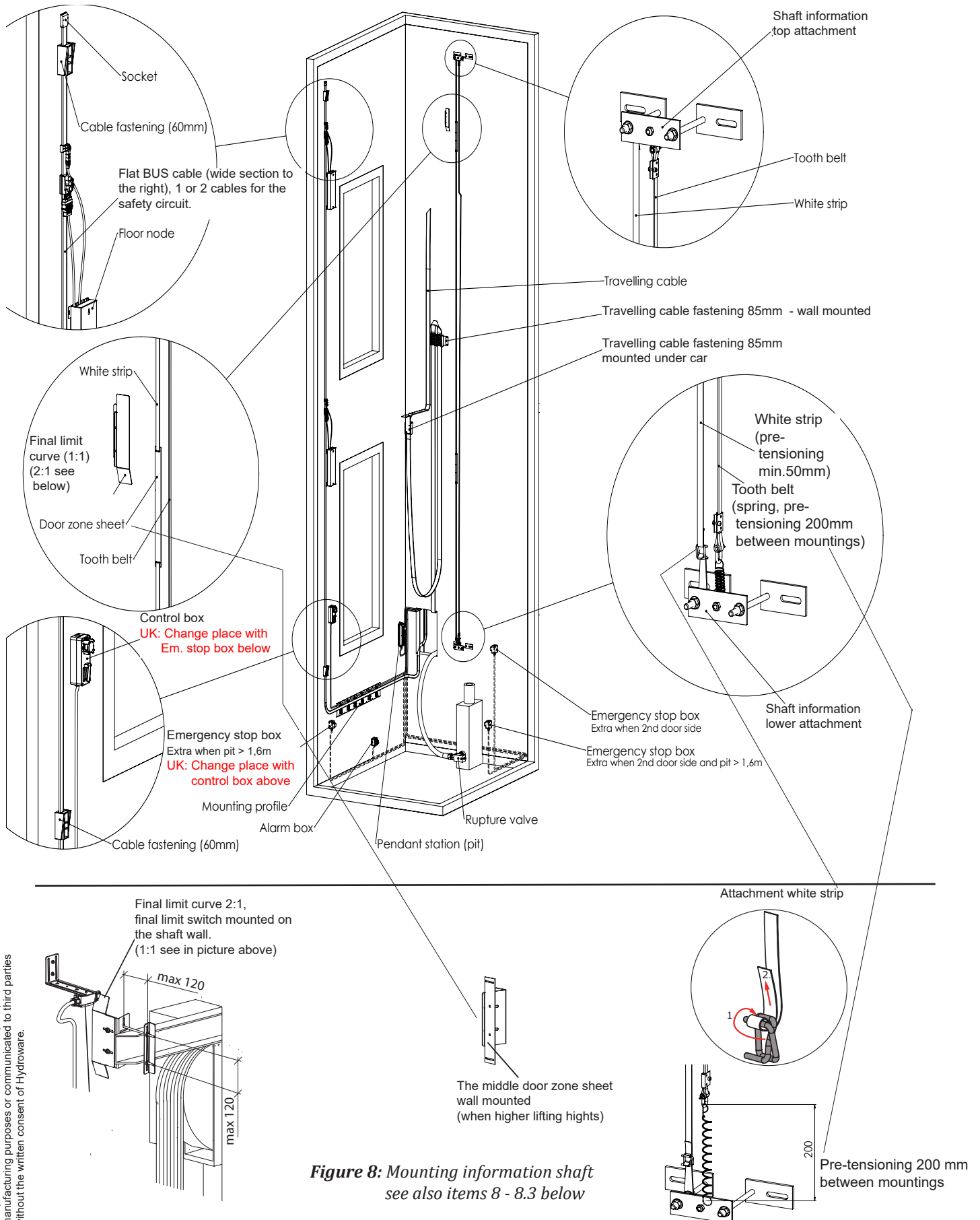


Figure 8: Mounting information shaft
see also items 8 - 8.3 below

Install shaft wiring (with one flat cable and one or two cables for the safety circuit), shaft information, floor nodes, pit control box, alarm button, inspection handle in pit and any additional emergency stop box, see Figure 8. Fit the shaft wiring so that any door drive does not collide with floor nodes or the shaft wiring. Replace existing cables if necessary.

NOTE:

Cable for safety circuit out from the control cabinet to floor node must normally always be connected to the bottom floor node, even if the machine room is located above the lift shaft (cable from X02:321+324 if one cable and X02:321+322 if two cables) (check schematic sheet 10:2).

UK NOTE:

Instead of items 8.1 and 8.2 below use this:

- Place the pit control box 0.5m above the pit floor, operable from a refuge space.
- Place the stop button box 1.0m above the bottom floor, max. 0.75m horizontally from the inner edge of the door frame on the opening side.

8.1 If the shaft pit is lower than 1.6 m (see figure 8.1 to the left below):

Install the pit control box at least 0.4 m above the bottom floor and no more than 2.0 m above the pit floor, max. 0.75 m horizontally from the inner edge of the door frame on the opening side.

8.2 If the shaft pit is deeper than 1.6 m (see figure 8.2 to the right below):

In this case, there has to be 2 stop buttons:

- the top one (stop button box) at least 1.0 m above the bottom floor, max. 0.75 m horizontally from the inner edge of the door frame on the opening side.
- the bottom one (pit control box) no more than 1.2 m above the pit floor, operable from a refuge space.

8.3 Installation of the inspection handle

Install the handle so that it can be removed from its holder and operated within 0.3 m of a refuge space. Make sure that loosely hanging cables do not end up in inappropriate locations.

NOTE:

For recommended fasteners, see document T10129.

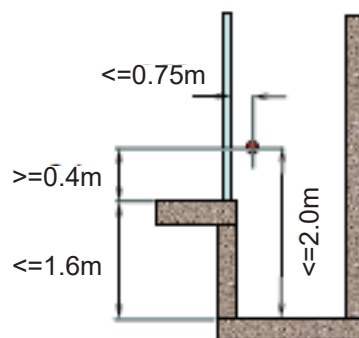


Figure 8.1: Placement of stop button if pit is $\leq 1,6m$

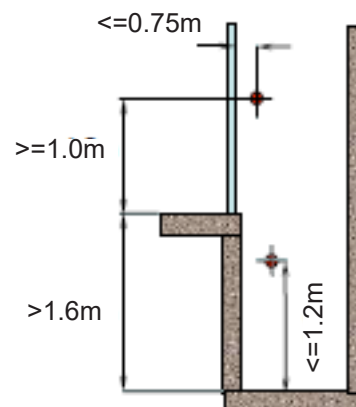


Figure 8.2: Placement of stop buttons if pit is $> 1,6m$

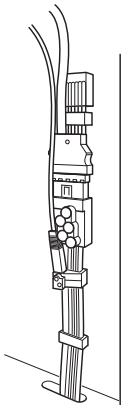
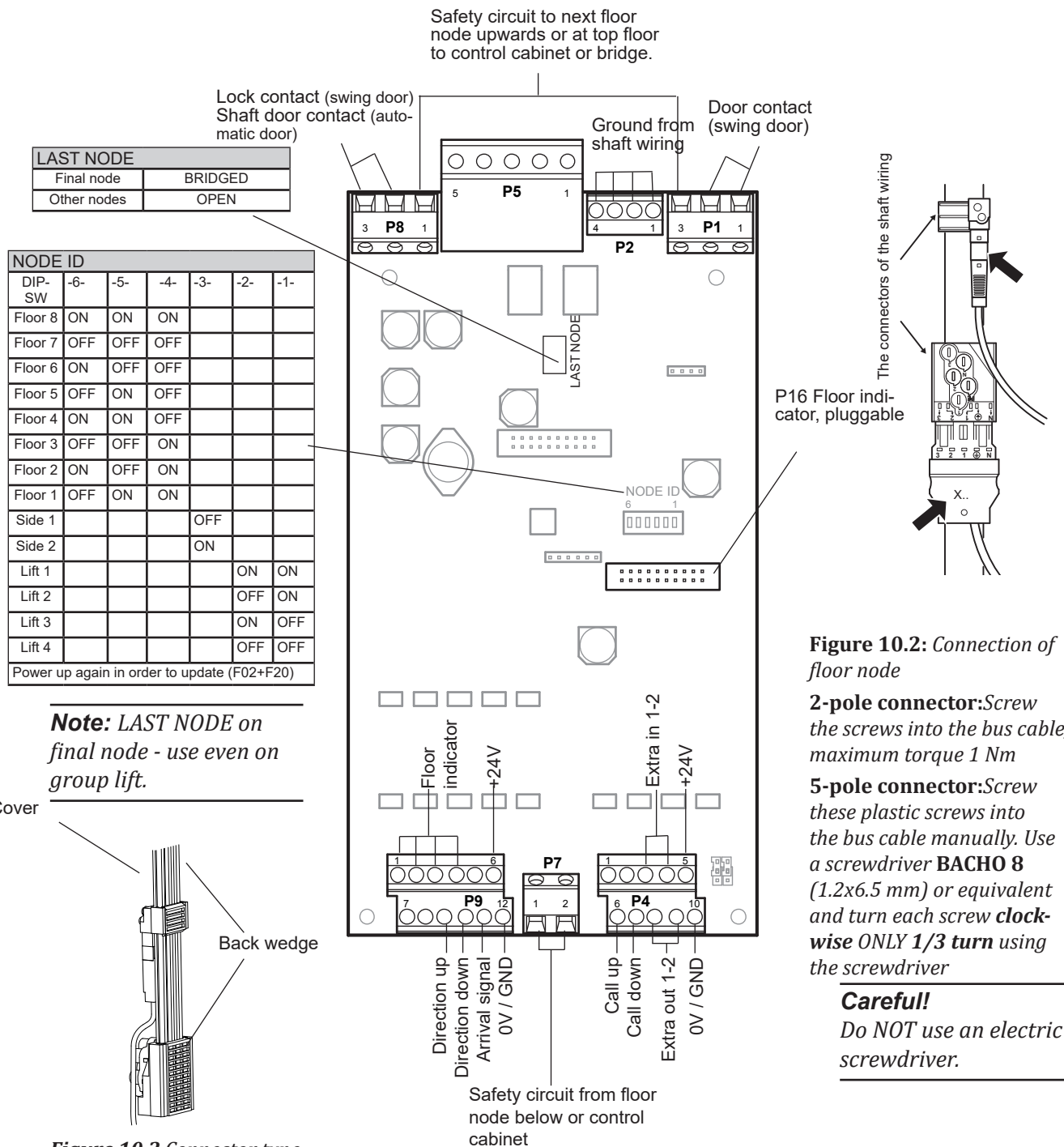


Figure 9: Shaft wiring connection in the control cabinet.

8. Connect the shaft wiring in the control cabinet, see Figures 9 and 10.2.
9. Install the shaft wiring connectors, tighten the screws and connect the floor nodes (see Figure 10.2 and document T10092). Then connect door contacts, tableaux and any lock contacts. See the installation schematic (sheet 10:2) for connection of the safety circuit.

WARNING!

Incorrect connection at terminals P1 and P8 may result in overbridging of the safety circuit



LAST NODE	
Final node	BRIDGED
Other nodes	OPEN

NODE ID						
DIP-SW	-6-	-5-	-4-	-3-	-2-	-1-
Floor 8	ON	ON	ON			
Floor 7	OFF	OFF	OFF			
Floor 6	ON	OFF	OFF			
Floor 5	OFF	ON	OFF			
Floor 4	ON	ON	OFF			
Floor 3	OFF	OFF	ON			
Floor 2	ON	OFF	ON			
Floor 1	OFF	ON	ON			
Side 1				OFF		
Side 2				ON		
Lift 1					ON	ON
Lift 2					OFF	ON
Lift 3					ON	OFF
Lift 4					OFF	OFF

Power up again in order to update (F02+F20)

Note: LAST NODE on final node - use even on group lift.

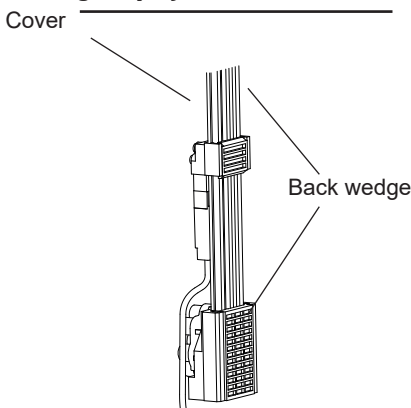


Figure 10.3 Connector type ECObus type WAGO

Figure 10.2: Connection of floor node

2-pole connector: Screw the screws into the bus cable, maximum torque 1 Nm

5-pole connector: Screw these plastic screws into the bus cable manually. Use a screwdriver **BACHO 8** (1.2x6.5 mm) or equivalent and turn each screw **clockwise ONLY 1/3 turn** using the screwdriver

Careful!

Do NOT use an electric screwdriver.

Figure 10.1: Overview, floor node

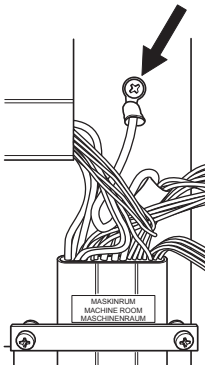


Figure 11.1 Grounding point for travelling cable shielding in control cabinet.

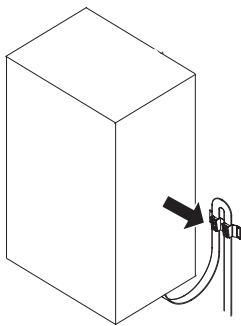


Figure 11.2 Travelling cable bracket

10. Install the travelling cable with printing on the cable facing the shaft wall and connect its ground wire in the control cabinet. Connect the shielding to the grounding point (Figure 11.1).

Note:

Travelling cable end with connectors P608, P610, X17, X18 and X19 on the car roof

Note:

Do not cut the travelling cable! To eliminate excessively long travelling cable, move the travelling cable bracket higher up in the shaft (Figure 11.2).

Note:

Connect the travelling cable's connectors only when everything else has been fully installed.

11. Install the car node.

Car node with handle

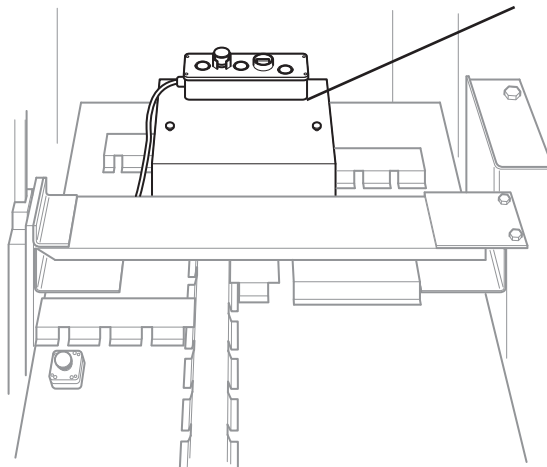


Figure 12: Installation of car node

12. Connect the travelling cable's ground wire to the car node. Check the connection of the shielding to the grounding point (Figure 13.1).

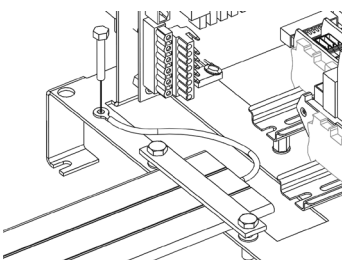


Figure 13.1: Grounding point for travelling cable shielding in car node.

13. Install the absolute encoder, door zone sensor, final limit switch (see T10106), emergency stop box and steel cable ducts on the car roof. Adjust the position of the door zone plates so that the door zone sensors are in the middle when the lift is at floor level.

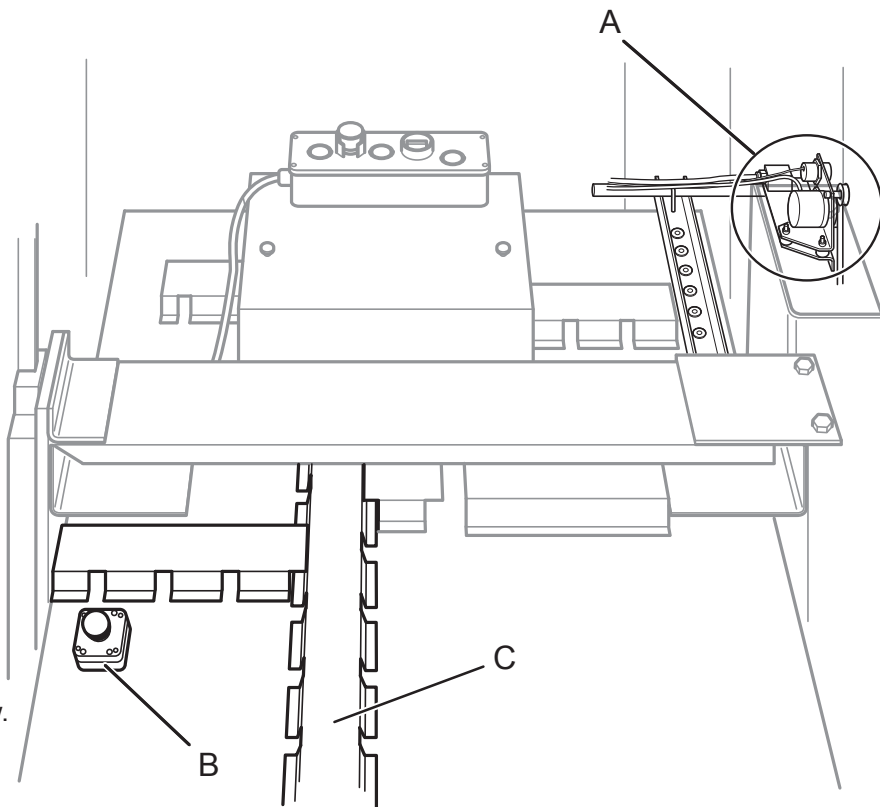


Figure 14.1 Car roof installation

- A. Absolute encoder, door zone sensors, final limit switch (see T10106) See 14.2, 14.3 and 14.4 below. (Alternative installation: vertical part at the other end of the rail)
 B. Emergency stop box
 C. Steel cable duct

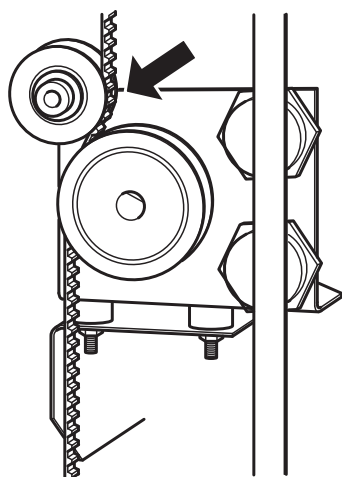


Figure 14.2 Belt traction

Note:

Encoder belt traction.

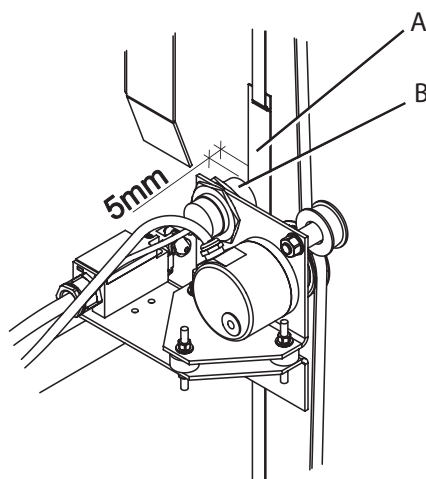


Figure 14.3 Spacing adjustment

- A. Door zone plate
 B. Door zone sensor x 2

Note:

The distance between door zone sensors and door zone plate must be 5 mm.

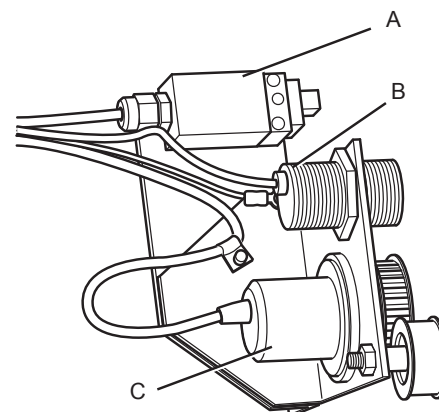


Figure 14.4 Sensor and switch (1:1)

- A. Final limit switch
 B. Door zone sensor x 2
 C. Absolute encoder

14. Upon connection, install the attached interference suppression devices on magnetic coils (anticreep devices/retracting ramps), see T10060.

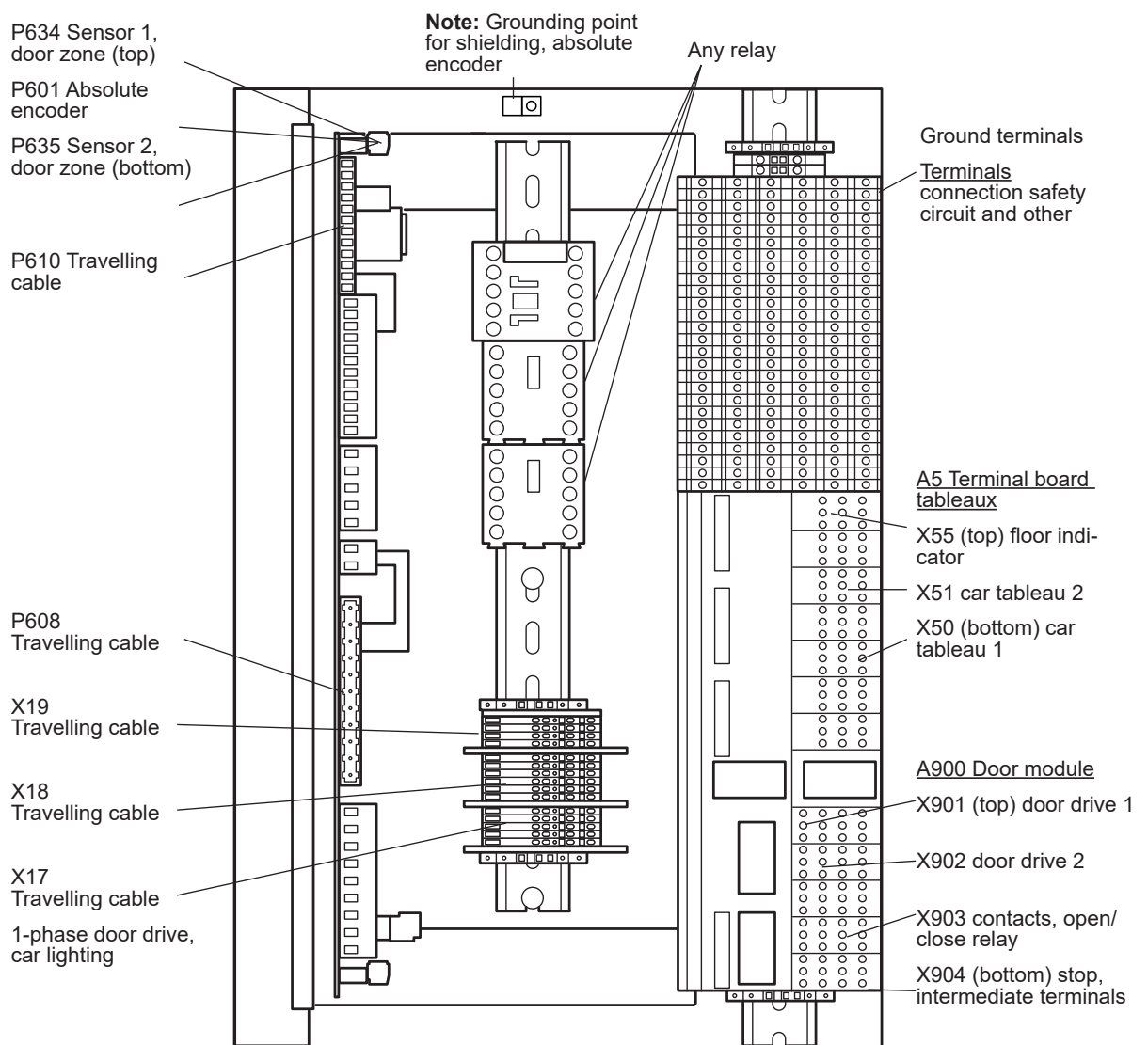
NOTE:

It is important to install the interference suppression devices!

15. Complete the connections in the car node (tableaux, door drive, safety circuit). Check that the ground wire of the travelling cable is actually connected first, then connect all connectors of the travelling cable.

NOTE:

Orange bridges are temporary and must be replaced with other connections.



NODE ID		
DIP-SW	-1-	-2-
Lift 1	ON	ON
Lift 2	OFF	ON
Lift 3	ON	OFF
Lift 4	OFF	OFF
Power up again in order to update (F02+F20)		

Tab. 1 A702 settings

Figure 16: Car node connection

WARNING!

THE POWER MUST BE SWITCHED OFF FOR ALL CONNECTION WORK!

16. Connect cables and connectors of the travelling cable to the control cabinet.

NOTE:

Orange bridges are temporary and must be replaced with other connections.

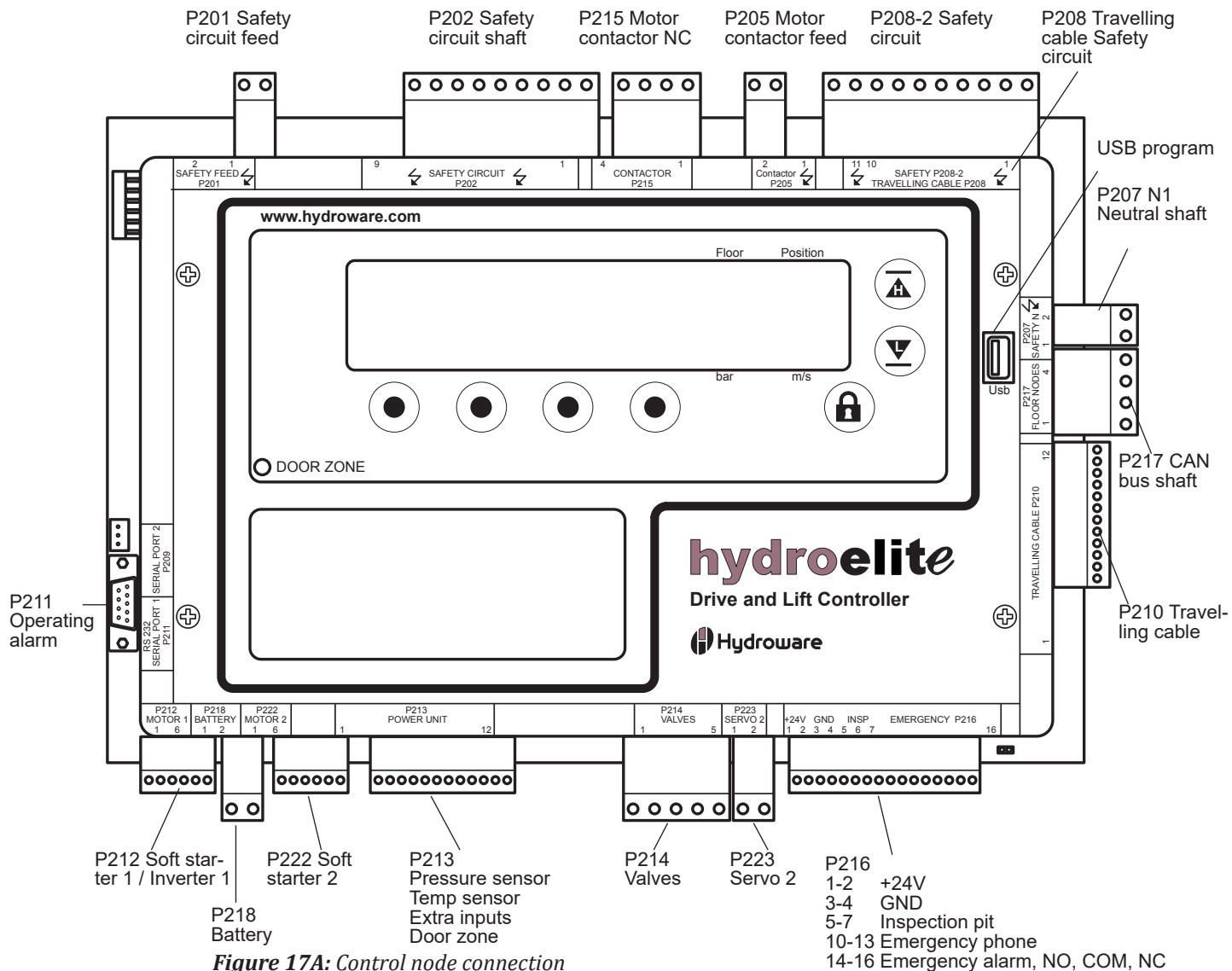


Figure 17A: Control node connection

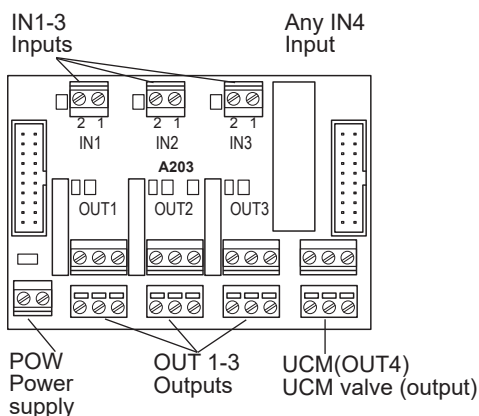


Figure 17B: Input/output board A203/A204

Settings on A202			
JP1	JP3	JP4	JP5
OPEN Standard	BRIDGED Always	BRIDGED Single lift	SW BRIDGED (standard) K208 controlled by SW
BRIDGED Increased servo dither amplitude		OPEN Group lift	HW BRIDGED K208 controlled by alarm button

17. Control measurement

Measure resistance or buzzer the following:			Correct result:		
Component/Description	From	To	Buzzer	Resistance meas. (ohm)	Remarks
Safety circuit	X02:303	X02:325	Signal	Less than 10	
Shaft door contacts	X02:303	X02:324	Signal	Less than 10	May be interrupted due to lock contact, swing door
Car door contacts	X02:325 (P208:7)	P208:6	Signal	Less than 10	May be interrupted due to lock contact, car door.
Safety circuit to neutral	X02:303	X02:N1	No signal	More than 200	
Shaft door contacts to neutral	X02:324	X02:N1	No signal	More than 200	
Safety circuit to +24V	X02:303	X04:+24V	No signal	More than 200	
Shaft door contacts to +24V	X02:324	X04:+24V	No signal	More than 200	
BUS wire	P217:1	P217:2	-	Approx. 60	Group lift not coupled, approx. 120 ohm
BUS wire	P210:10	P210:11	-	Approx. 60	

18. Switch on the power in the following order:

- Main power switch (on wall or in control cabinet).
- Fuses starting at F02 and continuing upwards, finish with F01.

19. Commissioning

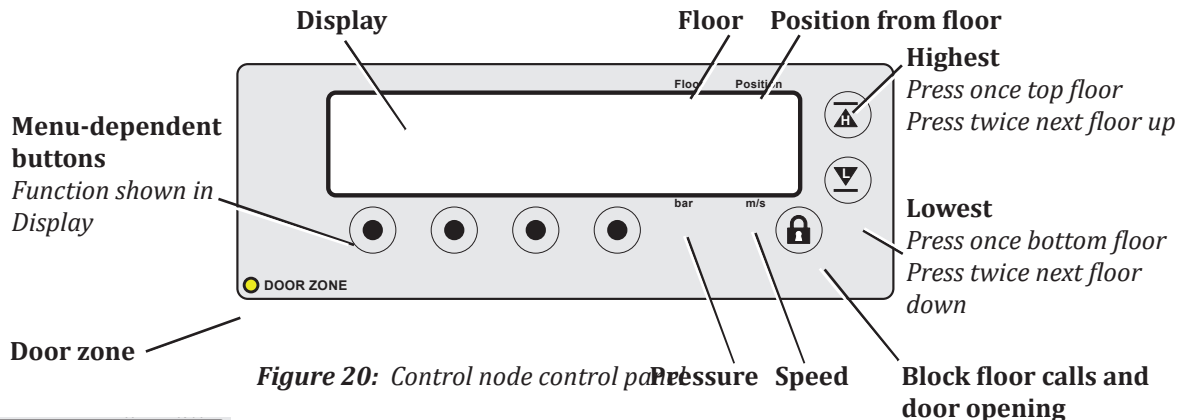


Figure 20: Control node control panel

```

421 Installation run | 1 999.999
Keep pressed UP <H> -- O █
DOWN<L> -- O UnCom. LH
back | | | | 21.0 0.00
    
```

Figure 20.1: Menu 421 - Installation run with panel buttons

20.1. Commission the system in menu 4 in the control. If anti creep device is fitted, its function must be checked so that the lift does not get stuck at the top floor and is unable to pass the stop lugs downwards during commissioning. Operate the lift using the ▲ and ▼ buttons in the installation run (menu 421) and check that the anti creep device is retracted and able to pass the stop lugs.

```


431 Hydraulic learn travel | 1 999.999
Keep pressed <H> button-* █
for start * UnCom. LH
back | | | | 120.8 0.00
    
```

Figure 20.2
Menu 431—Hydraulic learn travel

20.2. Execute a hydraulic learn travel (menu 431)

Start from the bottom floor and hold down the  button until the lift stops.

Note:

Be careful at low lifting heights. When the display shows "Speed known", you can release the .

Then travel down by holding down the  button until the lift stops at the bottom floor.

Exit out of the menu

.

20.3. Execute a floor learn travel (menu 441)

Start in the bottom door zone (the door zone indicator is on and both door zone sensors indicate active (*) in the display).

The learn travel runs automatically to the top floor and back.

Exit out of the menu.

```

441 Floor learn travel | 1 999.999
Press START! * █
(runs automatically) * UnCom. LF
back | | | | START | 22.4 0.00
    
```

Figure 20.3
Menu 441—Floor learn travel

20.4. Fine adjustment of every floor

Start from the bottom floor, travel to all floors upwards and measure the deviation at each floor. Then travel directly to the bottom floor and measure. Then fine-adjust each floor individually.

(Menus 45111-45181 floors 1-8)

(Menus 45211-45281 floors 9-16)

Fine adjustment must take place immediately after measurements have been carried out and before the lift is used further. If the lift has stopped precisely at a floor, set 0 mm for that floor.

Exit out of the menu.

Test the lift by travelling several times to every floor in both directions. If necessary, make fine adjustments to floors which are still not correct.

```

45 Fine adjustment floor | 1 -0.003
451 Floor 1-8 * █
4511 Floor 1 *
back | prev. | next | select | 21.1 0.00
    
```

Figure 20.4A:
Menu 4511—Fine adjustment, floor

```

45111 Adjust car level | 1 -0.002
(mm): * █
*
back | - | + | select | 22.6 0.00
    
```

Figure 20.4B
Menu 45111 - Fine adjustment, floor 1

3 Check after installation

3.1 Air-bleed of hand pump

1. Open the air-bleed screw for the hand pump (*see T10178 Function description item 2.4*) and start to handpump until no air is left in the system.
2. Close the air-bleed screw.

3.2 Check of oil level

1. Run the lift to the top floor.
2. Check that the oil level exceeds the minimum mark on the oil dipstick.
3. Refill oil if required.

3.3 Check of oil leakage

Check that there is no oil leakage at the hose couplings.

NOTE!

Remove oil from the pit and machine room floor, if any!

3.4 Test the lift

All tests that can be needed to carry out are described in document *T10152 Test of lift*.

See document *T10162 Troubleshooting* for more information on troubleshooting and error codes.