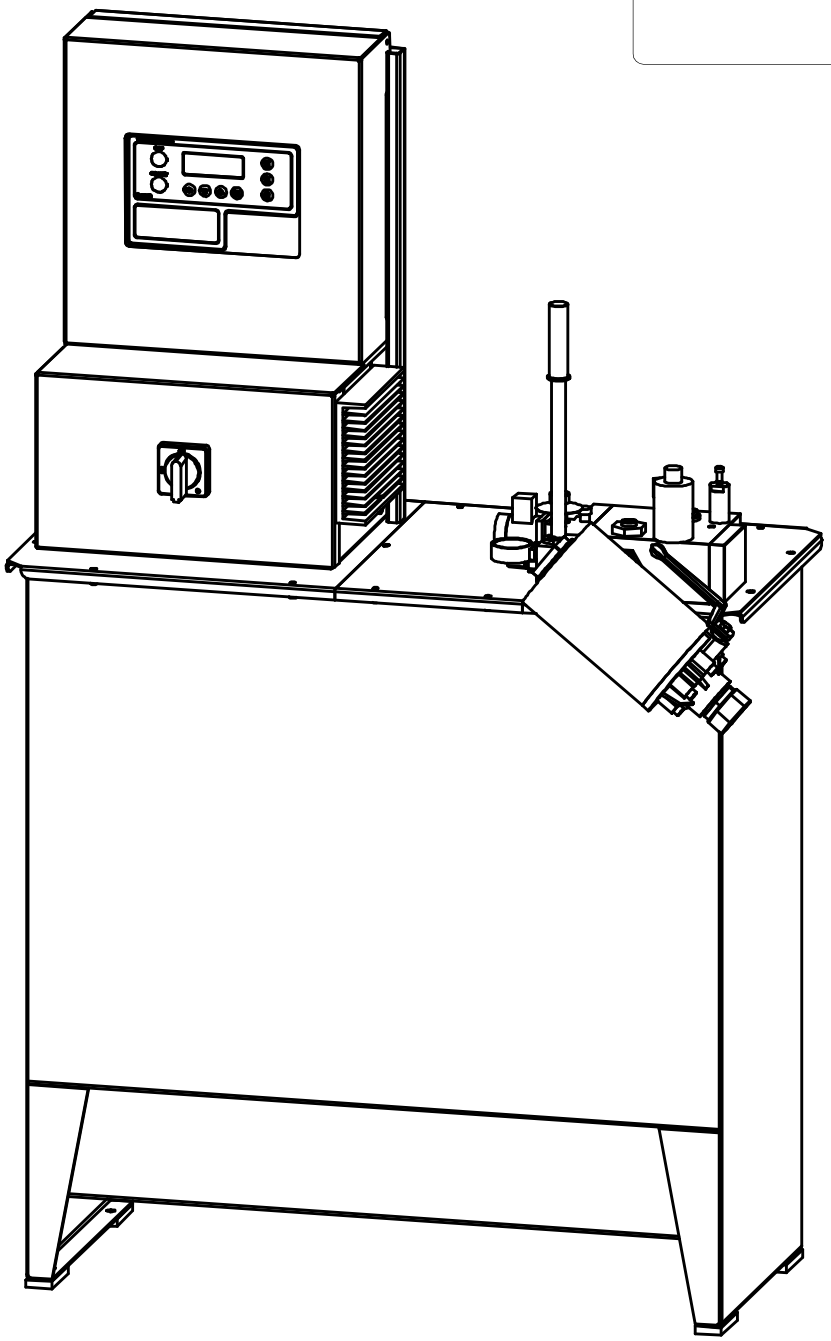
Hydroelite



Quick Start

1 Installation order

Installation of Hydroelite drive and control system. The different part moments are divided between two assemblers, referred in this text as assembler (1) resp. (2) or (1+2)

1.1 Before installation (1+2)

- **Make sure that correct material is delivered, especially regarding dimensions and quantities**
- **Check out cable lengths and oil hose**

If anything is missing or if the length or quantity are wrong, order new material immediately !!!

1.2 At modernisation, remove existing power unit and controller from the machine room (1+2)

- **Mark all the cables that are to be reused. Eg. alarm transfer.**

1.3 Installation of power unit and controller (1+2) (page 3)

- **Place the hydraulic unit in the machine room according to the commission specification**
- **Remove the inspection lid of the tank and check that the inside is clean and that there is no water**
- **Mount the shut-off valve and connect the oil hose**
- **Fill the tank with the hydraulic oil according to the commission specification**
- **Connect the incoming main power cable to the unit.**
- **Connect the recall handle with a long cable.**
- **Set ”Commissioning - Installation travel” on the display, Menu item 4.2.1**

1.4 Remove existing mounting pillar and shaft information (1)

1.5 Mount ev. new push button equipment at floor (2)

1.6 Mount new shaft wiring and shaft information (1 car roof, 2 shaft pit) (page 4-5)

1.7 Mount new travelling cable (1+2)

1.8 Connect landing nodes and car node (1) (page 6-7)

1.9 Mount ev. new push button equipment in car (2)

1.10 Connect cable harness between shaft and machine room (1+2) (page 8)

1.11 Commissioning (1+2) (page 9)

2 Control panel - Control Node (page 10)

3 Control panel - Frequency Inverter (Hydroelite Vidi) (page 11)

4 Error/Info codes (page 12)

1.2 Installation of power unit and controller (1+2)

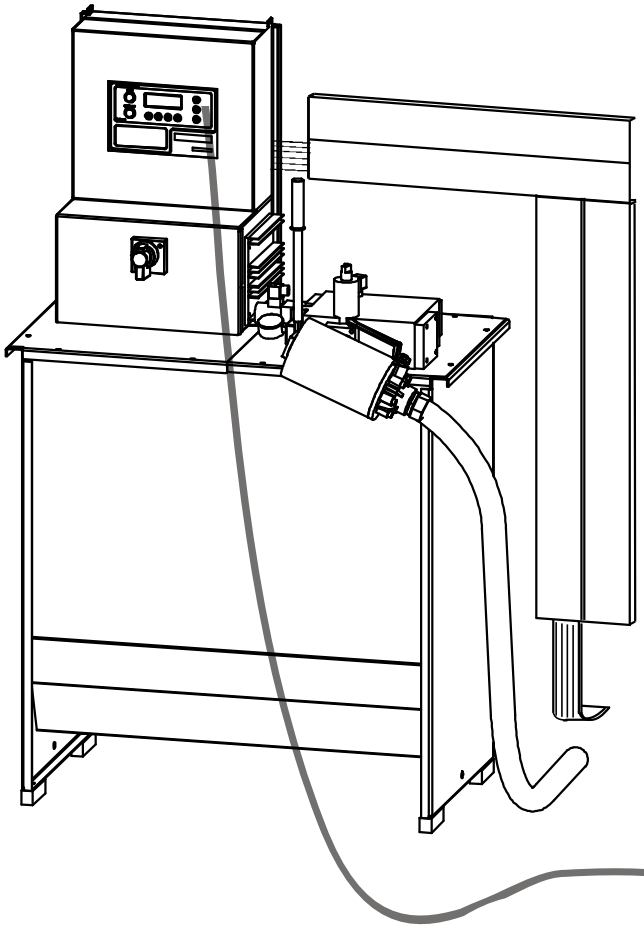


Fig.1 *Hydroelite drive and control system*

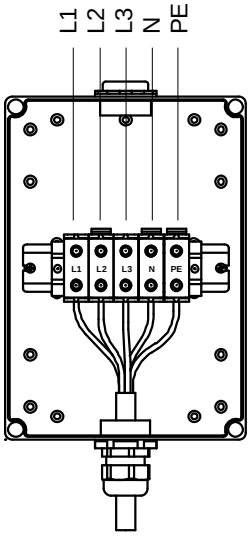


Fig.2 *Connection of incoming main power cable*

Check always that the size of the lift section fuse correspond with the label on the connection box

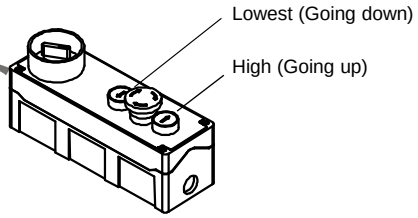


Fig.3 *Recall handle with a long cable*

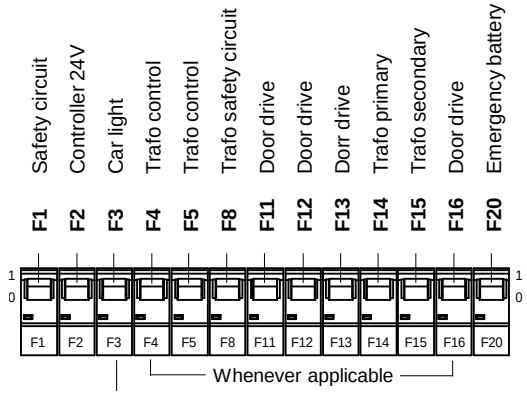


Fig.4 *Fuses in main supply unit*

1.4 Mount shaft wiring and shaft information (1 car roof, 2 shaft pit)

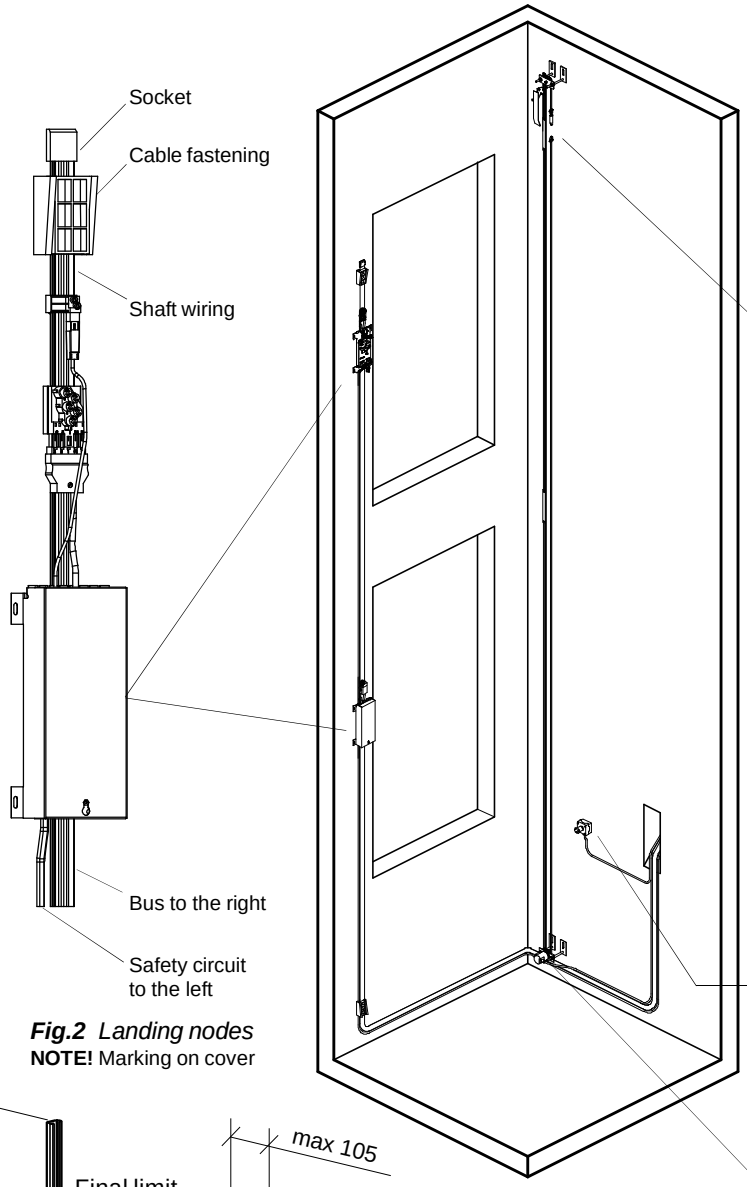


Fig.2 *Landing nodes*
NOTE! Marking on cover

Fig.1 *Lift shaft*

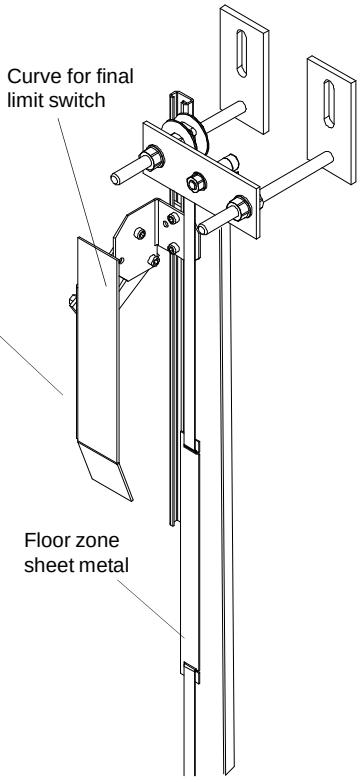


Fig.3 *Shaft information top fixing*

Stop button in pit
(connected to control node)

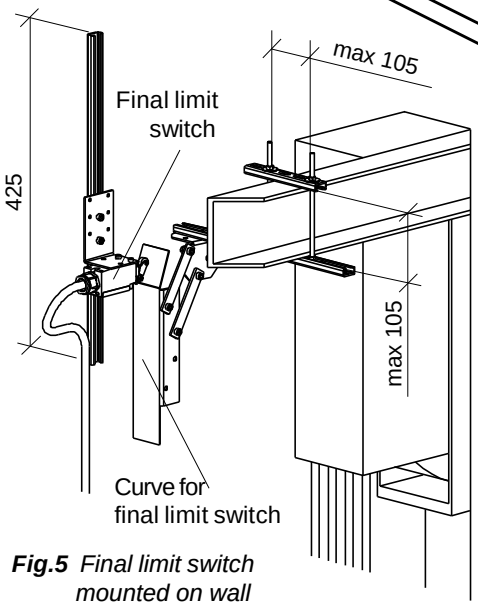


Fig.5 *Final limit switch mounted on wall*

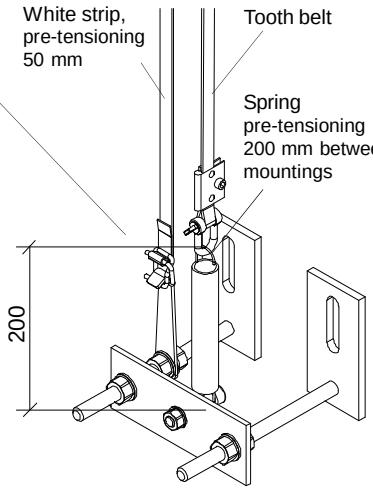


Fig.4 *Shaft information lower fixing*

1.4 Continued...

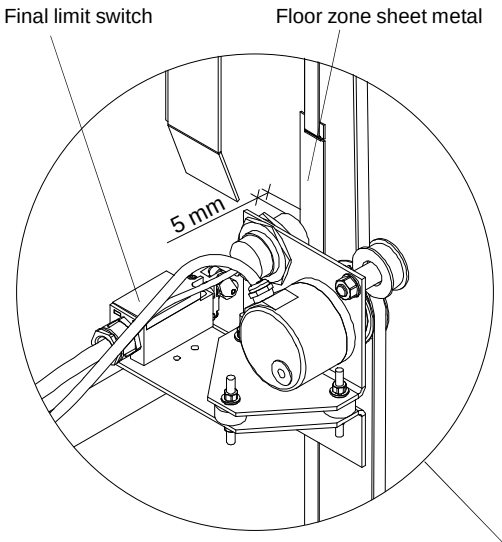


Fig.2 *Fixing of shaft information*

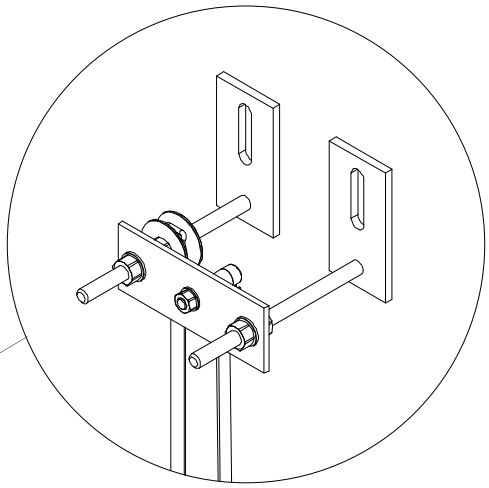


Fig.3 Top fixing of shaft information
In the shaft wall (white strip to the left)

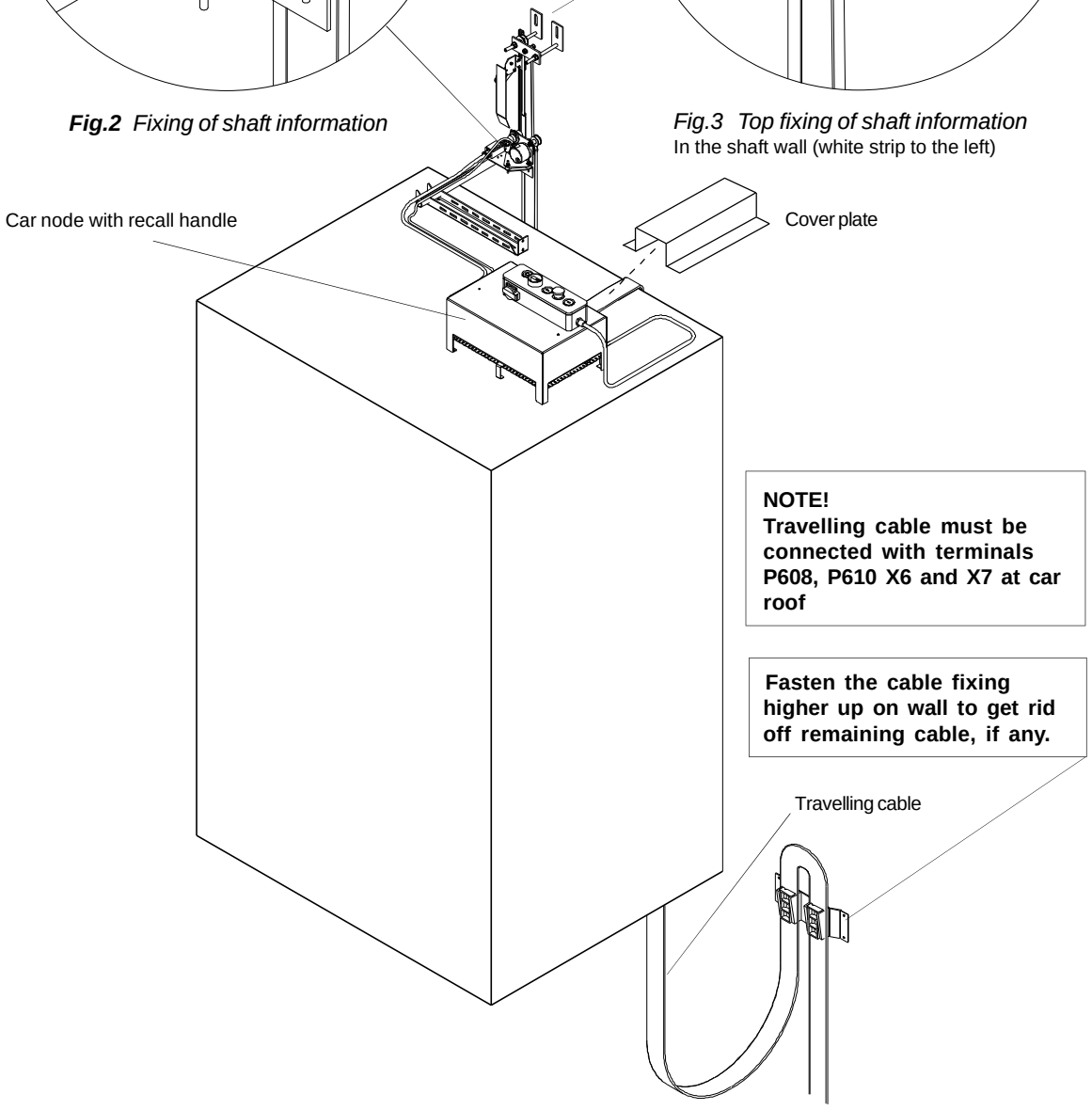


Fig.1 *Lift car*

1.6 Connect landing nodes (1)

For installation of the safety circuit, see shematic *S420xxxE_xx Safety Circuit Landing Doors.*

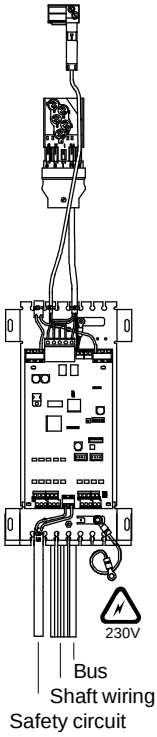
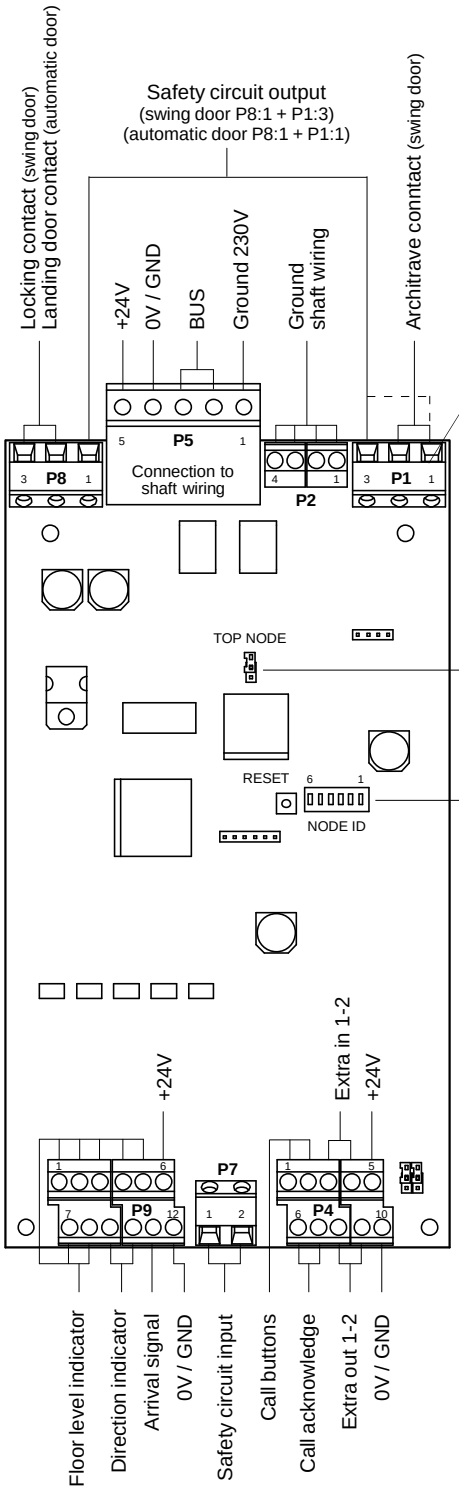


Fig.2 *Landing node*



NOTE ! Incorrect connections on terminal P1 resp P8 can cause a bridge connection of the safety circuit.

TOP NODE	
Last node	**CLOSED**
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**
Press RESET to update						

Side 1 is determined according to the following priority order:

1. side which has most automatic doors
2. side which has a door at lowest floor
3. side which has a door at the next floor up

The car door for Side 1 is always operated by terminal P901 on car node

Fig.1 *Landing node connections*

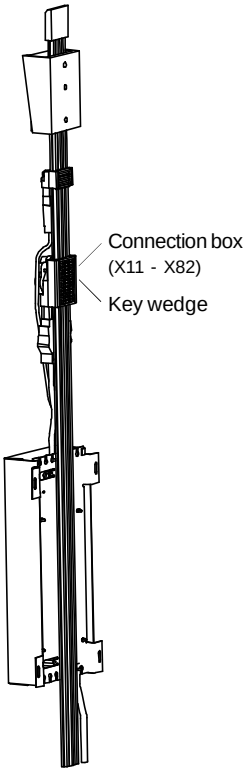
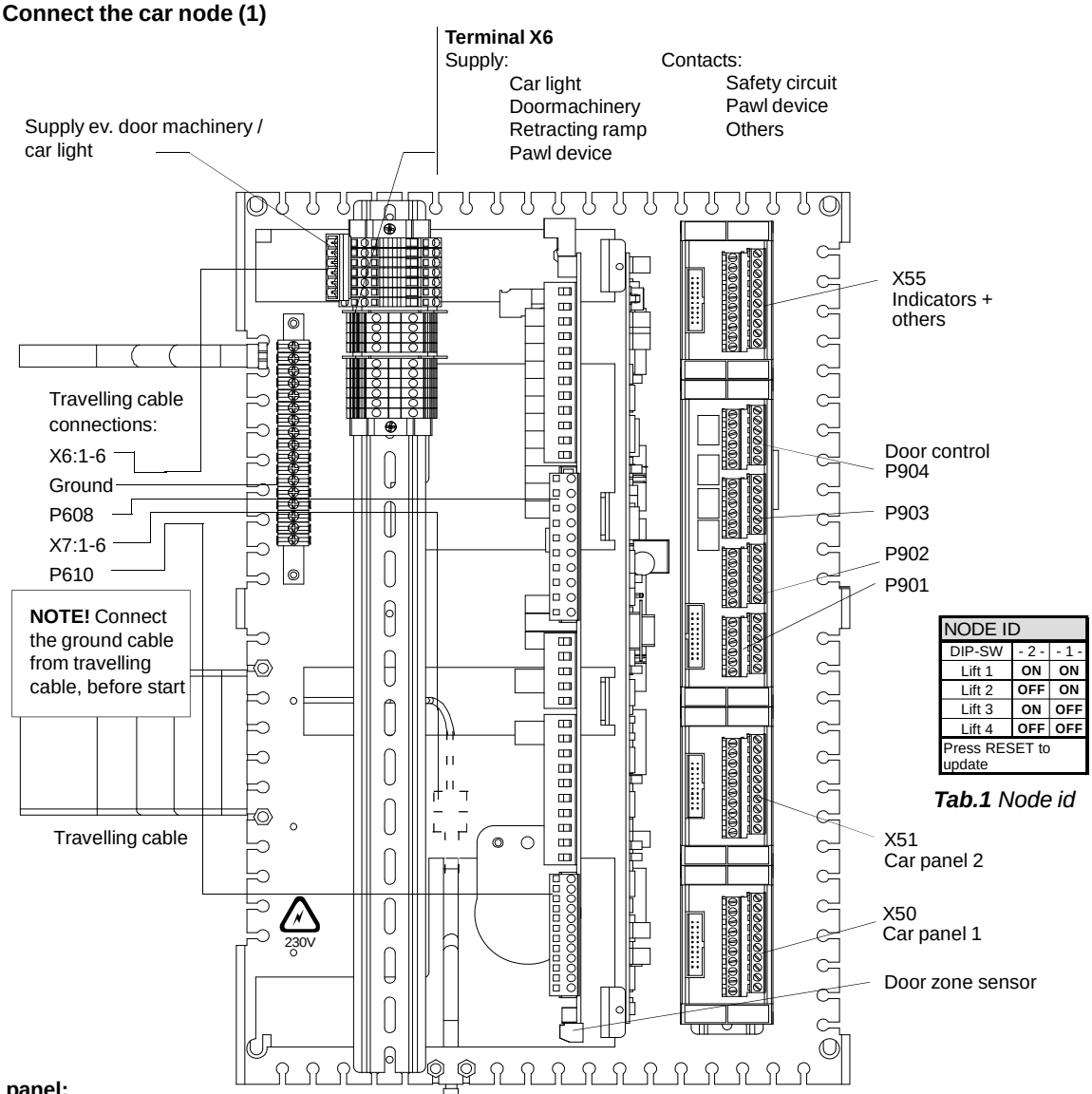


Fig.3 *Connection box*

Check that the key wedge
is properly inserted into the connection box and that all screws are tightened.

1.6 Connect the car node (1)



NODE ID		
DIP-SW	- 2 -	- 1 -
Lift 1	ON	ON
Lift 2	OFF	ON
Lift 3	ON	OFF
Lift 4	OFF	OFF
Press RESET to update		

Tab.1 *Node id*

Fig.1 *Car node connections*

Car panel:

X50:1-8	Destination + ackn. fl. 1-8 panel 1
X50:9	Open door panel 1
X50:10	Close door panel 1
X50:11-12	Extra in 1-2
X50:13-14	Extra out 1-2
X50:15	Alarm acknowledge
X50:19	+24V
X50:20	0V / GND
X51:1-8	Destination + ackn. fl. 1-8 panel 2
X51:9	Open door panel 2
X51:10	Close door panel 2
X51:11-12	Extra in 3-4
X51:13-14	Extra out 3-4
X51:15	Alarm acknowledge
X51:19	+24V
X51:20	0V / GND
X55:1-7	Floor indicator
X55:9	Travelling direction down
X55:10	Travelling direction up
X55:11-14	Extra out 5-8
X55:15-18	Extra in 5-8
X55:19	+24V
X55:20	0V / GND

Safety circuit:

			Fault code:
P670:11	(X6:101-102)	Final limit switch	L2
P670:10	(X6:102-104)	Safety gear contact	J5
P670:9	(X6:104-106)	Slack rope switch	J3
P670:8	(X6:106-108)	Emergency stop car roof 230V	G2
P670:7	(X6:108-110)	Emergency stop car	G1
P670:6	(X6:110-112)	Movable sill flap	J2
P670:5	(X6:112-114)	Movable car flap	J1
P670:4	(X6:114-115)	Trap door	G7
P670:2	(X6:116-117)	Car door 1 closed	G5
P670:1	(X6:117-118)	Car door 2 closed	G6
P671.4	(X6:119-120)	Locking contact car door 1	G8
P671:3	(X6:120-121)	Locking contact car door 2	G9

NOTE! All terminals in the safety circuit must be connected or bridged.

P671:2	X6:122	Supply pawl device
P671:5	X6:119	Supply Retracting ramp
P671:1	X6:123	Neutral Pawl device/Retracting ramp

1.8 Connect cable harness between shaft and machine room (1+2)

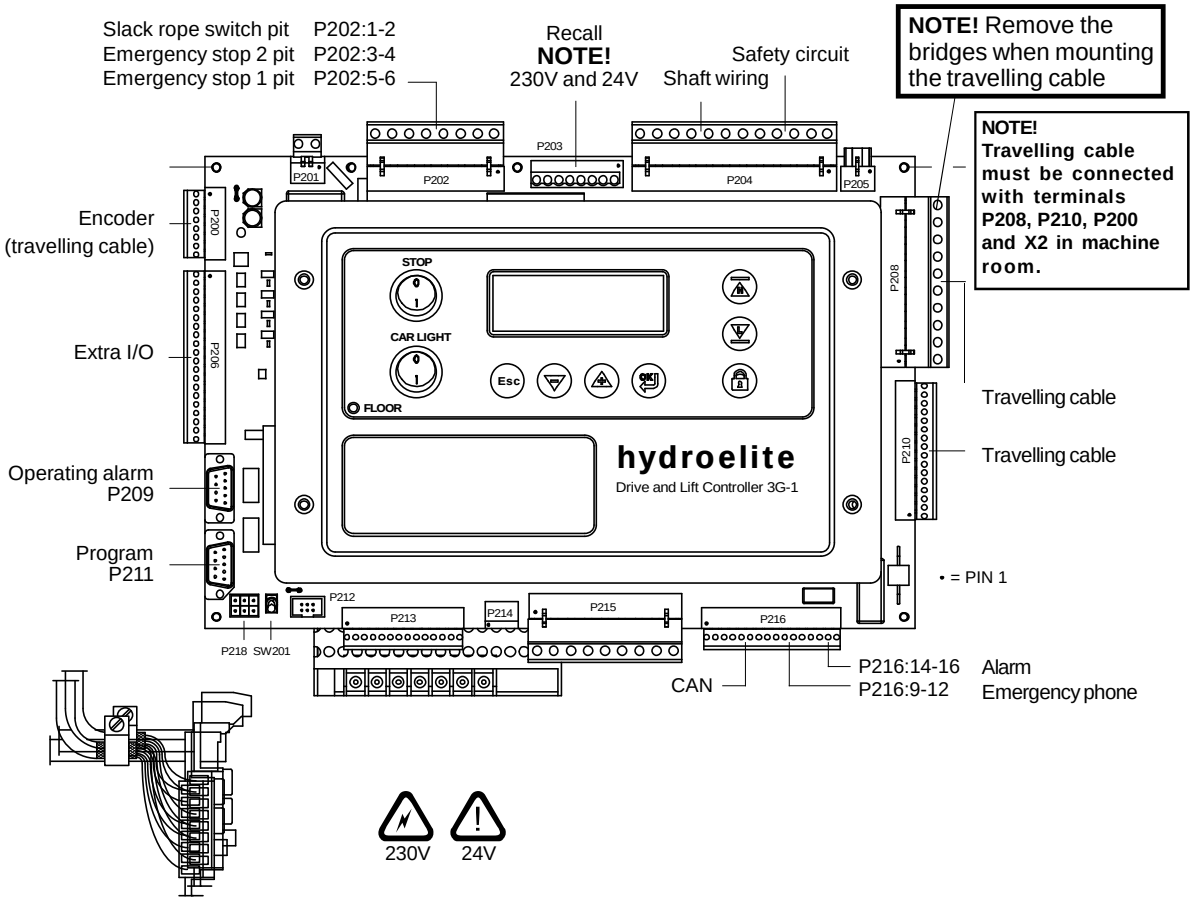


Fig.2 *Encoder shield earthed at the spacer bolt*

Fig.1 *Cable connections in the control node*

Safety circuit shaft:

P204:1	Not connected
P204:2	Closed landing door output to floor 1
P204:3	Closed landing door return top floor
P204:4	Locked landing door output to floor 1
P204:5	Locked landing door return top floor
P204:11-12	Final limit switch shaft

Shaft wiring:

P204:6	Safety circuit ground
P204:7	CAN Bus H
P204:8	CAN Bus L
P204:9	0V / GND
P204:10	+24V

Extra I/O:

P206:1,3,5,7	+24V
P206:2,4,6,8	Extra out 1-4 (active 0V)
P206:9,10,11,13,20	Extra in 1-5 (active 0V)
P206:12,14	0V / GND
P206:15	+24V
P206:16	+5V
P206:17	0V / GND
P206:18,19	Meassure pins
P206:9,10,20	Not connected

Felkod:

R8	
J6	

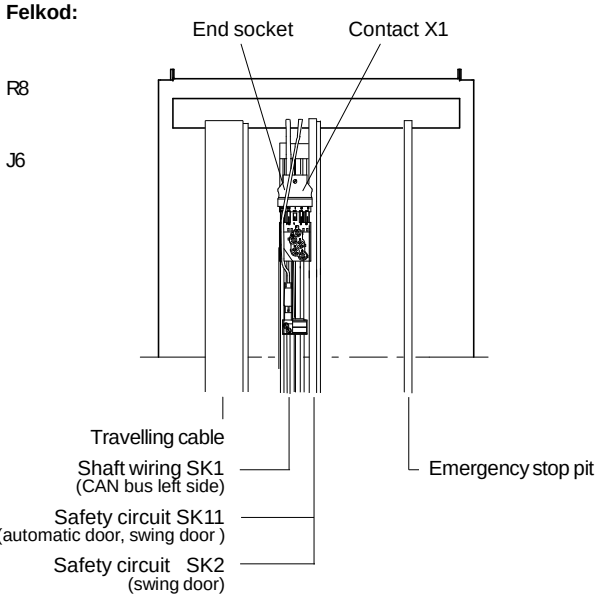
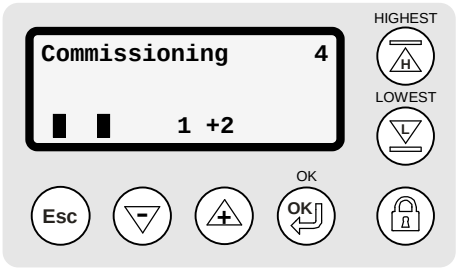


Fig.2 *Cable fastenings on the backside of the control node*

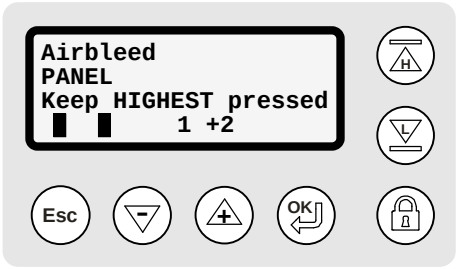
1.9 Commissioning (1+2)

1. Commissioning (4)



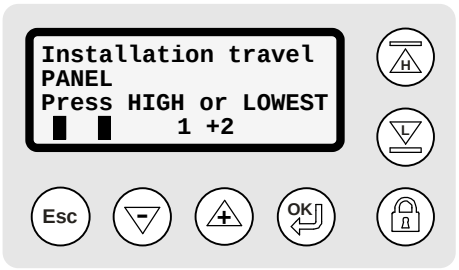
Menu item 4

2. Airbleed (4.1)



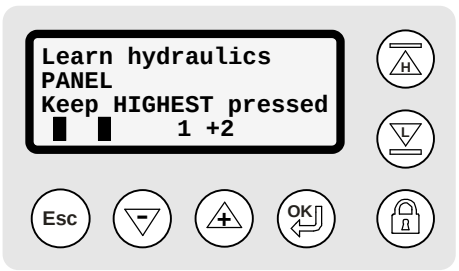
Loosen the airbleed screw
Run until oil is comming.

3. Installation travel (4.2)



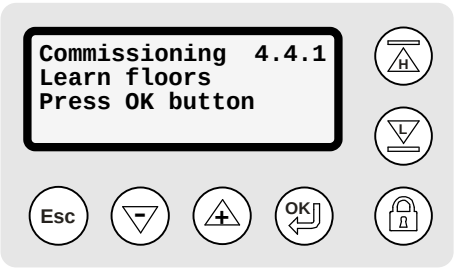
Run by recall handle, or Highest / Lowest
The speed is set in 5.7.1.2 / 5.7.2.2

4. Learn hydraulics (4.3)



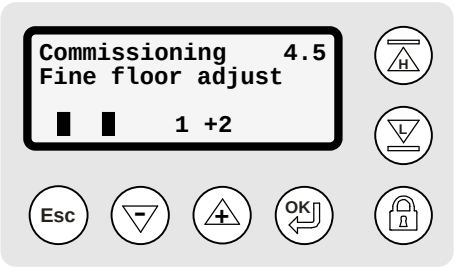
Start from bottom floor, stop when the display shows ”up travel finished ” then run down.

5. Learn floors (4.4)



Start at the bottom floor.
Learn travel is done automatically.

6. Fine floor adjustment (4.5)

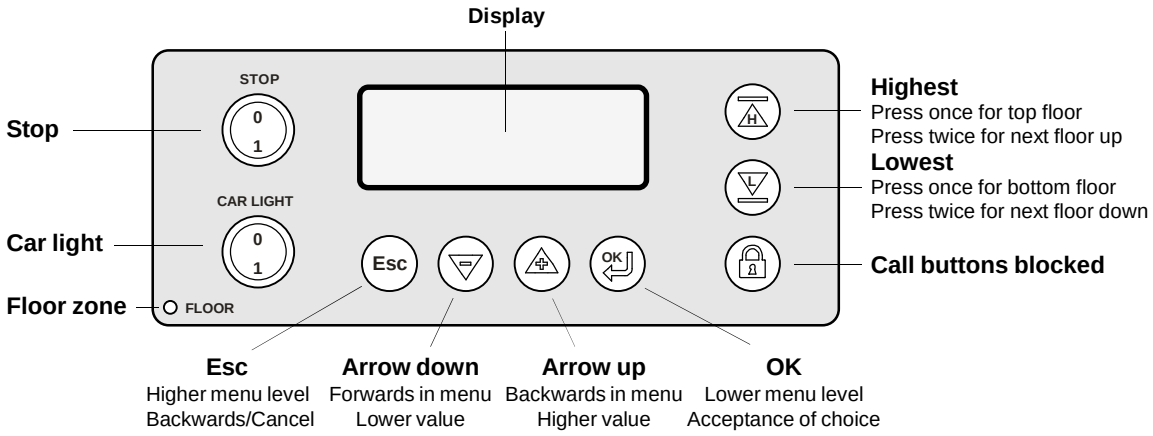


Measure deviation at every floor and make a fine floor adjustment.

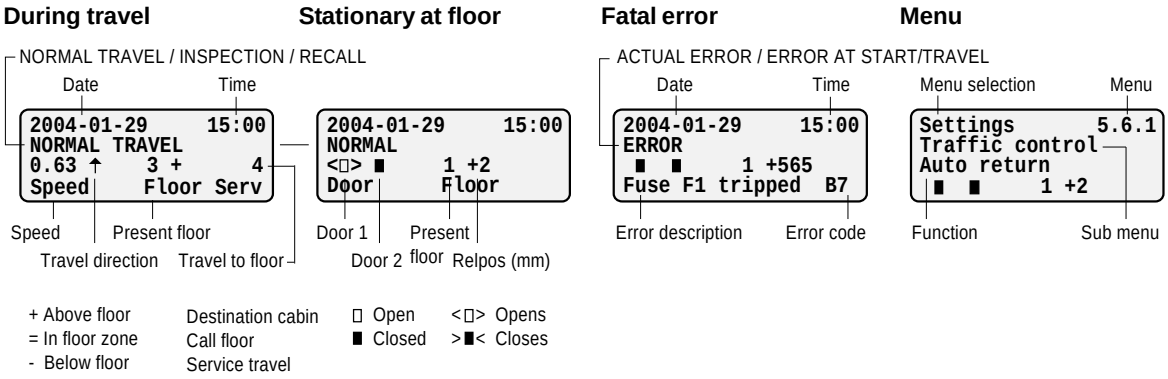
7. Test of elevator acc. to EN81-2

See instruction T100 73.

2 Control panel - Control Node



3.1 Display modes



3.2 Menu tree (selection of common commands)

Show	**1**
Statistics	1.1
System log	1.2
Error log	1.2.1
Warning log	1.2.2
Information log	1.2.3
Total log	1.2.4
Information all errors	1.2.5
PC printouts	1.3
Commission info	1.4
Safety circuit	1.5
Door	1.6
Traffic control	1.7
Drive	1.8
Commands	**2**
Car destination	2.1
Floor calls	2.2
Door open/close	2.3
Resetting	2.4
Extra	2.5
Store	2.6
Alarm	2.7
Advanced	2.8
Log in	**3**
Enter PIN code	3.1

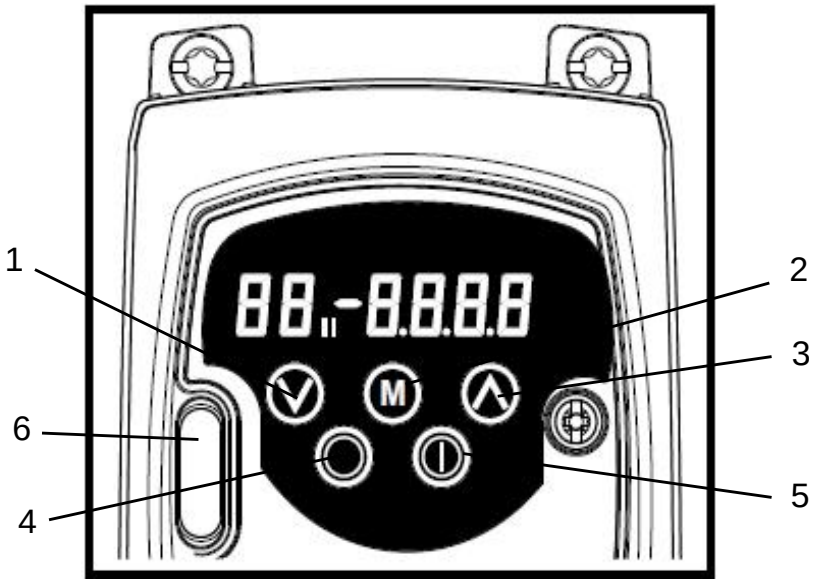
Commissioning	**4**
Airbleed	4.1
Installation travel	4.2
Learn hydraulics	4.3
Learn floors	4.4
Fine floor adjustments	4.5
Rupture valve test	4.6
Final limit test	4.7
Settings	**5**
Time/Date	5.1
Language	5.2
COM1 function	5.3
Emergency equipment	5.4
Alarm forward time	5.4.1
Doors	5.5
Automatic door	5.5.1
Swing door	5.5.2
Close on destination	5.5.3
Early door opening	5.5.4
Traffic control	5.6
Drive	5.7
Up parameters	5.7.1
Down parameters	5.7.2
Motor-parameters	5.7.3
Servofrequency	5.7.4
Rellevelling	5.7.5
Panel	5.8
Extra	5.9

Advanced	**6**
Set drive	6.1
Doors	6.2
Anti creep device	6.3
Floors	6.4
Extra I/O configuration	6.5
Traffic control	6.6

3 Control panel - Frequency Inverter (Hydroelite Vidi)

The keypad and display are used for the following:

- **Displaying the operating status of the drive**
- **Displaying a fault or trip code**
- **Reading and changing parameter values**
- **Stopping, starting and resetting the drive**



3.1 Programming keys (1 - 3)

Key 1 and 3 are used to select parameters and edit their values.
Key 2 is used to change the mode of operation of the drive (keypad or terminal mode).

3.2 Control keys (4 - 5)

Key 5 (The Start key) is used to start the drive in keypad mode.
Key 4 (Stop/Reset) is used to stop and reset the drive in keypad mode.

3.3 Logic stick

The Logic stick is programmed with software that controls some of the functions in the drive.

4 Selection of Error/Info codes (for complete Fault caode list see T10020)

A1 Overheated motor, due to motor or thermistor error
A2 Thyristor active, due to K1 active or TY1 short circuit
A3 Overheated oil, due to temp>70 d.C or thermo contact error
A4 Low system pressure, due to pressure guard min or hose rupture
A5 Phase error, due to phase rotation error or phase rupture
A6 Top of ramp active, due to softstarter board error
A7 Top of ramp delayed, due to motor size incorrect or board error

B1 Emergency stop controller: P202:7
B2 Emergency stop pit: P202:5 or 3
B3 High system pressure, due to overload or pressure guard max
B4 K205 active in rest position
B5 K201 or K203 active in rest position
B6 K204 or K206 active in rest position
B7 Fuse F1 tripped: P201:1
B8 Slack rope in pit: P202:1

C1 K204 or K206 inactive despite safety circuit is closed
C2 K1 active, due to K1:31-32 open or contactor error
C3 K1 inactive, due to missing feed to P215:7 or K1:31-32 closed
C4 Thyristor inactive, due to softstarter board error
C5 Servo voltage error
C6 Servo current lacks
E1 Overheated motor, due to motor or thermistor error
E2 Thyristor inactive, due to softstarter board error
E3 Low system pressure, due to pressure guard min or hose rupture
E4 K204 or K206 inactive despite safety circuit is closed
E5 K1 inactive, due to missing feed or K1:31-32 closed
E6 Phase error, due to phase rotation error or phase rupture
E7 Motor run time error, due to full speed up reduced

F1 Software timing error, due to control node error or program error
F2 SW watchdog error, due to control node error or program error
F4 Recall miss voltage at P203:8
F5 Recall P203:5 needs normal position
F6 Recall P203:7 fordrar normal position
F7 High temp in machine room or control node error
F9 Buffer pawl device 2, P208:2
G1 Emergency stop in car, P670:7 (X6:108-110)
G2 Emergency stop on car roof, P670:8(X6:106-108)
G3 Safety circuit P208:5 open
G4 Stop car roof panel P633:6
G5 Car door 1 open, P670:2 (X6:116-117)
G6 Car door 2 open, P670:1(X6:117-118)
G7 Trap door open, P670:4 (X6:114-115)
G8 Car door 1 unlocked, P671:4 (X6:119-120)
G9 Car door 2 unlocked, P671:3 (X6:120-121)

H1 No speed up, due to error in over pressure valve, air or servo
H2 No speed up, due to pressure relief valve active or encoder error
H3 No speed down, due to error in VMD, non return valve or encoder
H4 No speed down, due to rupture valve tripped or encoder error
H5 Overspeed down, due to encoder out of order or servo error
H6 Unnormal stop, due to VMD stucked or VRP cannot close
H7 Passed floor level up, due to encoder error or incorr Hydparam.
H8 Speed airbleed, due to start from buffer or servo error
H9 Overspeed relevel up exceed 0.3, due to servo error
J1 Roof flap open, P670:5 (X6:112-114)
J2 Sill flap open, P670:6 (X6:110-112)
J3 Slack rope on car active P670:9 (X6:104-106)
J4 Final limit blocking, hoistway
J5 Safety gear tripped P670:10 (X6:102-104)
J6 Final limit shaft P204:11
J7 Communication error car node
J8 Emergency stop Photocell beam active
J9 Fullload pressure active

K2 Buffer pawl device 1
K3 KKN2 open relevel, not extend
K4 KKN2 open, not extend
K5 KKN2 close, not retract
K6 KKN1 open relevel, not extend
K7 KKN1 open, not extend
K8 KKN1 close, not retract
K9 SKN2 open, not retract
L1 SKN1 open, not retract
L2 Final limit active car P670:11 (X6:101-102)
L3 Final limit blocked car
L4 K205 active - faulty in control node
L5 K205 inactive - faulty in control node
L6 Sensor GZ constant active between two floors
L7 Photocell active at start attemp
L8 Levelling speed > Max speed
L9 Levelling zone passed at levelling with open door

M1-M8 Landing door floor(n)=1-8 side 1 open, P1:2
N1-N8 Landing door floor(n)=1-8 side 1 unlocked, P8:2
N9 Door reversal active; photocell/contact/light barrier
O1-O8 Floor node floor(n)=1-8 side 1, no communication
O9 Switch SW201 on control node not in NORM mode
P1 Learn floor travel up not accepted
P2 Learn floor travel down not accepted
P3 Power failure - Info
P4 Down speed reduced by 30% of max speed
P5 Mains phase error, due to power failure - Info
P6 Hydraulic learn travel unaccepted, to too low A (<25 000)
P7 Hydraulic learn travel unaccepted, to high A (>29 000)
P8 Hydraulic learn travel accepted but too high A (>28 000)
P9 Hydraulic learn travel unaccepted

Q5 Relevelling speed > Max speed
Q6 Relevelling zone passed at relevelling with open door
Q7 Limit switch Door open is not activated
Q8 Limit switch Door closed is not activated
Q9 More than five start attempts
R1 Overload switch activated
R2 Full load switch activated
R3 Min load switch activated
R4 No Bus communication with car or floor nodes
R6 Security bar pit activated
R7 Supervision of low top/low pit contact
R8 Shaft door open P204:3
R9 Shaft door unlocked P8:2

S1 Orderspecific error
S2 Low oil level
S3 Absolute encoder not initiated. Switch off power - restart
S4 Abnormal stop outside floor zone
T1 Door not opens, No power to door machinery
T2 No door move; No 24V+ on P901:2
T3 Door not close, No power to door machinery
T4 No door move; No 24V+ on P901:3
T5 Swing door open > 10 Min
T6 Module with safety switch out of order

U1 Speed/Servo current up error, supervison tripped
U2 Speed/Servo current down error, supervison tripped
U3 Relevelling up, run outof floor zone
U4 Relevelling down, run outof floor zone
U5 Sensor GZ active outside floor zone
U6 Sensor GZ inactive inside floor zone
U7 Lost servocurrent down, due to break in wirings to servo
U8 Door overbridge relay active at start
U9 Door overbridge relay active before door opening
V3 Extra door contact at low pit activated
V11-V18 Extra door contact low top active, Side 1 floor (1-8)
V21-V28 Extra door contact low top active, Side 2 floor (1-8)

X1-X8 Landing door floor(n)=1-8 side 2 open, P1:2
X9 Door reverse >10
Y1-Y8 Landing door floor(n)=1-8 side 2 unlocked, P8:2
Y9 Door reversal button activated
Z1-Z8 Node floor(n)=1-8 side 2, no communication to floor node
Z9 Communication error floor nodes
PC System blocked. Log out and remove connected PC