



Hänel Installation Instructions Safety Device for Multiple Adjacent Lifts, Control System with Function Testing

Lean-Lift

Hänel Installation Instructions

Safety Device for Multiple Adjacent Lifts, Control System with Function Testing

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1. General instructions

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Caution

These Installation Instructions are intended for specially trained and authorised technicians employed by the Hänel factory or by Hänel representatives.

All safety instructions and general instructions provided in the Operating Manual "MANL-LL" and in the Installation Instructions "INST-LL-S" or "INST-LW" must be observed at all times!

In addition, the "Safety Rules & Requirements" provided in the Memorandum for Technical Field Service "SICHA" and the "Safety Rules" from the Training of Auxiliary Personnel for Technical Field Service "SICHHK" must be observed!



Intended use

These Installation Instructions are concerned solely with the installation and function of the safety device for multiple adjacent lifts with a control system with function testing.

Any other use shall be considered non-compliant use.



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2. Installation Requirements

0. In the first lift (Lean-Lift 1), switch off the residual-current/minature circuit breaker F19 (where applicable, also miniature circuit breaker F19/1 and F19/2) and disconnect the customer's mains power line from the mains power supply, secure it from being switched on again and check the mains power supply terminals of the lift to make sure that they are de-energised.



1. Before starting the installation, secure the extractor against descending or falling.



! DANGER

The extractor is a suspended load that can fall. Therefore, whenever working inside the lift, you have to lower it to ground level.

If this is not possible, you have to secure them using the locking device. (See operating manual "MANL-LL", work inside the lift by authorised personnel - Securing the extractor).

2. Switch off the main switch (Q2) and have the lift disconnected from the owner/operator's mains power supply. The lift must be de-energised before installation begins. The lift must be disconnected from the customer's mains power supply!
New lift installation: The lift must not yet be connected to the customer's mains power supply.
Retrofitted installation: The lift must be disconnected from the mains power supply by the customer's electrician.
Verify that the lift has been de-energised according to the safety instructions to the right and secure it from being switched on again.



! DANGER

Risk of electrocution!

SAFETY INSTRUCTIONS



The lift must be de-energised before work begins.

- De-energise the lift.
- Secure it from being switched on again.
- Verify that the lift has been de-energised.
- Earth and short-circuit it.
- Cover or block off neighbouring live parts. (External voltage source for multi-unit network)

3. Before entering the inside of the lift, lock the actuator of the safety switch on the service door (S3) with a padlock.



SAFETY INSTRUCTIONS

Secure the actuator latch!

Before all work, secure the actuator latch of the service door from being switched on again using a padlock.

Note:

- * For new units, the protective motor switch Q1 is not present for connection to a TN power system with a mains supply voltage of 400-480V.



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3. Function of safety device

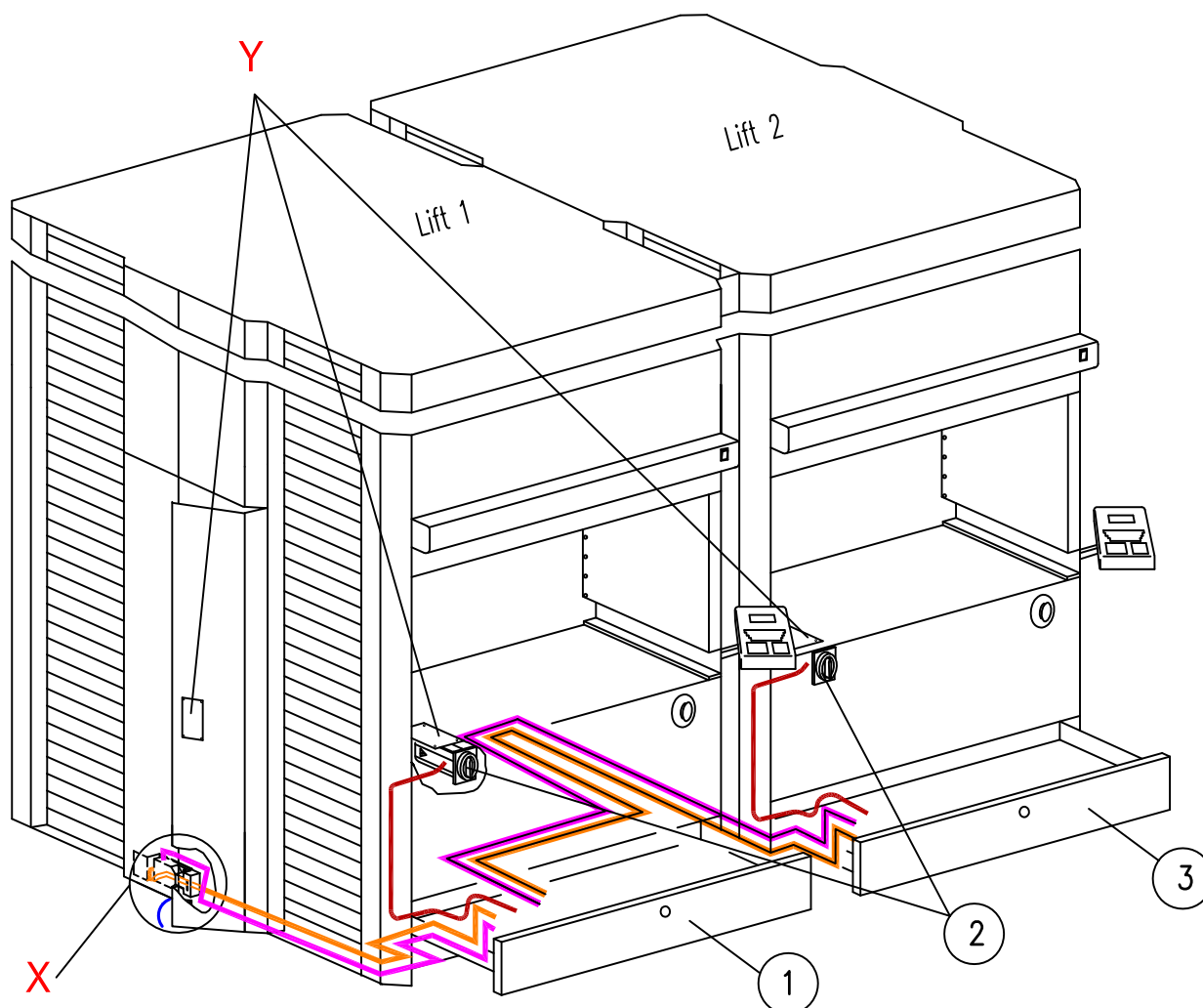


Fig. 1: Overview of safety device

Item	Description	Item	Description
1	Electrical drawer, lift 1	—	Connecting cable for service door switch S3, undervoltage trip 3 x 1 mm ² (AWG 17), orange
2	Main switch with undervoltage trip	—	Connecting cable for service door switch S3 safety control system 5 x 0.5 mm ² /AWG 20 (7 x 0.5 mm ² /AWG 20), grey
3	Electrical drawer, lift 2	—	Connecting cable Q2 for undervoltage trip 3 x 1 mm ² (AWG 17), orange
		—	Connecting cable for undervoltage trip 3 x 1 mm ² (AWG 17), orange
		—	Connecting cable for control system with function testing 5 x 0.5 mm ² /AWG 20 (7 x 0.5 mm ² /AWG 20), grey

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3.

Function of safety device (continued)

Function	Note / illustration
All undervoltage trips are supplied centrally from lift No. 1 via residual-current/miniature circuit breaker F19 or S3 and S30, i.e. external voltage is present at all other lifts. When the service door switch is opened, all lifts of the safety circuit are de-energised by the undervoltage trip. For lifts with a control system with function testing, the safety circuit is also interrupted by CPU 1.	Refer to page 3Z1 of the circuit diagram "Safety device for service doors for multiple side-by-side lifts in a multi-unit network"

Cable routing	Note / illustration
The cables are routed according to the cable routing diagram: "CABLELL1" and "CABLELL3"	See cable routing diagram "CABLELL1" and "CABLELL3"



Caution:

All main switches must be secured using locks to prevent them from being switched on during service work without authorisation.

Y

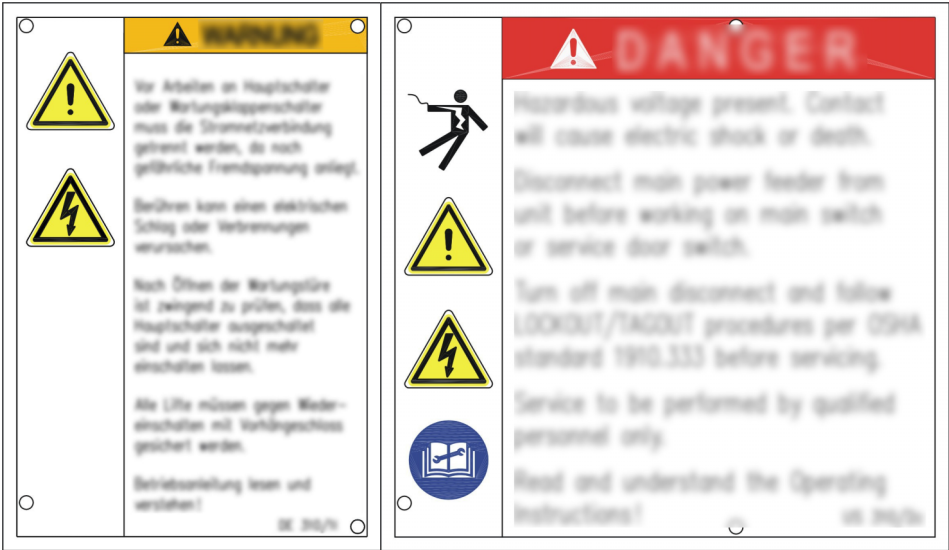


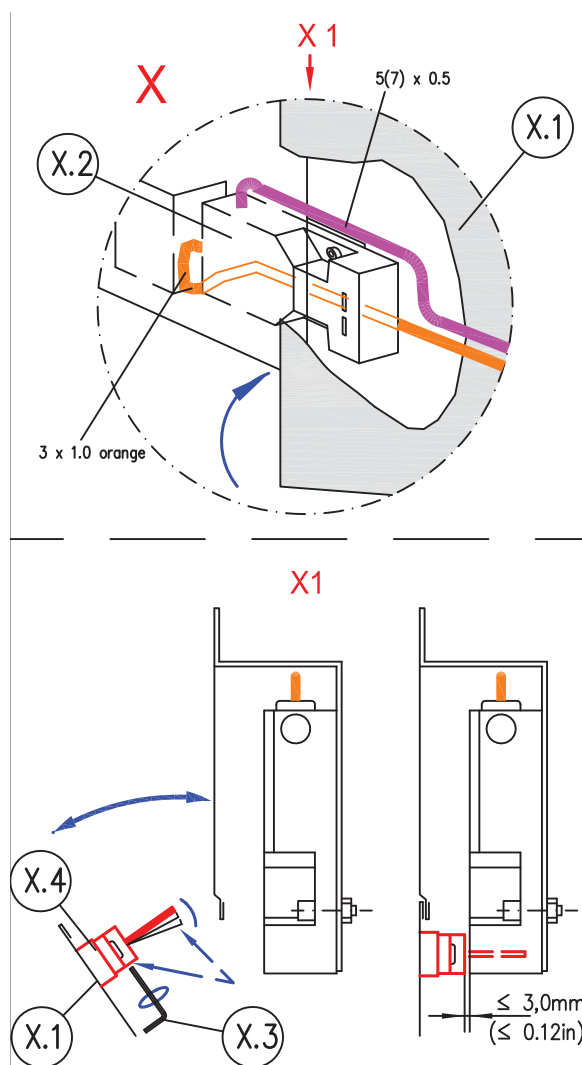
Fig. 2: Detail Y, warning sign 07100310 "External voltage"

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3. Function of safety device (continued)



Item	Description
X.1	Service door
X.2	Service door switches S3-05
X.3	Allen key, width across flats 2.5 mm (0.098")
X.4	Actuator S3-11

Fig.3: Detail X, service door with switch

By turning the adjusting screw, adjust the actuator so that the door is guaranteed to close properly.



Caution:

If the switch is set incorrectly, the actuator can be destroyed. Therefore, check the function immediately after installation and readjust if necessary.

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4. Connections in electrical drawer

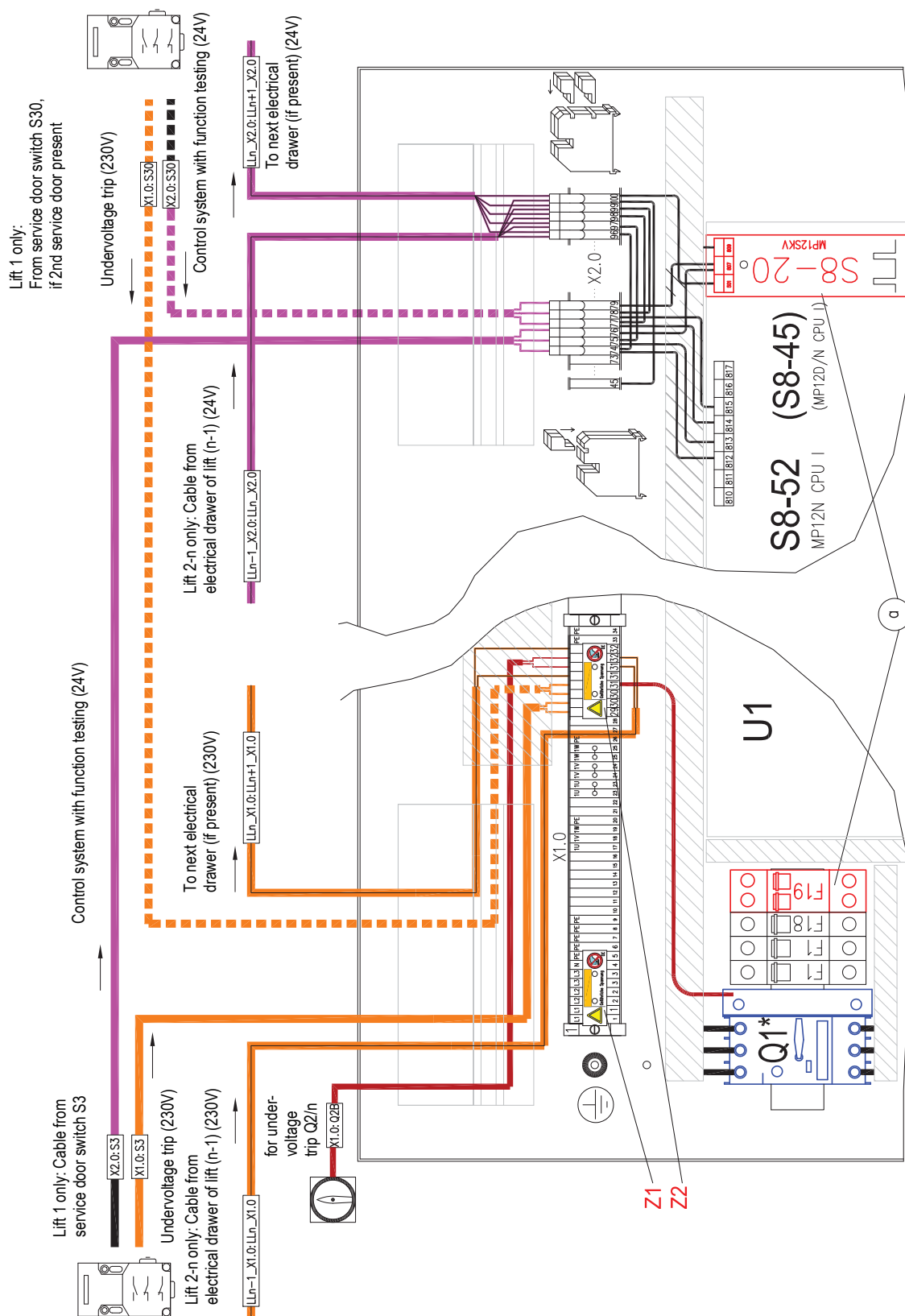


Fig.4: Electrical drawer connections, top view

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4. Connections in electrical drawer (continued)

	Connecting cable for service door switch S3 (undervoltage trip) 3 x 1 mm ² (AWG 17), orange
	Connecting cable for service door switch S30 (undervoltage trip) 3 x 1 mm ² (AWG 17), orange
	Connecting cable for service door switch S3 (control system with function testing) 5 x 0.5 mm ² /AWG 20 (7 x 0.5 mm ² /AWG 20), grey
	Connecting cable for service door switch S30 (control system with function testing) 5 x 0.5 mm ² /AWG 20 (7 x 0.5 mm ² /AWG 20), grey
	Connecting cable Q2 (undervoltage trip) 3 x 1 mm ² (AWG 17), orange
	Connecting cable (undervoltage trip) 3 x 1 mm ² (AWG 17), orange
	Connecting cable (for control system with function testing) 5 x 0.5 mm ² /AWG 20 (7 x 0.5 mm ² /AWG 20), grey
a	Only for electrical drawer of lift 1: - Fuse F19 for safety circuit undervoltage trip - MP12SKV for pulsed 24V DC

Step	Task	Note / illustration
1	Wiring takes place according to circuit diagram, page 3Z1.	See circuit diagram, page 3Z1

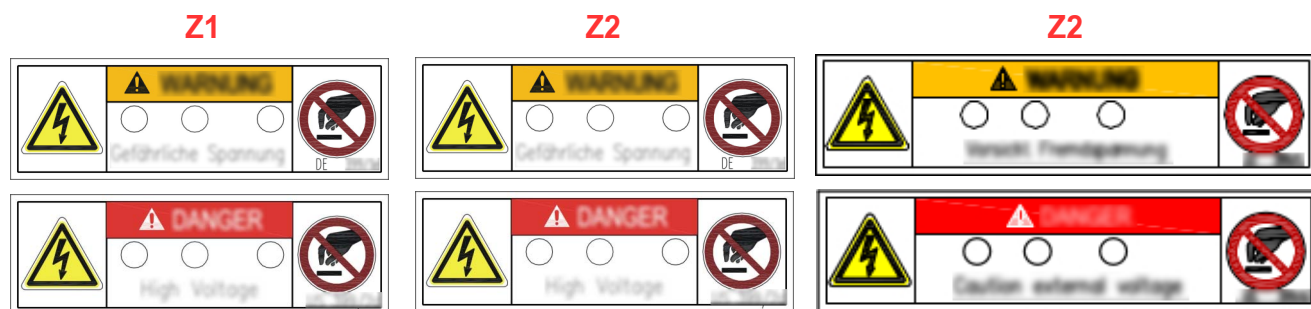


Fig. 5: Detail Z1, terminal cover
sign 07100399/1-4

Detail Z2, terminal cover up to
manufacturing week 48/2014
sign 07100399/1-4

Detail Z2, terminal cover up to
manufacturing week 49/2014
sign 07100399/5-8

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5. Connection of the lifts

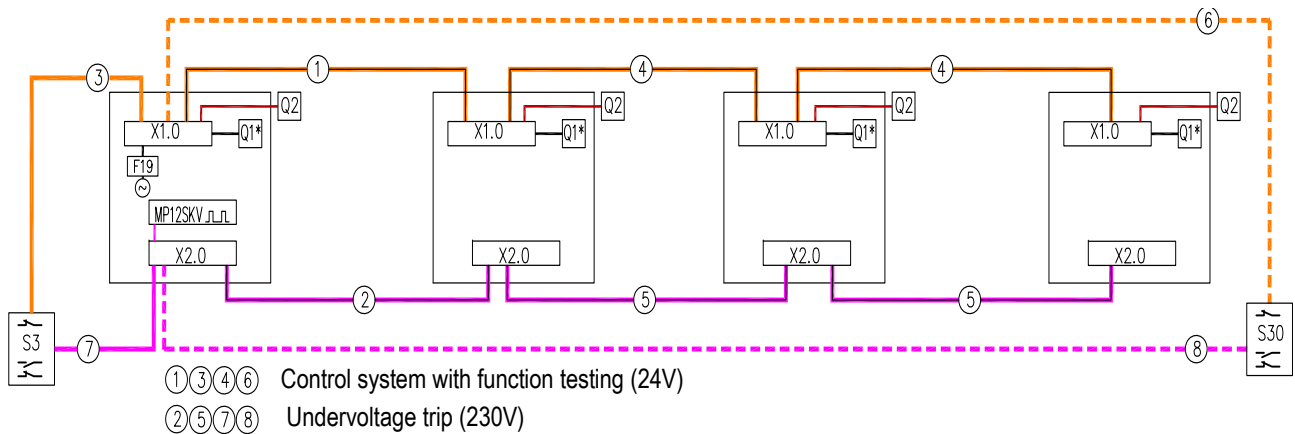


Fig. 6: Top view of safety device

Connecting new lifts to the control system with function testing in the multi-unit network:



Note

Lift "1" is the lift with the mains power supply board MP12-SKV (S8-20) for the control system with function testing and with fuse F19 for the undervoltage trip.

Step	Task	Cables	Note / illustration
1	Connect the connecting cable of the undervoltage trip (3 x 1 mm ² /AWG 17, orange) between the individual lifts at terminal strip X1.0.	①	See Fig. 6 Refer to circuit diagram "Service access for multiple side-by-side lifts in a multi-unit network" and terminal plan X1.0.
2	Plug in the connecting cable of the control system with function testing (5 x 0.5 mm ² /AWG 20 [7 x 0.5 mm ² /AWG 20]), grey between the individual lifts at terminal strip X2.0.	②	See Fig. 6 Refer to circuit diagram "Service access for multiple side-by-side lifts in a multi-unit network" and terminal plan X2.0.
3	Connect service door switch(es) S3 (S30) at lift 1. To do so, connect the connecting cable of the undervoltage trip (3 x 1 mm ² /AWG 17, orange) at terminal strip X1.0. Plug the connecting cable of the control system with function testing into terminal strip X2.0.	③ ⑥ ⑦ ⑧	
4	Connect additional new lifts as outlined in items 1 and 2.	④ ⑤	
5	Check the function.		See Chapter6

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6. Functional check

Step	Function	Note / illustration
1	It must not be possible to switch on the individual lifts when the service door(s) are not closed.	
2	Close the service door(s) and switch on the individual lifts at main switches Q2 and protective motor switches Q1*.	Q1*: see Chapter 2
3	Open the individual service door(s); all main switches Q2 and protective motor switches Q1* must shut off automatically.	Q1*: see Chapter 2
4	Close the service door(s) and switch on all lifts. When plug S8-20:X42 on board S8-20 in lift 1 is unplugged, all lifts with a control system with function testing must display "Critical error".	

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7. Removal

0. In the first lift (Lean-Lift 1), switch off the residual-current/miniature circuit breaker F19 (where applicable, also miniature circuit breaker F19/1 and F19/2) and disconnect the customer's mains power line from the mains power supply, secure it from being switched on again and check the mains power supply terminals of the lift to make sure that they are de-energised.



1. Before starting the removal, secure the extractor against descending or falling.



! DANGER

The extractor is a suspended load that can fall. Therefore, whenever working inside the lift, you have to lower it to ground level.

If this is not possible, you have to secure them using the locking device. (See operating manual "MANL-LL", work inside the lift by authorised personnel - Securing the extractor).

2. Switch off the main switch (Q2) and have the lift disconnected from the owner/operator's mains power supply. The lift must be de-energised before installation begins. The lift must be disconnected from the customer's mains power supply! The lift must be disconnected from the mains power supply by the customer's electrician. Verify that the lift has been de-energised according to the safety instructions to the right and secure it from being switched on again.



! DANGER

Risk of electrocution!

SAFETY INSTRUCTIONS



The lift must be de-energised before work begins.

- De-energise the lift
- Secure it from being switched on again.
- Verify that the lift has been de-energised.
- Earth and short-circuit it.
- Cover or block off neighbouring live parts. (External voltage source for multi-unit network)

3. Before entering the inside of the lift, lock the actuator of the safety switch on the service door (S3) with a padlock.



SAFETY INSTRUCTIONS

Secure the actuator latch!

Before all work, secure the actuator latch of the service door from being switched on again using a padlock.

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7. Removal (continued)

4. To remove the safety device, properly follow the reverse order of steps as that outlined above in Chapters 4 and 5.
5. After removal, dispose of the structural components in an environmentally responsible manner (see installation instructions "INST-LL-S" or "INST-LW", Disposal instructions).



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8. Annex

Revision notes

Last issue dated: 2007-08-27

- Safety control system to control system with function testing; S8-52 added

2014-09-16

- Installation position of service door switch; signs

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