



Hänel Installation Instructions Mounting arm, key panel

Lean-Lift Multi-Space

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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 corresponding Operating Manual "MANL-LL" or "MANL-MS" and in the corresponding Installation Instructions "INST-LL-S" or "INST-LW" or "INST-MS" for the Lean-Lift or Multi-Space must be followed 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

The mounting arm is intended exclusively for holding a Hänel key panel for the Lean-Lift or Multi-Space.

Any other use shall be considered non-compliant use.



2. Installation Requirements

1. Before starting the installation, secure the extractor, or cross-member with extractor, against descending or falling.



DANGER

The extractor or cross-member with 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 or operating manual "MANL-MS", Work inside the lift by authorised personnel - Securing the cross-member with extractor).

2. Switch off the main switch (Q2) and secure it from being switched on again using a padlock.



DANGER

Risk of electrocution!

SAFETY INSTRUCTIONS



The lift must be de-energised before work begins.

- Switch off main switch (Q2).
- Secure the main switch (Q2) from being switched on again.
- Verify that the lift has been de-energised.
- Cover or block off neighbouring live parts. (Switch off external voltage source for multi-unit network and lock it using tool WZ-67)

3. Before entering the inside of the lift, secure 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.

3. Keyboard arrangement

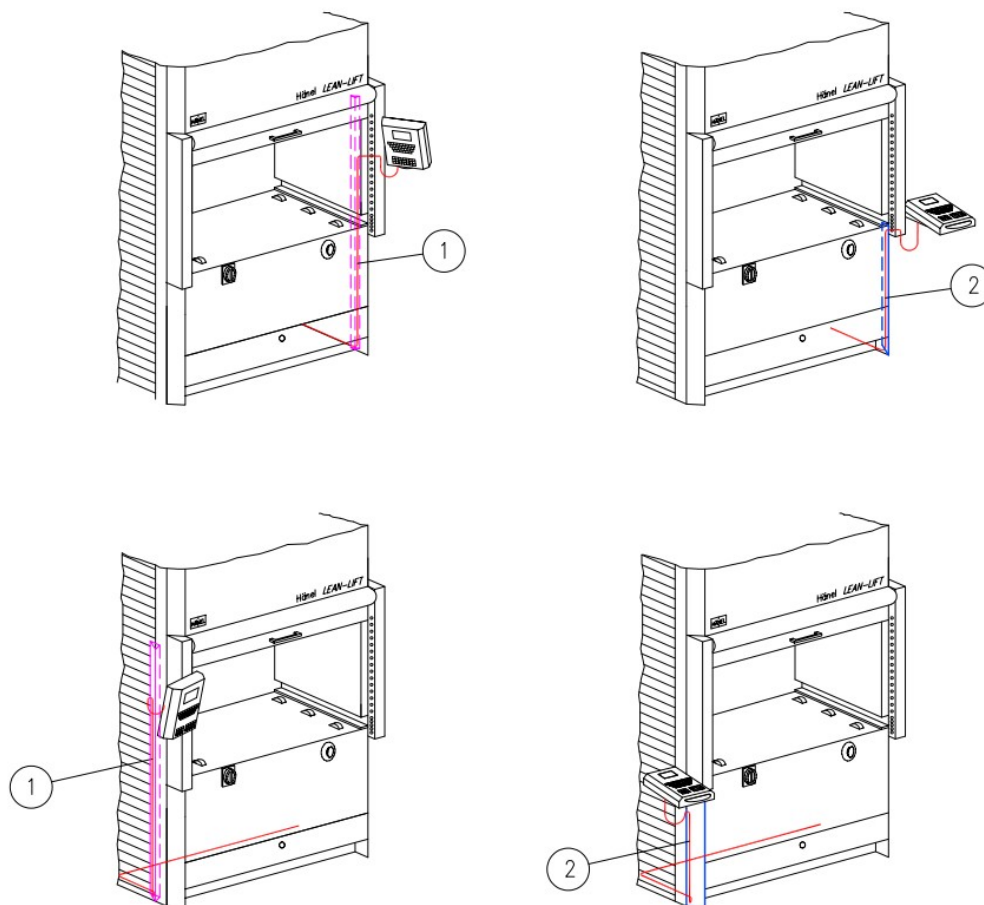


Fig. 1: Cable routing for various keyboard positions

Item	Description
1	Additional cable duct behind rectangular tube (left/right)
2	Cover strip (left/right)

Keyboard positions	Task	Note / illustration
Standard	Guide the connecting cable and earthing cable through the drill hole in the cover strip (<i>item 2</i>) and route them into the wiring cabinet (or electrical tray).	See Fig. 1
Central to the access point	Guide the connecting cable and earthing cable through the drill hole of the additional cable duct behind the rectangular tube (<i>item 1</i>) and route them into the wiring cabinet (or electrical tray).	See Fig. 1 See installation instructions "CABLEDUCT"
Above the access point	Guide the connecting cable and earthing cable through the drill hole of the additional cable duct behind the rectangular tube (<i>item 1</i>) and route them into the wiring cabinet (or electrical tray).	See Fig. 1 See installation instructions "CABLEDUCT"

Hänel Installation Instructions

Mounting arm, key panel

Lean-Lift

Multi-Space

4. Keyboard at the access point

4.1 Fixed and pivoting mounting arm

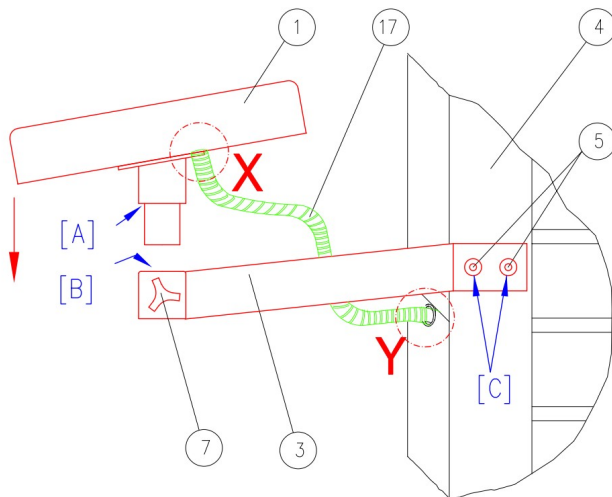


Fig. 2: Overview of fixed mounting arm for **Lean-Lift** keyboard (standard model)

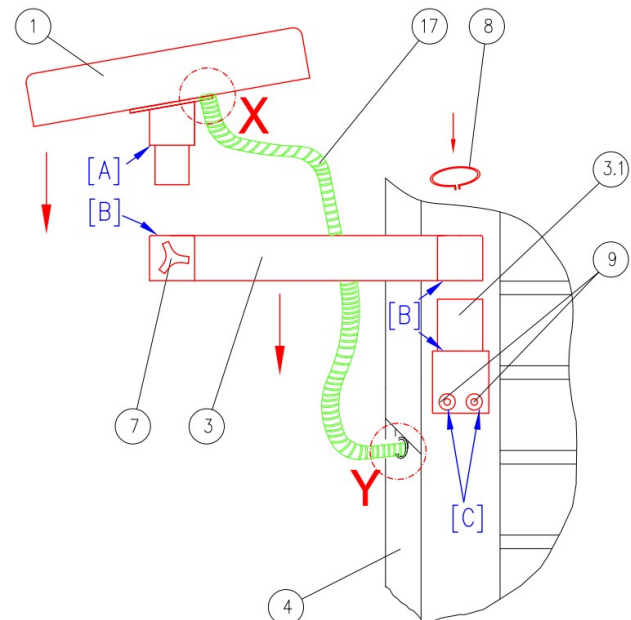


Fig. 3: Overview of pivoting mounting arm for **Lean-Lift** and **Multi-Space** outside on outer lift unit for keyboard

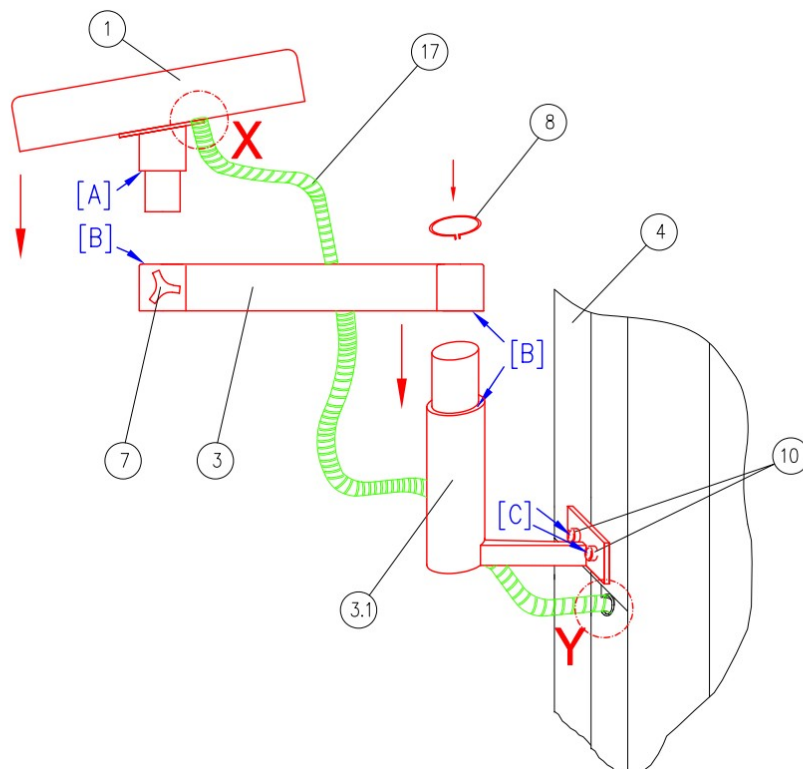


Fig. 4: Overview of pivoting mounting arm for **Multi-Space** with keyboard attachment between two lift units

Item	Description
1	Key panel
3	Mounting arm for keyboard (depending on model)
3.1	Pivot axis (part of mounting arm)
4	Rectangular tube
5	Countersunk screw ISO 7046 - M8x20 - galvanised microencapsulated (2x)
7	Triangular knob
8	Lockwasher DIN 471-30x1.5
9	Socket head cap screw ISO 4762 - M8x45 (2x)
10	Socket head cap screw ISO 4762 - M10x40 (2x)
17	Protective sleeve 60 cm (23.6 in), slit
[A]	Load surface for "mounting arm"
[B]	Load surface for "keyboard mounting plate"
[C]	Counterbores, load surfaces for fastening screws

4. Keyboard at the access point (continued)

4.1 Fixed and pivoting mounting arm (continued)

Step	Task	Note / illustration
1	Check load surfaces [A], [B] and [C]. The load surfaces must be free of insulation to prevent an electrostatic charge of the key panel.	See Fig. 2, 3, 4
2	Fasten the mounting arm (item 3) or pivot axis (item 3.1) to the rectangular tube (item 4) using screws (item 5), (item 9) or (item 10).	See Fig. 2, 3, 4 Lean-Lift and Multi-Space with keyboard attachment outside on outer lift unit: For "Safety light curtain at a distance in front of the access point", the mounting arm is installed as described in the "LICHTSCC-Werac" installation instructions. Multi-Space with keyboard attachment between two lift units: See Fig. 4: Pivot axis (item 3.1) is extended.
3	For pivoting mounting arm: Attach the mounting arm (item 3) to the pivot axis (item 3.1) and install the lockwasher (item 8).	See Fig. 3, 4
4	Insert the key panel (item 1) into the mounting arm (item 3) and clamp it into the desired position using the triangular knob (item 7).	See Fig. 2, 3, 4
5	Lay the connecting cable CPUI-CPUI (item 6), earthing cable (item 2) and multipoint connecting cable (item 16) as described in Chapter 3 and 8.1 according to the circuit diagram.	See Chapters 3 and 8.1
6	Install the protective sleeve (item 17) around the cables (items 2, 6 and 16) and attach to the key panel (item 1) and the cover strip using the lockwasher (item 18). For replacement parts or a modification for lifts built before model year calendar week 27/2010, the centre cut-out of the cover strip must be enlarged by approx. 2 mm (0.08 in).	Detail X, Y: See Figs. 9, 10, 11 in Chapter 4.4 See Fig. 12 in Chapter 4.4
7	Wrap the protective sleeve (item 17) with hook-and-loop tape (item 19) approx. every 12 cm (4.7 in).	Detail X, Y: See Figs. 9, 10 in Chapter 4.4
8	Check electrostatic earthing according to Chapter 8.1.	See Chapter 8.1
9	Check that the keyboard functions correctly.	

4. Keyboard at the access point (continued)

4.2 Universal arm

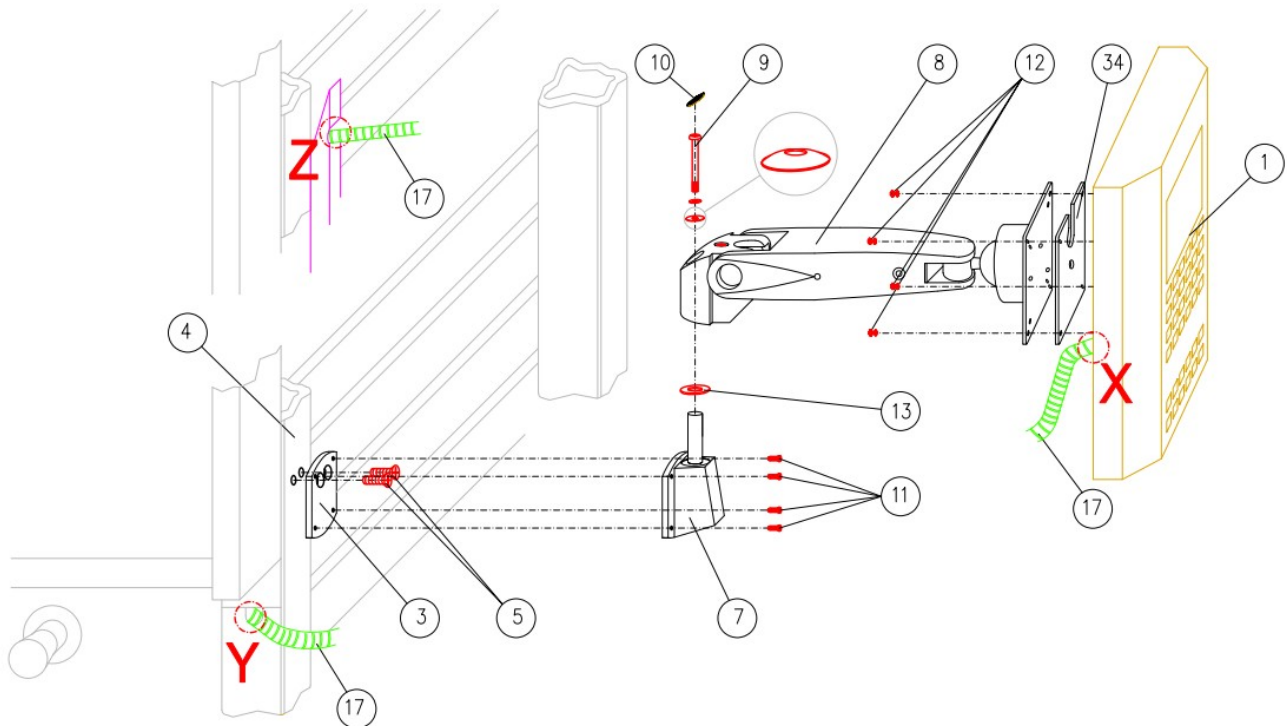


Fig. 5: Installing a universal arm for **Lean-Lift** and **Multi-Space** with keyboard attachment **outside** on **outer lift unit**

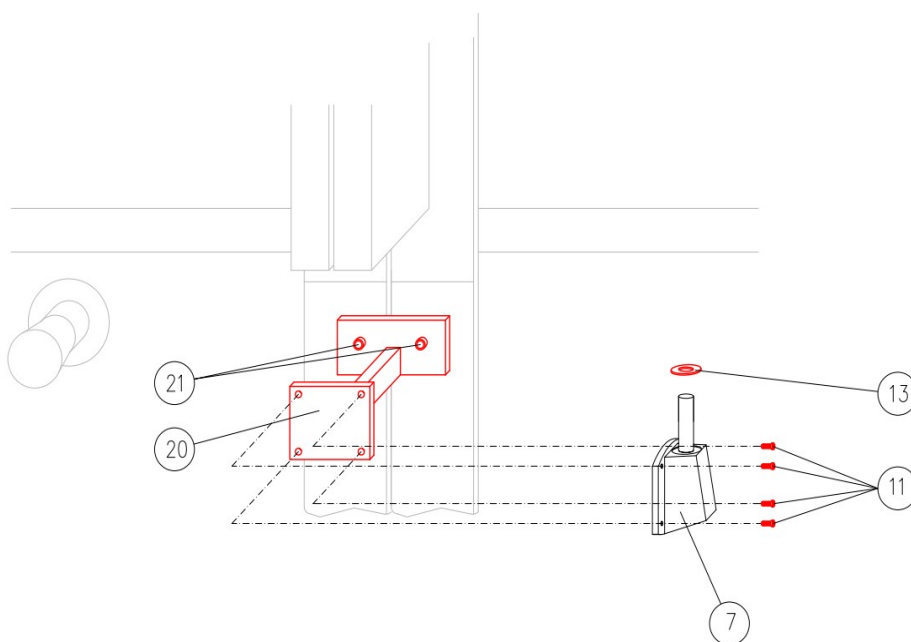


Fig. 6: Installing a keyboard mounting arm for universal arm for **Multi-Space** with keyboard attachment **between two lift units**

Hänel Installation Instructions

Mounting arm, key panel

Lean-Lift

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4. Keyboard at the access point (continued)

4.2 Universal arm (continued)

Item	Description	Item	Description
1	Key panel	10	Plastic cover
2	Earthing cable with spiral jacket	11	Socket head cap screw ISO 4762 - M5x10 galvanised (4x)
3	Connection plate	12	Nut ISO 4032 - M4 galvanised (4x) + washer ISO 7089 - 4-galvanised (4x)
4	Tube 1.1 (tube 2.1 for keyboard position on the left)	13	Spacer washer (1x); scope of delivery of universal arm
5	Countersunk screw ISO 7046 - M8x20 - galvanised (microencapsulated) (2x)	17	Protective sleeve 70 cm (27.6"), slit
6	Connecting cable CPUI-CPUII	20	Keyboard mounting arm
7	Mounting block	21	Socket head cap screw ISO 4762 - M10x40 (2x)
8	Universal arm	34	Key panel connection plate
9	Allen screw + washer + spring washer (1x); scope of delivery of universal arm		

Lean-Lift or Multi-Space with keyboard attachment outside on outer lift unit

Step	Task	Note / illustration
1	Fasten the connection plate (<i>item 3</i>) to the tube 1.1 (<i>item 4</i>) using two screws (<i>item 5</i>).	See Fig. 5 For "Safety light curtain at a distance in front of the access point", the mounting arm is installed as described in the "LICHTSCC-Werac" installation instructions.
2	Fasten the mounting block (<i>item 7</i>) to the connection plate (<i>item 3</i>) using screws (<i>item 11</i>).	See Fig. 5

Multi-Space with keyboard attachment between two lift units

Step	Task	Note / illustration
1	Fasten the keyboard mounting arm (<i>item 20</i>) to tubes [1.1] and [2.1] of the Multi-Space using two screws (<i>item 21</i>).	See Fig. 6
2	Fasten the mounting block (<i>item 7</i>) to the keyboard mounting arm (<i>item 20</i>) using four screws (<i>item 11</i>).	See Fig. 6

Lean-Lift and Multi-Space

Step	Task	Note / illustration
3	Attach the spacer washer (<i>item 13</i>) and universal arm (<i>item 8</i>) to the mounting block (<i>item 7</i>).	See Fig. 5 or 6
4	Secure the universal arm (<i>item 8</i>) with the spring washer, washer and Allen screw (<i>item 9</i>).	See Fig. 5
5	Install the plastic cover (<i>item 10</i>).	See Fig. 5
6	Fasten the key panel (<i>item 1</i>) and key panel connection plate (<i>item 34</i>) to the universal arm (<i>item 8</i>) using four nuts (<i>item 12</i>).	See Fig. 5

4. Keyboard at the access point (continued)

4.2 Universal arm (continued)

Keyboard at the access point

- | | | |
|----------|--|---|
| 7 | Lay the connecting cable CPUI-CPUI (<i>item 6</i>), earthing cable (<i>item 2</i>) and multipoint connecting cable (<i>item 16</i>) as described in Chapter 3 and according to the circuit diagram. | Detail X, Y:
See Figs. 9, 10, 11 in Chapter 4.4 |
| 8 | Install the protective sleeve (<i>item 17</i>) around the cables (<i>items 2, 6 and 16</i>) and attach to the key panel (<i>item 1</i>) and the cover strip using the lockwasher (<i>item 18</i>).

For replacement parts or a modification for lifts built before model year calendar week 27/2010, the centre cut-out of the cover strip must be enlarged by approx. 2 mm (0.08 in). | Detail X, Y:
See Figs. 9, 10, 11 in Chapter 4.4

See Fig. 12 |
| 9 | Wrap the protective sleeve (<i>item 17</i>) with hook-and-loop tape (<i>item 19</i>) approx. every 12 cm (4.7 in). | Detail X, Y:
See Figs. 9, 10, 11 in Chapter 4.4 |

Keyboard above or in the centre of the access point

- | | | |
|----------|--|--|
| 7 | Lay the connecting cable CPUI-CPUI (<i>item 6</i>), earthing cable (<i>item 2</i>) and multipoint connecting cable (<i>item 16</i>) as described in Chapter 3 and according to the circuit diagram. | Detail X, Y:
See Figs. 13, 14, 15 in Chapter 5.2 |
| 8 | Install the protective sleeve (<i>item 17</i>) around the cables (<i>items 2, 6 and 16</i>) and attach to the key panel (<i>item 1</i>) and the cable duct using the lockwasher (<i>item 18</i>).

For replacement parts or a modification for lifts built before model year calendar week 27/2010, the centre cut-out of the cover strip may need to be enlarged by approx. 2 mm (0.08 in). | Detail X, Y:
See Figs. 13, 14, 15 in Chapter 5.2

See Fig. 12 |
| 9 | Wrap the protective sleeve (<i>item 17</i>) with hook-and-loop tape (<i>item 19</i>) approx. every 12 cm (4.7 in). | Detail X, Y:
See Figs. 13, 14, 15 in Chapter 5.2 |

4. Keyboard at the access point (continued)

4.3 Universal arm adjustment

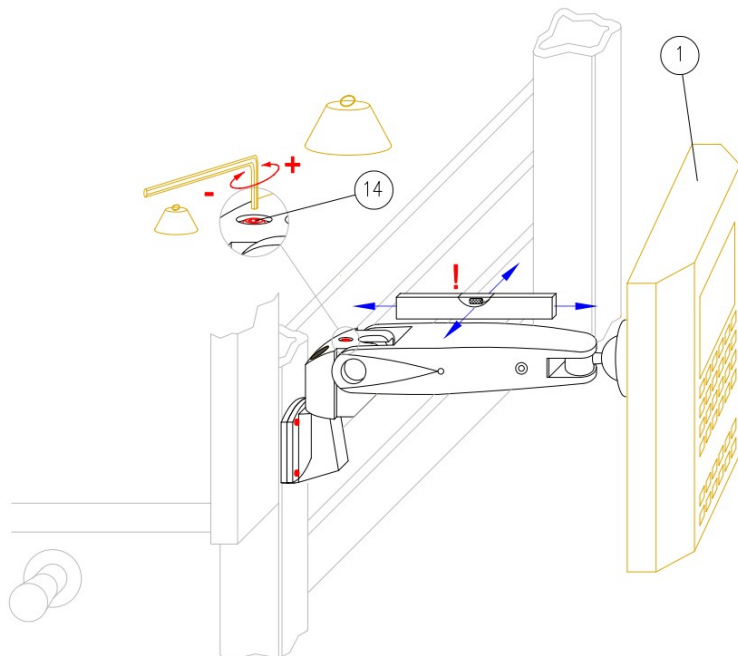


Fig. 7: Adjusting the universal arm horizontally

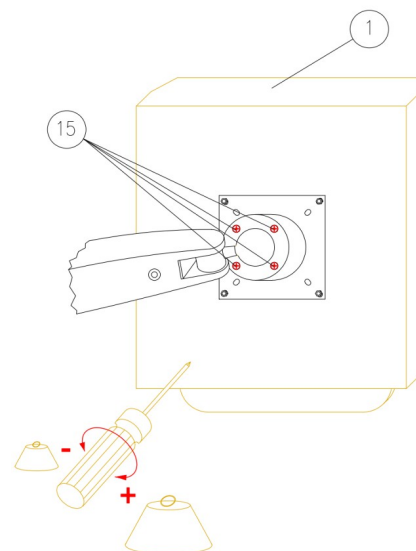


Fig. 8: Spherical joint adjustment

Item	Description
1	Key panel
14	Adjusting screw
15	Tensioning screw (4x)

Depending on the weight of the key panel (*item 1*), it may be necessary to adjust the universal arm.

Step	Task	Note / illustration
1	If the universal arm tends to drift upwards or downwards from the set position, you have to make a small adjustment using a size 5 Allen key on the setting screw (<i>item 14</i>): Turn towards the right (-): decrease the upwards force Turn towards the left (+): increase the upwards force	See Fig. 7 Important note: The universal arm must be in the horizontal position during the adjustment, see Fig. 7.
2	Depending on the weight of the key panel (<i>item 1</i>), it may be necessary to adjust the spherical joint mechanism. If the key panel can be tilted and pivoted too easily or only with difficulty, use a Phillips screwdriver to re-tighten the four tensioning screws (<i>item 15</i>) in diagonally opposite sequence. Turn to the right (-): spherical joint becomes more difficult to move Turn towards the left (-): spherical joint becomes easier to move	See Fig. 8
3	Check electrostatic earthing according to Chapter 8.1.	See Chapter 8.1
4	Check that the keyboard functions correctly.	

Hänel Installation Instructions

Mounting arm, key panel

Lean-Lift Multi-Space

4. Keyboard at the access point (continued)

4.4 Fastening the protective sleeve

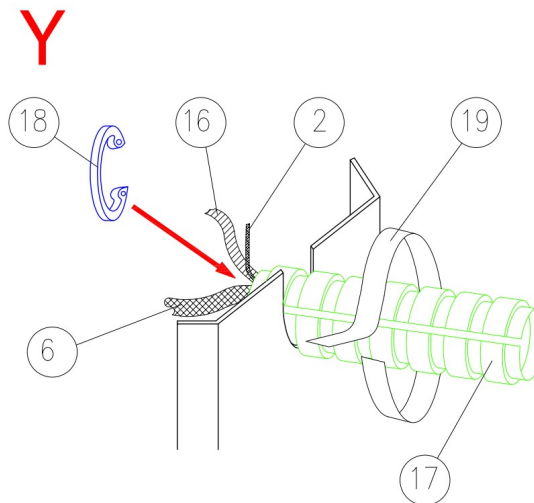


Fig. 9: Detail Y from Fig. 2, 3, 4 and 5: Fastening the protective sleeve to the cover strip

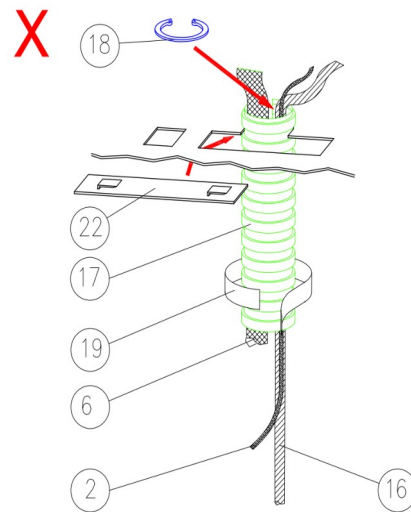


Fig. 10: Detail X from Fig. 2, 3, 4 and 5: Fastening the protective sleeve to the keyboard

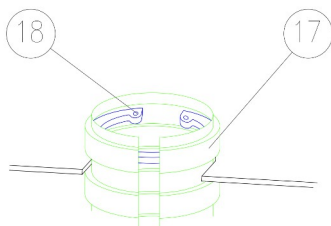


Fig. 11: Lockwasher in the protective sleeve

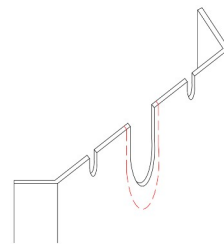


Fig. 12: Enlarging cover strip cable bushing for lifts built before model year calendar week 27/2010

Item	Description
1	Key panel
2	Earthing cable with spiral jacket
3	Mounting arm for keyboard (depending on model)
3.1	Pivot axis (part of mounting arm)
4	Rectangular tube
5	Countersunk screw ISO 7046 - M8x20 - galvanised microencapsulated (2x)
6	Connecting cable CPUI-CPUII
7	Triangular knob
8	Lockwasher DIN 471-30x1.5
9	Socket head cap screw ISO 4762 - M8x45 (2x)
10	Socket head cap screw ISO 4762 - M10x40 (2x)

Item	Description
16	Multipoint connecting cable (only necessary for multi-unit networks): Refer also to drawing "S940008" and installation diagram "VERBUNDn" or Ethernet cable
17	Protective sleeve, slit (Fixed and pivoting mounting arm: 60 cm (23.6 in)) (Universal arm: 70 cm (27.6 in))
18	Lockwasher DIN 472 - 25x1.2
19	Hook-and-loop tape approx. 12 cm (4.7 in) long (Fixed and pivoting mounting arm: 4x) (Universal arm: 5x)
22	Clamping plate
[A]	Load surface for "mounting arm"
[B]	Load surface for "keyboard mounting plate"
[C]	Counterbores, load surfaces for fastening screws

5. Keyboard above the access point

5.1 Lean-Lift and Multi-Space with keyboard attachment outside on outer lift unit

5.1.1 Universal arm

Keyboard attachment and adjustment according to Chapter 4.2 and 4.3

The cable is routed in the additional cable duct (see Fig. 1)

5.1.2 Fastening the protective sleeve

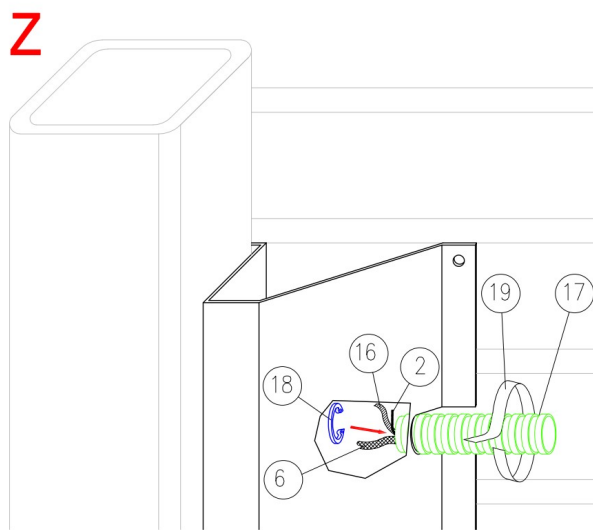


Fig. 13: Detail **Z**: from Fig. 5: Fastening the protective sleeve to the cable duct

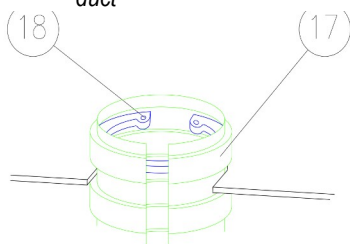


Fig. 15: Lockwasher in the protective sleeve

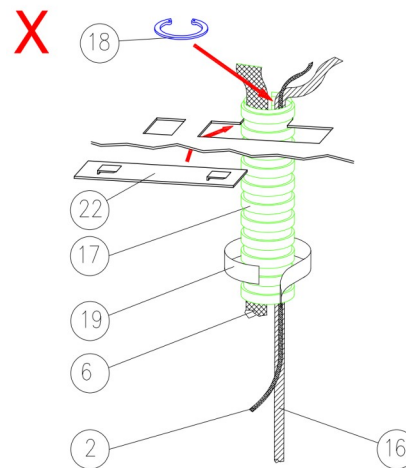


Fig. 14: Detail **X** from Fig. 5: Fastening the protective sleeve to the keyboard

Item	Description	Item	Description
1	Key panel	17	Protective sleeve 70 cm (27.6"), slit
2	Earthing cable with spiral jacket	18	Lockwasher DIN 472 - 25x1.2
6	Connecting cable CPUI-CPUII	19	Hook-and-loop tape approx. 12 cm (4.7 in) long (5x)
16	Multipoint connecting cable (only necessary for multi-unit networks): Refer also to drawing "S940008" and installation diagram "VERBUNDn" or Ethernet cable	22	Clamping plate

5. Keyboard above the access point (continued)

5.2 Multi-Space

5.2.1 Universal arm

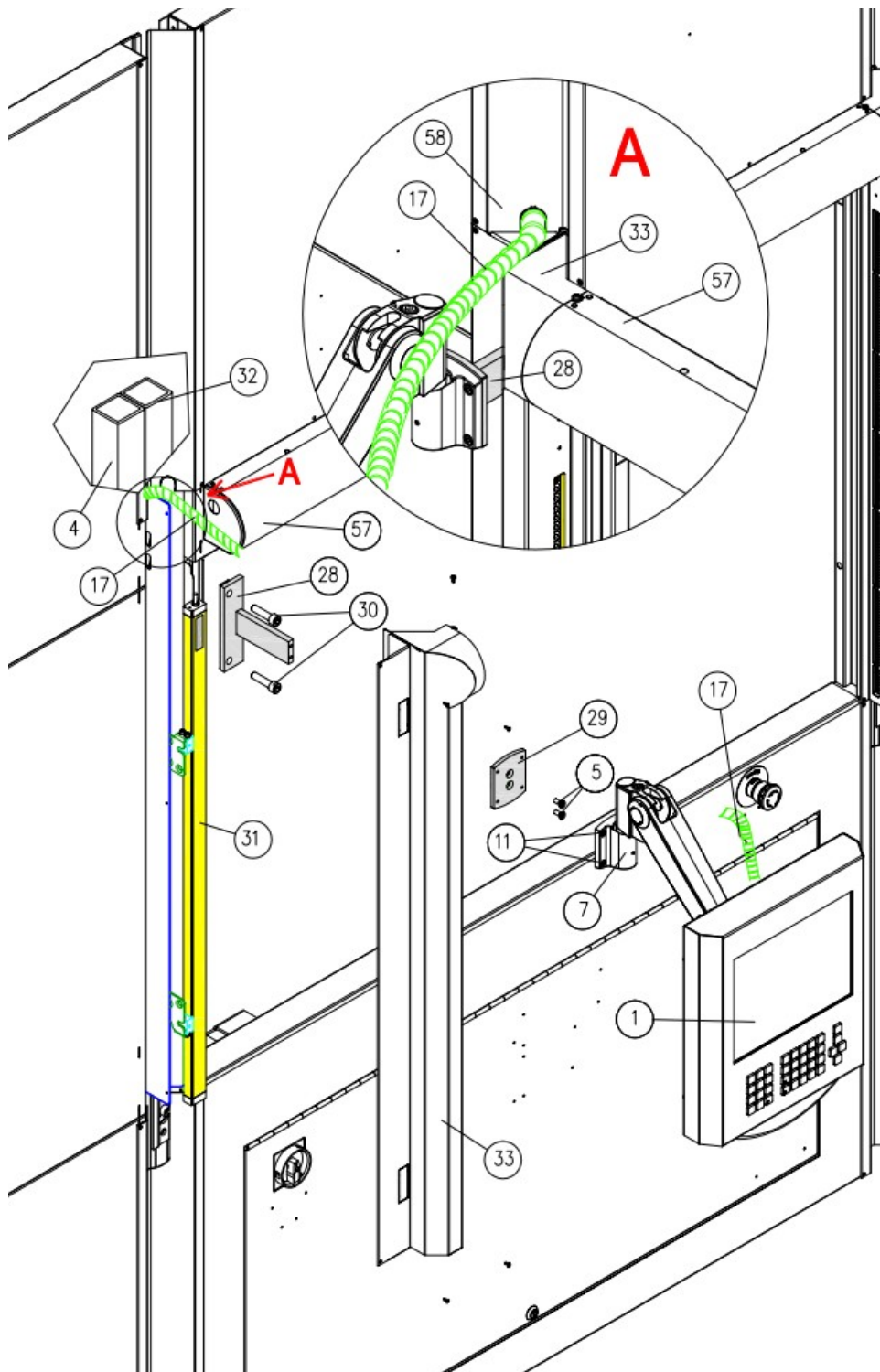


Fig. 16: Installing top left keyboard for Multi-Space

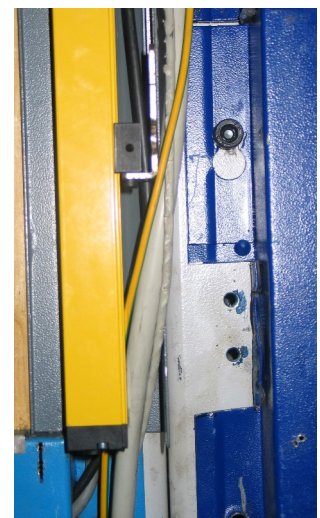


Fig. 17: Cable routing behind light curtain

5. Keyboard above the access point (continued)

5.2 Multi-Space (continued)

5.2.1 Universal arm (continued)

Item	Description	Item	Description
1	Key panel	29	Face plate
4	Rectangular tube 1.1 for the adjacent lift unit (tube 2.1 for keyboard position on the right)	30	Socket head cap screw ISO 4762 - M10x40 (2x)
5	Countersunk screw ISO 7046 - M6x16 - galvanised (2x)	31	Light curtain
7	Mounting block	32	Rectangular tube 2.1 (tube 1.1 for keyboard position on the right)
11	Socket head cap screw ISO 4762 - M5x10 galvanised (4x)	33	Light curtain housing
17	Protective sleeve 70 cm (27.6"), slit	57	Lighting panel
28	Keyboard mounting arm	58	Cover strip

Installation of the keyboard **to the left** above the access point is described below.
Attachment to the **right** above the access point is done in reverse order.

Step	Task	Note / illustration
	Before installing the keyboard mounting arm (<i>item 28</i>), install and adjust the safety light curtain directly in front of the access point (<i>item 31</i>). The light curtain housing (<i>item 33</i>) is not installed until step 3.	 Install and adjust the safety light curtain directly in front of the access point in accordance with the "LICHTSCD-Werac" installation instructions.
1	Fasten the keyboard mounting arm (<i>item 28</i>) together with the corresponding Using two screws (<i>item 30</i>), fasten the front panels to the rectangular tube of the adjacent lift unit (<i>item 4</i>).	See Fig. 16
2	Unscrew the face plate (<i>item 29</i>) from the keyboard mounting arm (<i>item 28</i>).	See Fig. 16
3	Install the light curtain housing (<i>item 33</i>). Do not screw it in place yet!	See Fig. 16 The screws are not installed until the cables are routed.
4	Use 2 screws (<i>item 5</i>) to screw the face plate (<i>item 29</i>) to the keyboard mounting arm (<i>item 28</i>).	See Fig. 16
5	Fasten the mounting block (<i>item 7</i>) to the face plate (<i>item 29</i>) using four screws (<i>item 11</i>).	See Fig. 16
6	Install the key panel (<i>item 1</i>) including universal arm	See Fig. 16 Keyboard attachment and adjustment according to Chapter 4.2 and 4.3
7	Route the keyboard connecting cables in the electrical tray. To do so, push the light curtain housing (<i>item 33</i>) all the way forward to the face plate (<i>item 29</i>) to route the connecting cables behind the light curtain housing (<i>item 33</i>) up to the bottom front panel. Route the cables behind the light curtain (<i>item 31</i>) below the lower light curtain holding bracket.	See cable routing diagram "CABLEMS1" See circuit diagram See Fig. 17 (for the sake of clarity, Fig. 17 is shown without the light curtain housing (<i>item 33</i>))
8	Route the protective sleeve (<i>item 17</i>) through the cable bushing of the cover strip (<i>item 58</i>) of the adjacent lift unit and fasten it with a lockwasher (<i>item 18</i>).	See Fig. 16 (Detail A) Fastening with a lockwasher (<i>item 17</i>) is done as described in Chapter 4.4
9	Screw on the light curtain housing (<i>item 33</i>).	See the "LICHTSCD" installation instructions

6. Keyboard with automatic container ejection

6.1 Keyboard position with side access protection and safety light curtain (version 1 or version according to DRAWS/"LW-AUSZ" or "LL-AUSZ-HL")

Step	Task	Note / illustration
1	Possible installations include a fixed mounting arm, pivoting mounting arm and universal arm. The keyboard is attached in the front to the ejector on the bracket of the outer light curtain. It is fastened in the same way as to the rectangular tube as described in Chapter 4.1 and 4.2. The universal arm is adjusted as described in Chapter 4.3.	See Figs. 2, 3 and 5 See Chapters 4.1, 4.2 and 4.3 See installation instructions "AUTOAUSZ"
2	The cables are routed in the panelling of the roller guide rails for the cover strip.	See installation instructions "AUTOAUSZ"

6.2 Keyboard position with safety light curtain on all sides (version 2)

Step	Task	Note / illustration
1	The keyboard can be attached only to a keyboard stand.	See Chapter 7 See installation instructions "AUTOAUSZ"

6.3 Keyboard position with side safety slider (version 3)

Step	Task	Note / illustration
1	Possible installations include a pivoting mounting arm and universal arm. The keyboard is attached in the front to the guide rails.	See installation instructions "AUTOAUSZ"
1a	Pivoting mounting arm: Fasten the pivoting ATA keyboard mounting arm (<i>item 26</i>) in the front to the guide rail (<i>item 25</i>) using 2 screws (<i>item 24</i>). Fasten the pivot axis (<i>item 3.1</i>) to the pivoting ATA keyboard mounting arm (<i>item 26</i>) using 2 screws (<i>item 9</i>).	See Fig. 18
1b	Universal arm: Fasten the universal ATA keyboard mounting arm (<i>item 23</i>) in the front to the guide rail (<i>item 25</i>) using 2 screws (<i>item 24</i>). Fasten the mounting block (<i>item 7</i>) to the universal ATA keyboard mounting arm (<i>item 23</i>) using 4 screws (<i>item 11</i>). The universal arm is adjusted as described in Chapter 4.3.	See Fig. 19 See Chapter 4.3
2	The cables are routed in the panelling of the roller guide rails for the cover strip.	See installation instructions "AUTOAUSZ"

6. Keyboard with automatic container ejection (continued)

6.3 Keyboard position with side safety slider (version 3) (continued)

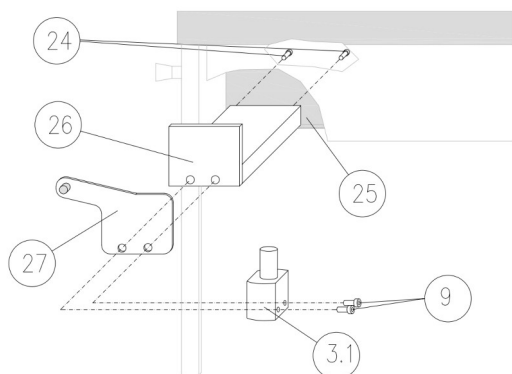


Fig. 18: Pivoting arm with container ejector (version 3)

Item	Description
3.1	Pivot axis (part of mounting arm)
9	Socket head cap screw ISO 4762 - M8x45 (2x)
24	Socket head cap screw ISO 4762 - M8x16 (2x)
25	Guide rail
26	Pivoting ATA keyboard mounting arm
27	Limit plate

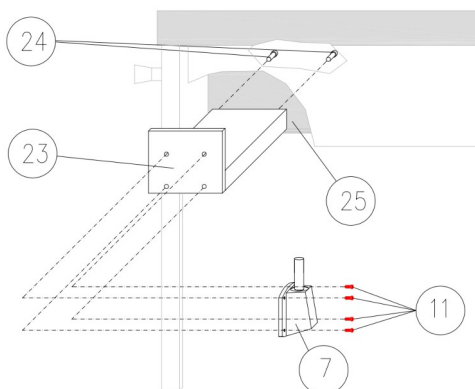


Fig. 19: Universal arm with container ejector (version 3)

Item	Description
7	Mounting block
11	Socket head cap screw ISO 4762 - M5x10 galvanised (4x)
23	Universal ATA keyboard mounting arm
24	Socket head cap screw ISO 4762 - M8x16 (2x)
25	Guide rail

Hänel Installation Instructions

Mounting arm, key panel

Lean-Lift Multi-Space

7. Keyboard on stand or with wall mounting

Keyboard stand

Step	Task	Note / illustration
1	The owner/operator is responsible for fastening the keyboard stand (<i>item 34</i>) to the floor to prevent it from tilting. For this purpose, 4 drill holes with $\varnothing$ 9 mm (0.35 in) are provided in the base plate.	See Fig. 20
2	Install the key panel (<i>item 1</i>).	See Fig. 20
3	The cables are routed in the keyboard stand (<i>item 34</i>) to the bottom. Insert the protective sleeve (<i>item 17</i>) into the upper cable bushing of the keyboard stand (<i>item 34</i>).	See Fig. 20  In the case of a GSC connecting cable, the plug housing has to be removed.
4	Only for an additional emergency stop switch (<i>item 35</i>) on the keyboard stand (<i>item 34</i>): Fasten the additional emergency stop switch including mounting plate (<i>item 35</i>) to the keyboard stand (<i>item 34</i>) using two screws (<i>item 36</i>). Route the connecting cable for the additional emergency stop switch (<i>item 35</i>) through the cable gland with lugs and into the keyboard stand (<i>item 34</i>).	See Fig. 20
5	Guide the cable out of the bottom cable bushing and have it routed by the owner/operator on the floor to the right or left of the lift's cover strip so that it is protected from damage and in accordance with regional regulations. The protective tube must protrude all the way to below the cover strip! Insert the cable through the cover strip or under the hinged cover into the lift and route it to the electrical drawer or electrical tray. When routing cables under the hinged cover, the cables must be attached behind the hinged cover using an adhesive clip with cable ties (<i>item 37</i>) to enable the hinged cover to be closed.	See Fig. 21  If necessary, remove the cover strip with or without the hinged cover and make another cut-out (adapted to the owner/operator's protective tube) in this cover strip.  For an access point in another storey, remove the corresponding cover strip and drill a hole in it for a cable bushing at the height of the floor.

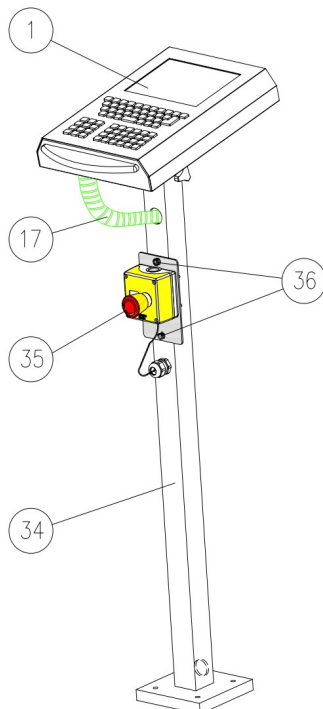


Fig. 20: Keyboard on stand

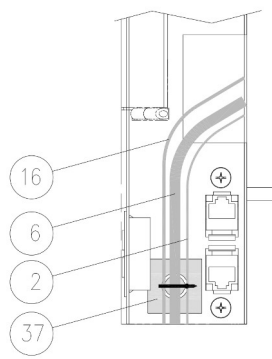


Fig. 21: Cable entry point under the hinged cover of the cover strip

Item	Description
1	Key panel
2	Earthing cable
6	Connecting cable CPUI-CPUII
16	Multipoint connecting cable or Ethernet cable
17	Protective sleeve 60 cm (23.6 in), slit
34	Keyboard stand
35	Additional emergency stop switch including mounting plate (optional)
36	Socket head cap screw ISO 4762 - M8x20 galvanised (2x) Spring washer DIN 127-A8 galvanised (2x) (optional, only for additional emergency stop switch)
37	Adhesive clip with cable tie

7. Keyboard on stand or with wall mounting (continued)

Wall mount

Step	Task	Note / illustration
1	The owner/operator is responsible for anchoring the keyboard arm to the wall. For this purpose, 4 drill holes with $\varnothing 7.1$ mm (0.28 in) are provided in the connection plate.	
2	Adjust the universal arm as described in Chapter 4.3.	
3	Have the cable routed and fastened by the owner/operator on the wall and on the floor to the right or left of the lift's cover strip so that it is protected from damage and in accordance with regional regulations. The protective tube must protrude all the way to below the cover strip! Insert the cable through the cover strip or under the hinged cover into the lift and route it to the electrical drawer or electrical tray. When routing cables under the hinged cover, the cables must be attached behind the hinged cover using an adhesive clip with cable ties (<i>item 37</i>) to enable the hinged cover to be closed.	See Fig. 21 If necessary, remove the cover strip with or without the hinged cover and make another cut-out (adapted to the owner/operator's protective tube) in this cover strip. For an access point in another storey, remove the corresponding cover strip and drill a hole in it for a cable bushing at the height of the floor.



8. Inspections

8.1 Electrostatic earthing check

To prevent a static charge of the key panel:

- A separate earthing cable (*item 2*) must be routed from the keyboard to the wiring cabinet.
- The load surfaces [A] - [C] from Fig. 2-4 must be free of insulation.

Step	Task	Note / illustration
1	Check the fastening of the connecting cable CPUI-CPUII (<i>item 6</i>) and the multipoint connecting cable (<i>item 16</i>) with the metal pipe clamp (<i>item 1</i>) according to Fig. 22.	See Fig. 22 Note:  The shielding must be peeled back over the outer jacket so that the wires are not damaged by the clamp. The shielding must not be connected to the earth ground of the electronics.
2	Check the fastening of the earthing cables (<i>item 2, 13</i>).	See Fig. 22
3	The following load surfaces must be free of insulation:	Not for universal arm
	[A] Load surfaces for mounting arm	See Fig. 1, 2 and 3
	[B] Load surfaces for keyboard mounting plate	See Fig. 1, 2 and 3
	[C] Counterbores / load surfaces for fastening screws	See Fig. 1, 2 and 3
4	Check the electrostatic earthing after installation using an ohmmeter.	Checkpoint [I]: sheet-metal screw at key panel Checkpoint [II]: fastening screw to rectangular tube
5	Check the earth wire connection	($\leq 0.1 \text{ ohm}$)

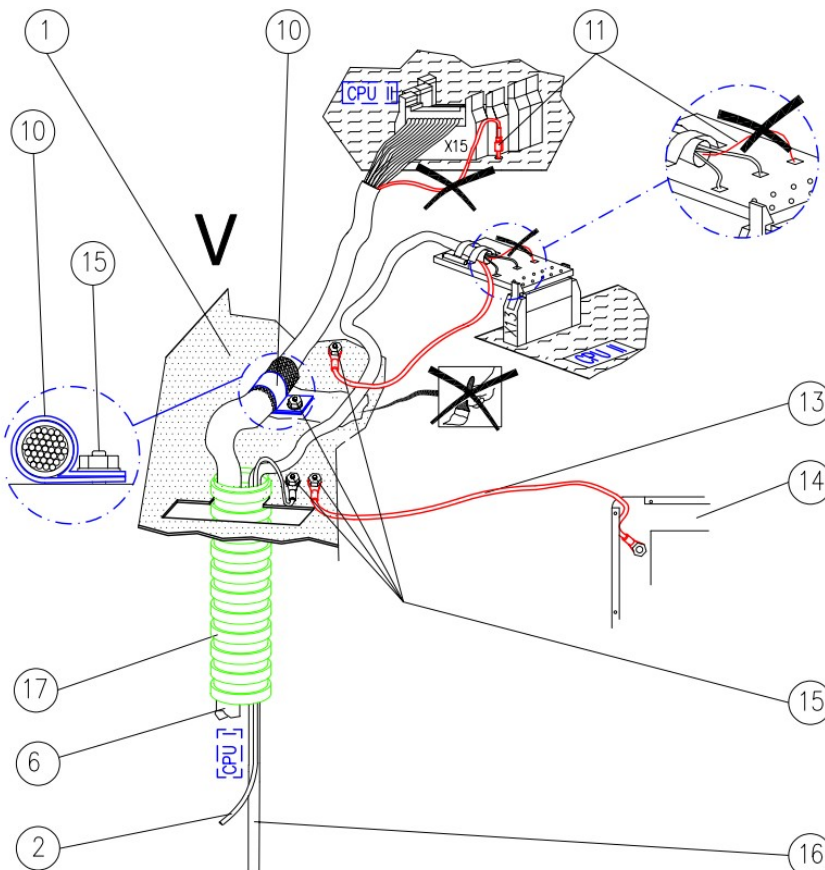


Fig. 22: Electrostatic test, view V from Fig. 23, 24, 25 and 26

8. Inspections (continued)

8.1 Electrostatic earthing check (continued)

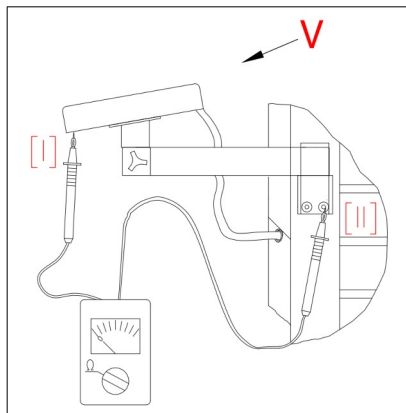


Fig. 23: Electrostatic charge check:
Pivoting mounting arm for keyboard

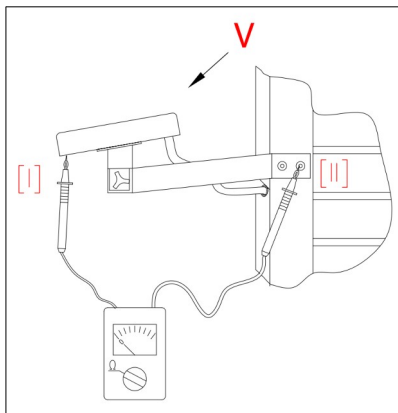


Fig. 24: Electrostatic charge check:
Fixed mounting arm for vertical
keyboard

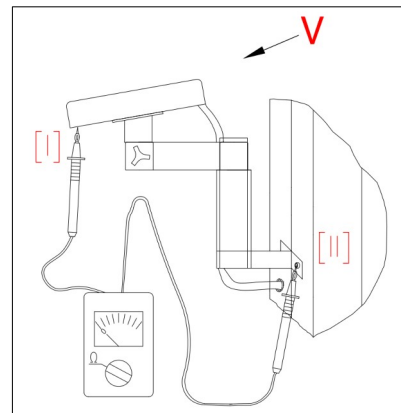


Fig. 25: Electrostatic charge check:
Fixed mounting arm for keyboard
(Multi-Space)

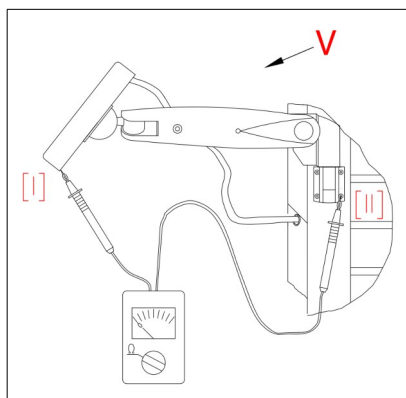


Fig. 26: Electrostatic charge check:
Universal arm for keyboard

Note:

View **V** see Figure 22

Item	Description	Item	Description
1	Base plate key panel	14	Upper section of key panel
2	Earthing cable to wiring cabinet	15	Stud bolts M4 x 1 + M4 nuts with contact washer
6	Connecting cable CPU I - CPU II	16	Multipoint connecting cable Only necessary for multi-unit networks: Refer also to drawing "S940008" and installation diagram "VERBUNDn"
10	Earthing clamp, Type NK-5NS	17	Protective sleeve, slit
11	Shielding		
13	Earthing cable to upper section of key panel		

8. Inspections (continued)

8.2 Inspecting the galvanic isolation of the earth potential and the earth ground of the electronics

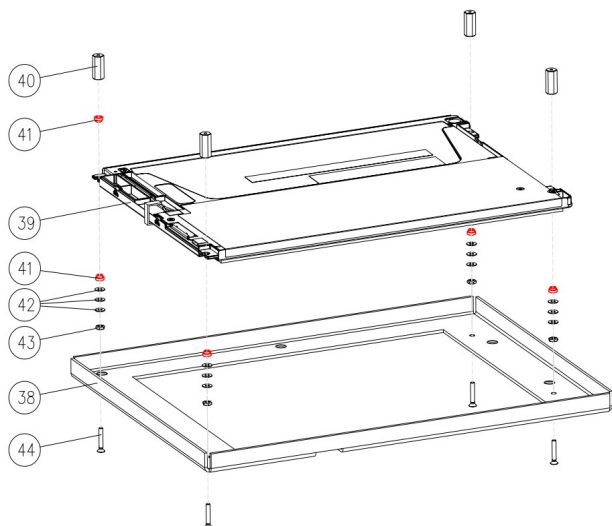


Fig. 27: TFT display assembly with MP12N control system

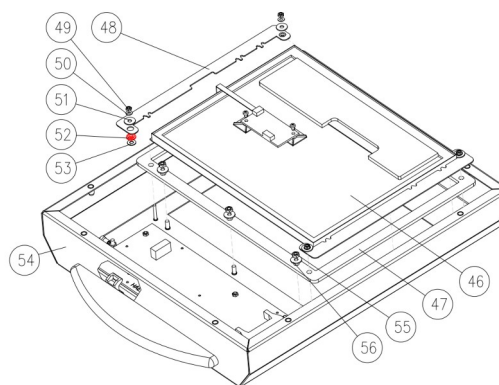


Fig. 28: TFT display assembly with MP14/MP12N-Q7 control system

Item	Description	Item	Description	Item	Description
38	TFT display reinforcing frame	44	Countersunk screw ISO 7046-1 M2x12 galvanised	51	Plastic washer ISO 7089-4
39	TFT display	46	TFT display	52	Insulating bushing 4.1
40	Hexagonal spacer bolt with female/female threading	47	Spacing frame	53	Washer ISO 7089-4-140 HV galvanised
41	Insulating bushing, type IB4	48	Fastening plate	54	Operating panel housing
42	Washer ISO 7089-2-140 HV galvanised	49	Hex nut ISO 4032-M3	55	Hex nut ISO 4032-M4
43	Hex nut ISO 4032-M2	50	Washer ISO 7089-3-140 HV galvanised	56	Washer ISO 7093-4-140 HV galvanised

Step	Task	Note / illustration
1	In the event of faults, galvanic isolation must be checked by measuring the ohmic resistance between the earth potential and the earth ground of the electronics.	Ohmic resistance between CPU I: X84/GND and earth conductor system greater than 10 GΩ
2	Only if the measurement is negative: Installation instructions for galvanic isolation between the earth potential and the earth ground of the electronics:	
2a	MP12N control system: There are three washers (item 42) and one insulating bushing (item 41) between the TFT display (item 39) and the display frame (item 38), as well as an additional insulating bushing (item 41) between the TFT display (item 39) and the spacer bolt (item 40).	See Fig. 27
2b	MP14/MP12-Q7 control system: Between the spacing frame (item 47) and the fastening plate (item 48), there is one washer (item 53) and one insulating bushing (item 52).	See Fig. 28

9. Removal

1. Before starting the removal, secure the extractor, or cross-member with extractor, against descending or falling.



! DANGER

The extractor or cross-member with 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 or operating manual "MANL-MS", Work inside the lift by authorised personnel - Securing the cross-member with extractor).

2. Switch off the main switch (Q2) and secure it from being switched on again using a padlock.



! DANGER

Risk of electrocution!

SAFETY INSTRUCTIONS



The lift must be de-energised before work begins.

- Switch off main switch (Q2).
- Secure the main switch (Q2) from being switched on again.
- Verify that the lift has been de-energised.
- Cover or block off neighbouring live parts. (Switch off external voltage source for multi-unit network and lock it using tool WZ-67)

3. Before entering the inside of the lift, secure 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.

4. To remove the key panel and mounting arm, correctly follow the reverse order of steps as described previously in Chapter 3.

5. After removal, dispose of the structural components in an environmentally responsible manner (see Installation Instructions "INST-LL-S" or "INST-LW" or "INST-MS", Disposal instructions).



10. Annex

Revision notes

- Last issue dated: 2007-11-14
- Added information symbols
 - Added universal arm
- 2008-09-11
- Added protective sleeve
- 2010-02-23
- Added spare part order and universal arm for Multi-Space
- 2010-06-21
- Current universal arm adjustment
- 2010-09-07
- Fastening ring changed to lockwasher
- 2012-03-13
- Clamping plate added, note on LICHTSCC-Werac added, Fig. 16 current
- 2012-10-04
- Shielding, text revised
- 2013-03-25
- Attachment of top keyboard for MS added
- 2014-12-12
- Universal arm changed (with swivel joint)
- 2015-01-09
- Universal arm changed (with spherical joint)
- 2015-04-27
- Key panel connection plate for universal arm added
- 2015-05-07
- Additional information about keyboard stand added
- 2015-07-29
- Keyboard stand: Information for protective tube added
- 2015-11-16
- Inspecting the galvanic isolation of the earth ground of the electronics
 - Universal arm screws updated

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10. Annex (continued)

Last issue dated: 2024-02-29

- Updated access point design

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