



Hänel Installation Instructions  
Height detection light curtain Object 100F

Lean-Lift  
Multi-Space



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## 1. General instructions

### Caution

These Installation Instructions are intended for trained 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" 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-\_\_" must be observed at all times.



### Intended use

For Lean-Lift or Multi-Space with height detection light curtain Object 100F. The height detection light curtain is used solely to correctly detect the stored article height; it does not assume any safety function.

Any other use shall be considered non-compliant use.



## 2. Installation Requirements

1. Before starting the installation, switch off the main switch (Q2) and secure it from being switched on again using a padlock.
2. Before entering the inside of the lift, lock the actuator of the safety switch on the service door (S3) with a padlock.
3. Secure the extractor, or cross-member and extractor, against descending or falling (refer to corresponding Operating Manual "MANL-LL" or "MANL-MS", safety instructions for Lean-Lift or Multi-Space).



### 3. Installation instructions:

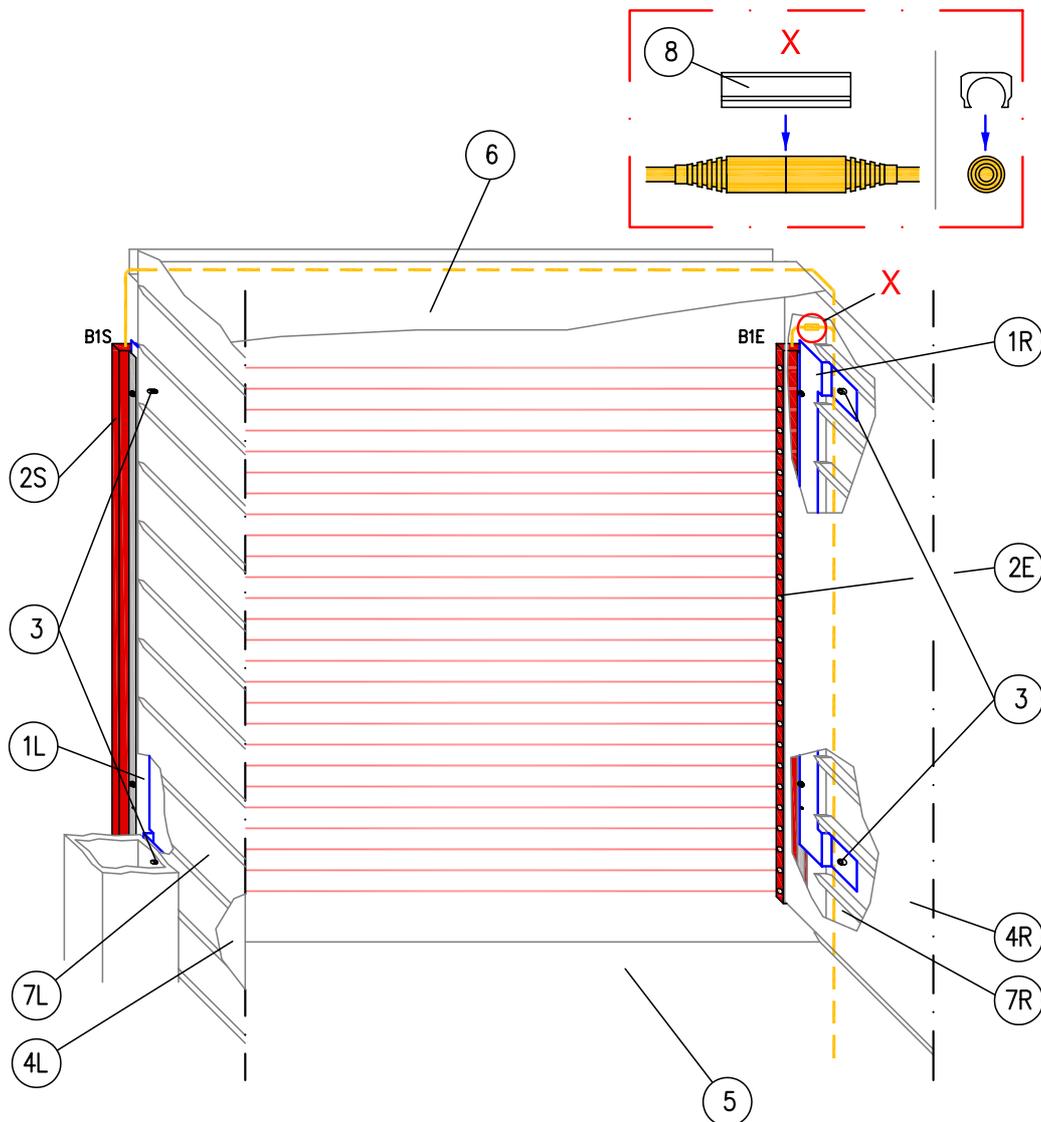
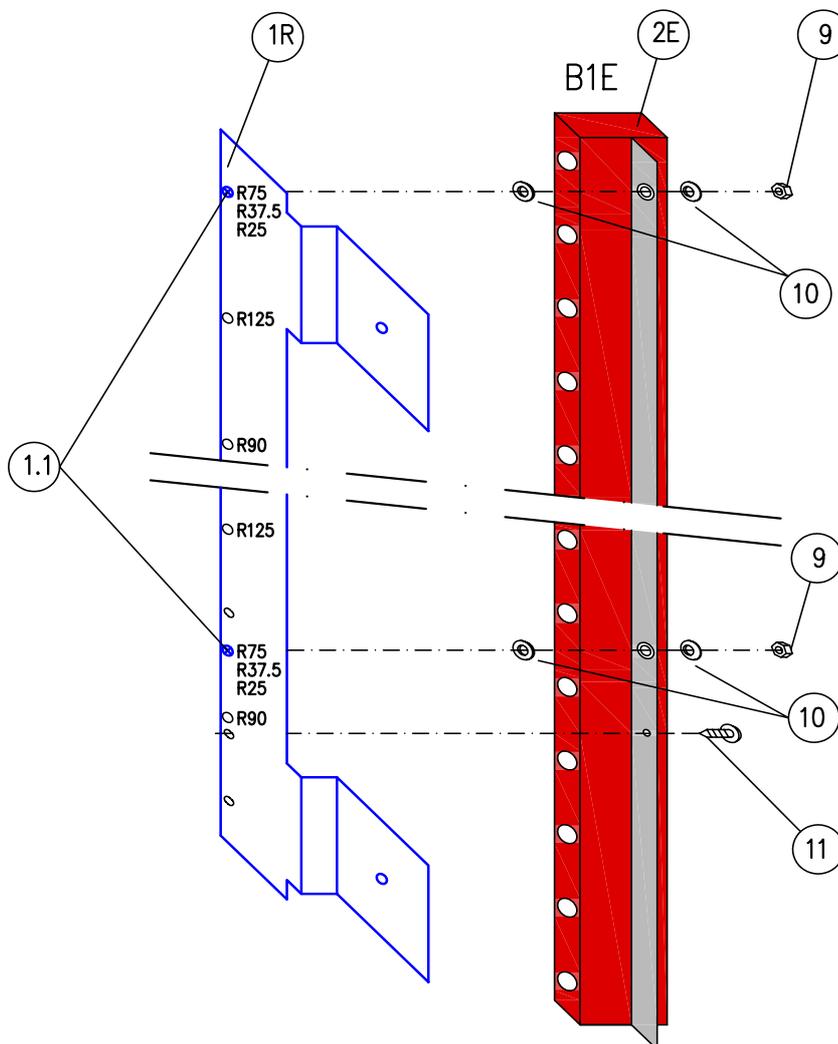


Fig. 1 Height detection light curtain in access point

Item	Description	Item	Description
1R	Right bracket	4L	Left side panel
1L	Left bracket	5	Bottom access point cover
2E	Receiver array B1E	6	Lower access point cover
2S	Transmitter array B1S	7R	Right side part
3	Socket head cap screw DIN912 /ISO4762 - M8x16	7L	Left side part
4R	Right side panel	8	Terminal for plug connection

### 3. Installation instructions: (continued)



Item	Description
1R	Right bracket
1.1	Threaded bolt CH-M5-12 (press-fitted)
2E	Receiver array B1E
9	Nut DIN 439 /ISO 4035 - M5 (4x)
10	Spherical washer DIN 6319 - C 6.4 (8x)
11	Cross recessed pan head sheet-metal screw DIN 7981 /ISO 7049 - St4.8x13-F-H (2x)
R75 R37.5 R25	Position of the threaded bolts for slot increments 75, 37.5, 25 mm (2.95", 1.46", 0.98") (as shown)
R90	Position of the threaded bolts for slot increment 90 mm (3.54")
R125	Position of the threaded bolts for slot increment 125 mm (4.92")

Fig. 2 Installing receiver array on right bracket

Steps 1 -4 are omitted for arrays pre-installed at the factory.

Step	Task	Note / illustration
1	Fasten the receiver array ( <i>item 2E</i> ) to the bracket ( <i>item 1R</i> ) using a cross recessed pan head sheet-metal screw ( <i>item 11</i> ).	See Fig. 2
2	Fasten the receiver array ( <i>item 2E</i> ) to the threaded bolts ( <i>item 1.1</i> ) using 4 spherical washers ( <i>item 10</i> ) and 2 nuts ( <i>item 9</i> ). Tighten the nuts only slightly.	See Fig. 2
3	Fasten the transmitter array ( <i>item 2S</i> ) to the bracket ( <i>item 1L</i> ) using a cross recessed pan head sheet-metal screw ( <i>item 11</i> ).	See Fig. 1, Fig. 2 (similar)
4	Fasten the transmitter array ( <i>item 2S</i> ) to the threaded bolts ( <i>item 1.1</i> ) using 4 spherical washers ( <i>item 10</i> ) and 2 nuts ( <i>item 9</i> ). Tighten the nuts only slightly.	See Fig. 1, Fig. 2 (similar)

### 3. Installation instructions: (continued)

Step	Task	Note / illustration
5	Fasten the bracket ( <i>item 1R</i> ) to the right side part ( <i>item 7R</i> ) using 2 socket head cap screws ( <i>item 3</i> ).	See Fig. 1
6	Fasten the bracket ( <i>item 1L</i> ) to the left side part ( <i>item 7L</i> ) using 2 socket head cap screws ( <i>item 3</i> ).	See Fig. 1
7	Route the cables of the transmitter and receiver array. <ul style="list-style-type: none"> <li>Secure the plug connections to the cable extension using the clamp provided (<i>item 8</i>).</li> </ul>	See cable routing diagram CABLELL1.odt and CABLELL2.odt See Fig.1 Detail X
8	Connect the transmitter and receiver array.	
9	Set the height detection light curtain according to the table below.	
10	Align the transmitter and receiver array according to the "Manufacturer Information" chapter4. <ul style="list-style-type: none"> <li>Alternating between the transmitter and receiver arrays, determine the outermost boundaries of uninterrupted light contact, then adjust it to the centre position. The cross recessed pan head sheet-metal screw (<i>item 11</i>) prevents a change of the vertical position during this process.</li> <li>Securely tighten the nuts M5 (<i>item 9</i>).</li> </ul>	See Fig. 3 See Chapter 4  When installing the side panels, ensure that the transmitter and receiver array are not moved.
11	Check that the height detection light curtain functions correctly.	



**Caution:**

An incorrect setting can cause an incorrect height to be detected, resulting in significant consequential damage.

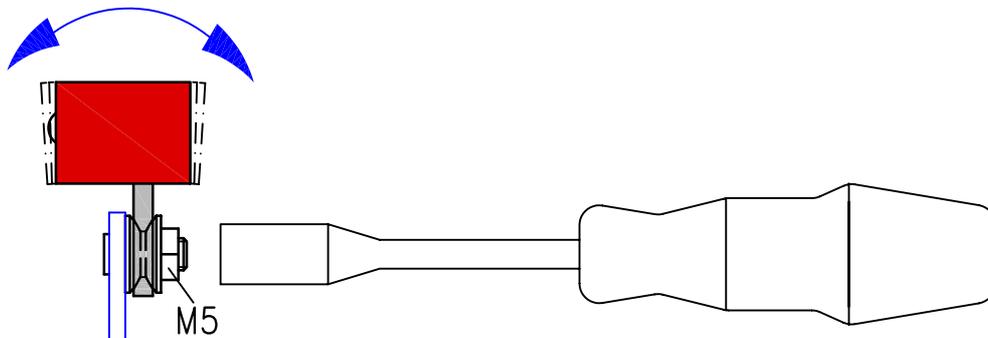


Fig. 3 Aligning the height detection light curtain

### 4. Manufacturer information

#### 4.1 Order code

Order code for standard lengths	Sensors x slots	Array length	Access opening height / slot increment	Mains power supply unit DIP switch	
				1_2_3_4_	5_6_7_8
0100FS-KSF5N-LH14-BCD2	28 x 25 10 x 75 6 x 125	700 mm (27.56")	900 mm (35.43") / 25 mm (0.98") (900 mm (35.43")/ 75 mm (2.95") 900 mm (35.43") / 125 mm (4.92")	0_0_0_0 0_1_0_0 0_0_1_0	0_0_0_0 0_0_0_0 0_0_0_0
0100FS-KSF5N-LJ14-BCD25	19 x 37.5	700 mm (27.56")	900 mm (35.43") / 37.5 mm (1.476") 900 mm (35.43") / 75 mm (2.95")	0_0_0_0 1_0_0_0	0_0_0_0 0_0_0_0
0100FS-KSF5N-LF13-BCD26	65 x 10	650 mm (25.59")	900 mm (35.43")/ 90 mm (3.54")	0_0_0_1	0_0_0_0

Order code for special lengths	Sensors x slots	Array length	Access opening height / slot increment	Mains power supply unit DIP switch	
				1_2_3_4_	5_6_7_8
0100FS-KSF5N-LH13-BCD	26 x 25	650 mm (25.59")	850 mm (35.43")/ 25 mm (0.984")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LJ17-BCD2E	23 x 37.5	850 mm (33.465")	1050 mm (41.339") / 37.5 mm (1.476")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LJ20-BCD	27 x 37.5	1000 mm (39.37")	1200 mm (47.244") / 37.5 mm (1.476")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LJ14-BCD25	19 x 37.5	700 mm (27.56")	900 mm (35.43") / 37.5 mm (1.476")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LF5-BCD	4 x 75	250 mm (9.843")	450 mm (17.717") / 75 mm (2.953")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LF5-BCD	14 x 75	1000 mm (39.37")	1200 mm (47.244") / 75 mm (2.95")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LF5-BCD	15 x 75	1075 mm (42.323")	1275 mm (50.197") / 75 mm (2.95")	0_0_0_0	0_0_0_0
0100FS-KSF5N-LF5-BCD	18 x 75	1300 mm (51.181")	1500 mm (59.055") / 75 mm (2.95")	0_0_0_0	0_0_0_0

#### 4.2 Display elements

##### ObjectC 100F controller

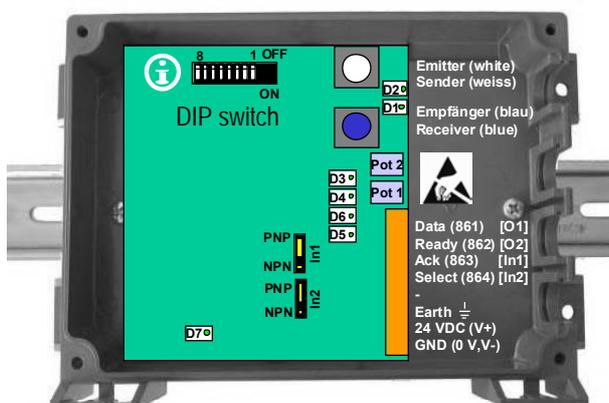


Fig. 4: ObjectC 100F display elements

### 4. Manufacturer information (continued)

Name	Colour / meaning	Colour / meaning
D1	Green: protective field clear Flashing green: insufficient intensity	Off: protective field interrupted
D2	Red: protective field interrupted Flashing red: error in height measuring system	Off: protective field clear
D3	Flashing green: communication present	Off: no communication
D4	Flashing green: communication present	Off: no communication
D5	Flashing green: communication present	Off: no communication
D6	Flashing green: communication present	Off: no communication
D7	Green: power on	Off: power off

#### Object 100F light curtain

Two LEDs are integrated into the connecting caps of the transmitter and receiver.

Status	Green LED	Red LED
Protective field clear	on	off
Protective field interrupted	off	on
Error in height measuring system	off	flashing
Insufficient intensity	flashing	off
Power off or array not connected	off	off

#### DIP switches:

DIP switches 1 to 4 allow the beam pitch of the light curtain to be increased by a multiple. Thus from the basic increments of 10 mm (0.394"), 25 mm (0.984") and 37.5 mm (1.476"), each multiple of these slots can be configured. DIP switches 5 through 8 currently have no function.



Note:

A change of the DIP switch setting is accepted only after a power-up.

### 4. Manufacturer information (continued)

#### 4.3 Diagnostics and troubleshooting

Fault	Cause	Action
No function, no LED display on controller.	No mains supply.	Check mains supply.
No LED display on transmitter or receiver.	No cable connection to transmitter or receiver.	Check cable connection to transmitter or receiver, replace cables if necessary.
LED on the light curtain is always red even though protective field is clear.	Transmitter and receiver are turned 180° out of position.	Rotate transmitter and receiver.
	System insufficiently aligned.	Correct installation.
	Lenses covered or dirty.	Clear light path.
	Optional feature (e. g. with high-speed door)	When the high-speed door is closed, the light curtain is always interrupted.
	Element defective.	First, remove the transmitter and receiver and simply hold them across from each other. If the LED on the transmitter and the LED on the receiver are still red, incorrect installation can be eliminated as the cause of the problem. Then, replace the transmitter and/or receiver. If necessary, also replace the cables.
	Control device defective.	Replace control device.
LED D2 flashes red (system fault).	Transmitter and/or receiver not connected correctly.	Are the red LEDs in the transmitter and receiver also flashing? If not, check the connection of the arrays. If yes, the transmitter and receiver connection may have been switched around.
	Transmitter or receiver array is defective.	First, replace the transmitter. If the problem persists, replace the receiver. If necessary, replace the cables.
	Control device defective.	Replace control device.
LED D1 flashes green (intensity).	Transmitter and receiver are poorly aligned with each other.	Correct the power-up of the controller and installation.
Wrong values are transmitted.	DIP switch setting does not match the desired beam pitch.	Correct the DIP switch setting.
	Incorrect beam pitch of the light curtain.	Replace light curtain.
	Connecting cable longer than 10 m (32' 9.7").	Shorten or replace the cable.
	Poor earthing or none at all.	Check earth connection.
	Jumper position in the control device is incorrect.	Correct jumper position.
	Control device defective.	Replace control device.
Objects are not detected.	Reflection (reflective surface parallel to measurement).	Prevent reflective surface (e. g. using black paint).
	Control device defective.	Replace control device.
	Jumper position in the control device is incorrect.	Correct jumper position.
	Interface wiring is incorrect.	Correct the wiring and compare it with circuit diagram.
Spontaneous malfunction.	External light sources or optical sensors.	Darken external light sources.
	Poor earthing or none at all.	Check earth connection.
	Loose contact.	Replace cable, control device and/or optical arrays

### 4. Manufacturer information (continued)

#### 4.4 Type plate

<b>CEDES</b> 7302 Landquart SWISS MADE	Object100F Emitter	
	Part no. 104 497 Id. No.:	
	O100FS-CEF5N-LJ14-BCD2E	
	Lot-No.: 050721/37605 /72	

<b>CEDES</b> 7302 Landquart SWISS MADE	Type: O100FS-CEF5N-LJ14-BCD2E	
	Protective height 700 mm	Operating range 0 m..4 m
	Beam pitch: 37.5 mm	End. rating: IP54
	No. of beams: 19	HW: V1.00

<b>CEDES</b> 7302 Landquart SWISS MADE	Object100F Receiver	
	Part no. 104 497 Id. No.:	
	O100FS-CRF5N-LJ14-BCD2E	
	Lot-No.: 050721/37605 /72	

<b>CEDES</b> 7302 Landquart SWISS MADE	Type: O100FS-CRF5N-LJ14-BCD2E	
	Protective height 700 mm	Operating range 0 m..4 m
	Beam pitch: 37.5 mm	End. rating: IP54
	No. of beams: 19	HW: V1.00

Fig. 5: Labels of an Object100F light curtain system



#### Caution:

The integrated beam pitch is specified on the labels (Fig. 5) of the bars.

Before commissioning a controller, it is mandatory to check the DIP switch setting (Chapter 3) and the beam pitch of the connected light curtain system. An incorrect DIP switch setting can cause an incorrect height to be detected, resulting in significant consequential damage to a system.

#### 4.5 Technical data

##### ObjectC 100F controller:

General data	
Installation position	No restrictions
Temperature range	Ambient temperature during operation: 0 to +55°C (+32 to 131°F) Storage temperature: -25 to +70°C (-13 to +158°F)

##### Object 100F light curtain:

General data	
Maximum cable length	
- Transmitter	10 m (32' 9.7")
- Receiver	10 m (32' 9.7")
Temperature range	-20 to +60°C (-4°F to +140°F) for operation (non-condensing) -20 to +60°C (-4°F to +140°F) for storage
Maximum external light	Up to 50000 Lux
Ranges (clearance between transmitter/receiver)	
- Minimal	0 mm
- Maximum	to 4000 mm (0 to 157.480")

### 5. Removal

1. Before starting the removal, switch off the main switch (Q2) and secure it from being switched on again using a padlock.
2. Before entering the inside of the lift, lock the actuator of the safety switch on the service door (S3) with a padlock.
3. Secure the extractor, or cross-member and extractor, against descending or falling (refer to corresponding Operating Manual "MANL-LL" or "MANL-MS", safety instructions for Lean-Lift or Multi-Space).
4. To remove the height detection light curtain, follow the reverse order of steps as that described previously in Chapter 3.
5. After removal, dispose of the structural components in an environmentally responsible manner (see Installation Instructions "INST-LL" or "INST-MS", Disposal instructions).



### 6. Annex

#### Revision notes

Last issue dated: 2007-11-21

- Added chapter on manufacturer information
- Screws revised

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