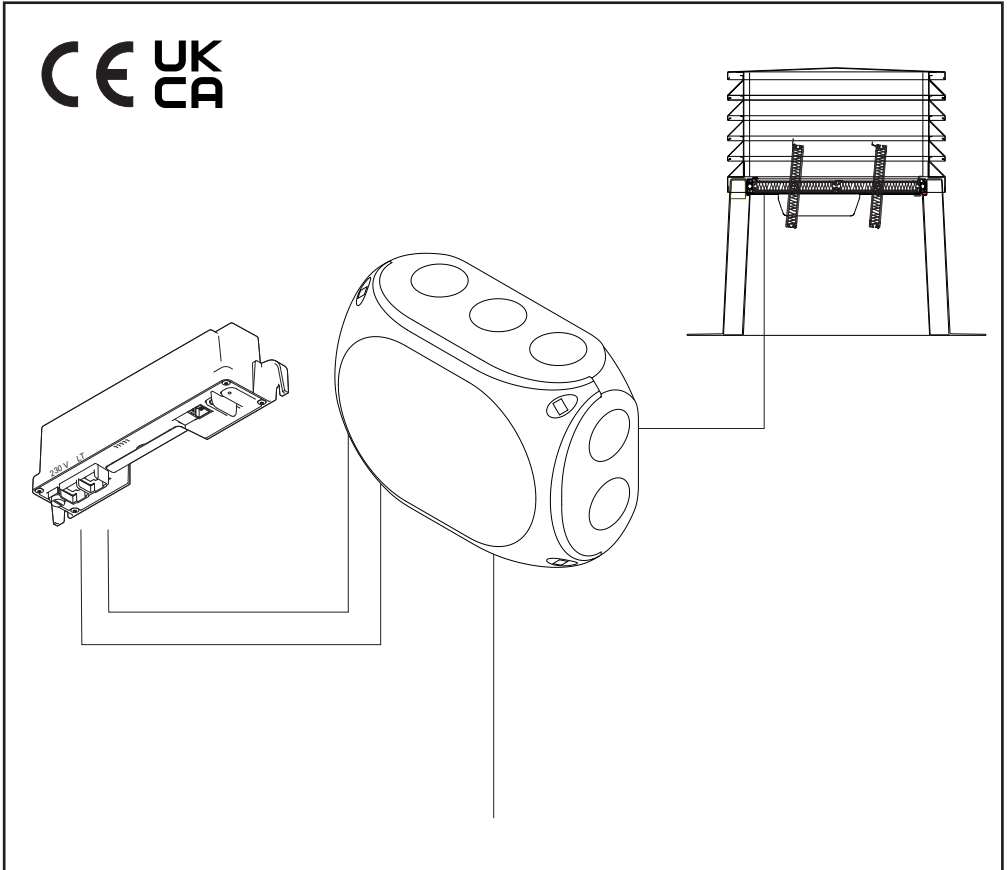




**BSV**



**en** Original instructions

## WARNING

Read all safety warnings, instructions, illustrations and specifications provided with this product. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.

## Intended use

- System components for transmitting an OPEN/CLOSED ventilation signal for the operation of a motor using an LST-CO2-V3 for the ventilation of a lift shaft.
- Compatible with spring return motor-driven louvre flaps and 24 V-powered opening elements.
- **Can only be used in conjunction with an LST-CO2-V3 (lift status transmitter CO2-V3).**

## Safety notes

### Operating voltage 230 V AC!

### Risk of injury from electric shock!

- Connection has to be carried out only by an authorized electrical specialist
- Only for inside mounting
- Not for use in locations where children may be present
- Just use unchanged original D+H parts

### Caution Falling Hazard!

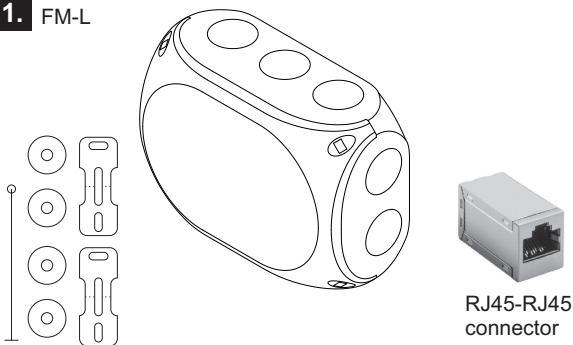
- Always secure ventilation elements properly against falling down the shaft.

## Technical data

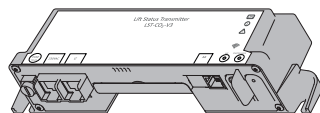
Power supply:	230 V AC / 50 Hz
Current consumption:	0.88 A
Output power:	24 V DC / 1.5 A
Ingress protection:	IP 40
Protection class:	SK I
Temperature range:	5° C...40° C
Dimensions:	180 x 130 x 77 mm (WxHxD)

## System components description

### 1. FM-L



### 2.\* LST-CO<sub>2</sub>-V3



### 3.\* JK-180<sup>1,2</sup>



Louvre window<sup>2</sup>

### JK-190<sup>1,2</sup>

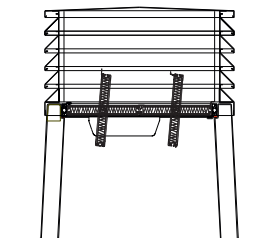


Slideflap<sup>2</sup>

### NK-SL<sup>1</sup>



### 4.\* Thermoflap<sup>2</sup>



<sup>2</sup> 24 V DC drive

<sup>1</sup> Spring return motor    <sup>2</sup> 24 V DC drive

\* nicht im Lieferumfang enthalten

# System components description

## 1. FM-L

- Connection module for transmitting a ventilation signal (OPEN/CLOSED) to control a motor.
- Cable junction box, external lugs for wall installation, cover holder, screw caps
- Cable length 2.5 m (connection to LST-CO<sub>2</sub>-V3)

### 24 V power supply unit (integrated in the FM-L)

- Input voltage: 100-240 V
- Output voltage: 24 V
- Output current: 1,5 A

### RJ45-RJ45 connector

## 2. LST-CO<sub>2</sub>-V3

(see pages 4–5)

## 3. Ventilation element

- Reduce power loss by sealing the opening in the lift shaft.
  - Ventilates when needed
  - For vertical or horizontal installation
  - With or without weather protection, depending on the building type (see page 6)
- JK-180 – Louvre flap with spring return motor with mounting plate for integrated installation  
JK-190 and NK-SL – Louvre flaps with spring return motor for mounted installation

## 4. Roof hood Thermoflap

Pre-installed combination of weather protection hood, louvre (24V DC drive) and installation ring as a solution ready for installation.

# Mounting FM-L

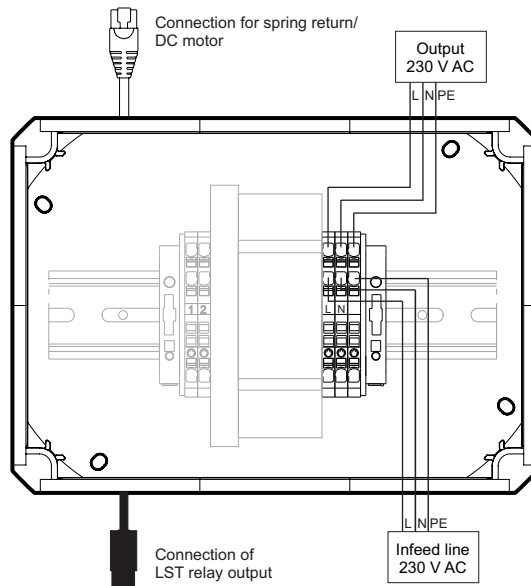
To keep cable lengths short, mount the FM-L as close to the opening as possible, and as high up as possible in the lift shaft. Attach the FM-L to the shaft wall using the external shackles provided. Shorten and secure the cables in the proper manner.

**Mounting material: 4x nail plugs**

# Connection diagram

### Notice:

All-pole OFF switch in the electrical system.



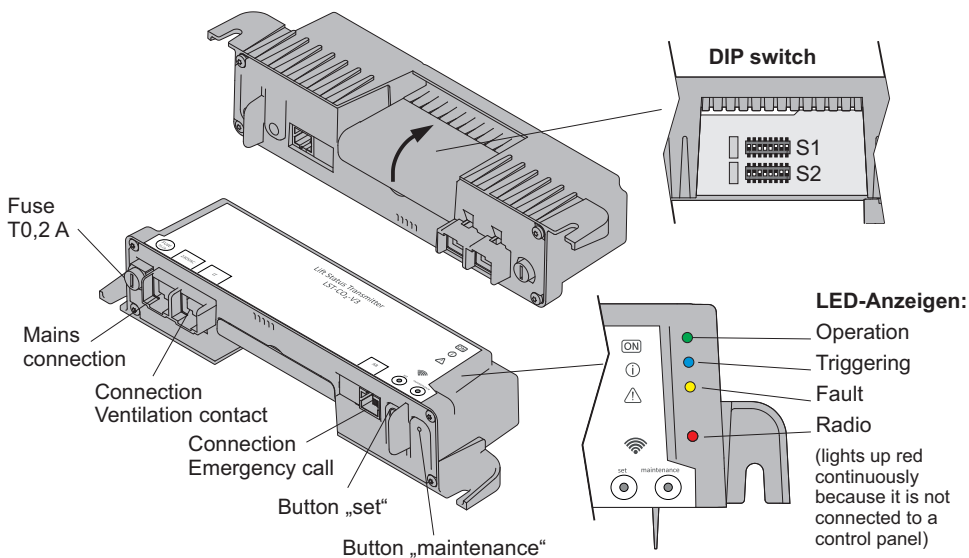
## Mounting – Lift Status Transmitter LST-CO<sub>2</sub>-V3

The LST-CO<sub>2</sub>-V3 is used to monitor the CO<sub>2</sub> content, air humidity and air temperature in the lift shaft. The resulting ventilation requirement is reported to the motor via the connection module. Installation is on the shaft wall near the FM-L.

### Performance features:

- Setting the ventilation functions via DIP switches
- Monitoring of the air quality in the car via integrated CO<sub>2</sub> sensor
- Temperature measurement
- Integrated LED indicators

In this system combination, the LST-CO<sub>2</sub>-V3 fulfils the above-mentioned performance features. Other functions – additionally listed below – do not come into play when used with the FM-L.



## LED displays – LST-CO<sub>2</sub>-V3

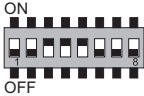
○ = LED does not light   ● = LED lights up   ◐ = LED flashes

ON	1x ◐	Normal operation
	2x ◐	Normal operation; movement in the last 10 min
	3x ◐	Maintenance mode
	4x ◐	Maintenance mode; movement in the last 10 min
i	○	There is no triggering.
	1x ◐	Triggering - increased air humidity
	2x ◐	Triggering - increased CO <sub>2</sub> content
	3x ◐	Triggering - increased temperature
	4x ◐	Triggering - registered breakdown
	5x ◐	There are several triggerings

!	○	There are no faults.
	1x ◐	There are no faults.
	2x ◐	CO <sub>2</sub> sensor communication disrupted
	3x ◐	Acceleration sensor system communication faulty
	4x ◐	Temperature sensor communication faulty
	5x ◐	Communication air humidity sensor faulty
Wi-Fi	6x ◐	There are various faults.
	● red	There are no faults.

# DIP switch settings – LST-CO<sub>2</sub>-V3

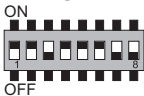
## S1



Factory settings

DIP switch S1		De- livery
<b>S1.1</b>	Monitoring the emergency call button input	OFF
<b>S1.2</b>	Configuration of the connected central processing unit	OFF
<b>S1.3</b>	Temperature monitoring	ON
<b>S1.4</b>	Air humidity monitoring	ON
<b>S1.5</b>	Monitoring the CO <sub>2</sub> content	ON
<b>S1.6</b>	Threshold value for temperature monitoring ON = 28 °C, OFF = 32 °C	OFF
<b>S1.7</b>	Threshold value for air humidity ON = 50 % RH, OFF = 60 % RH	OFF
<b>S1.8</b>	Threshold value for the CO <sub>2</sub> content ON = 1000 ppm, OFF = 1500 ppm	OFF

## S2



Factory settings

DIP switch S2			De- livery
Only relevant for the configuration of the connected central processing unit (S1.2).			
<b>Ventilation dependency</b>		<b>S2.1</b>	<b>S2.2</b>
No dependency		OFF	OFF
Utilisation-dependent ventilation: If the lift is used during the set ventilation interval (S2.5/S2.6), ventilation takes place at the end of the interval for the set ventilation duration (S2.3/S2.4).		OFF	ON
Time-dependent ventilation: After the ventilation interval (S2.5/S2.6) has drained, ventilation always takes place during a ventilation period (S2.3/S2.4).		ON	OFF
Combined ventilation: Without lift movement, ventilation every 10 hours for 10 minutes. In addition, if there is a lift movement in a running hour: ventilation for 5 minutes at the end of the hour.		ON	ON
<b>Ventilation duration</b>		<b>S2.3</b>	<b>S2.4</b>
5 min		OFF	OFF
10 min		OFF	ON
15 min		ON	OFF
20 min		ON	ON
<b>Ventilation interval</b>		<b>S2.5</b>	<b>S2.6</b>
1 h		OFF	OFF
3 h		OFF	ON
5 h		ON	OFF
10 h		ON	ON
<b>S2.7</b>	Contacts LT opens when triggered by CO <sub>2</sub> , temperature, humidity, maintenance or breakdown		OFF
<b>S2.8</b>	without function		OFF

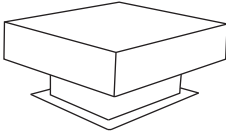
## Commissioning

DIP switch S2.7 must be set to ON for commissioning of the FM-L.

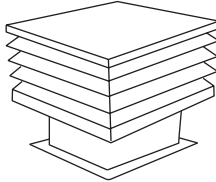
## Mounting - Weather protection HVC, HVL, ALAS

If there is no weather protection in front of the ventilation opening on site, appropriate weather protection must be correctly attached to the outer shell of the building.  
The ALAS grille can be guided through the wall opening from the inside and inserted into the opening. Then pull the ALAS grille up to the outer wall and fasten it to the wall with mounting brackets.

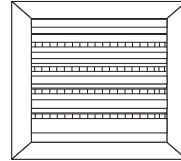
HVC  
Weather protection roof cover



HVL  
Louvre cover



ALAS  
Weather protection grille wall mounting



## Mounting – Thermoflap

The three subcomponents of the TF are pre-installed and delivered as a single unit, ready for installation.

- Place the TF roof hood on the opening.
- Make sure that the connection cable of the louvre points into the lift shaft.
- Fix the roof hood TF to the ceiling through the installation ring using the wall anchors.

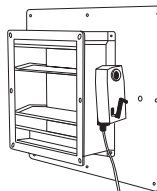
The thermal insulation can now be attached to the installation ring (the thermal insulation is part of the roof insulation and is always a customer-side service).

## Mounting - Ventilation flap JK 180, JK 190, NK-SL

**JK-180** – Ventilation flap with spring return motor with mounting frame for integrated installation

**JK-190, NK-SL** – Ventilation flap with spring return motor for surface mounting

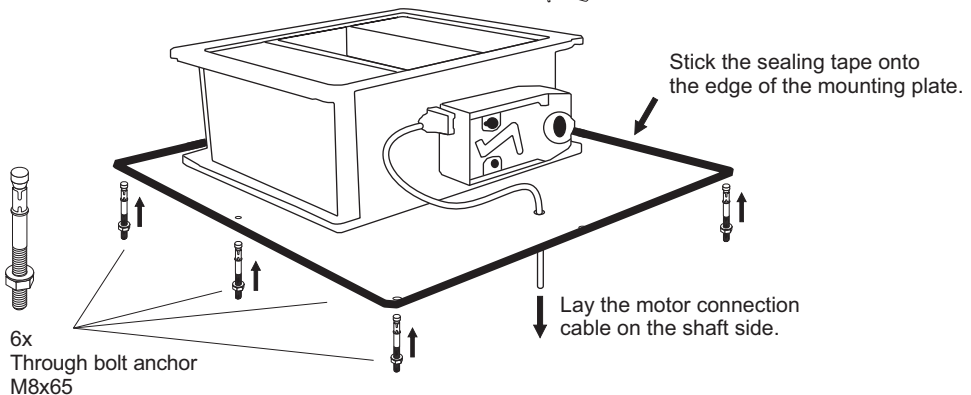
JK-180



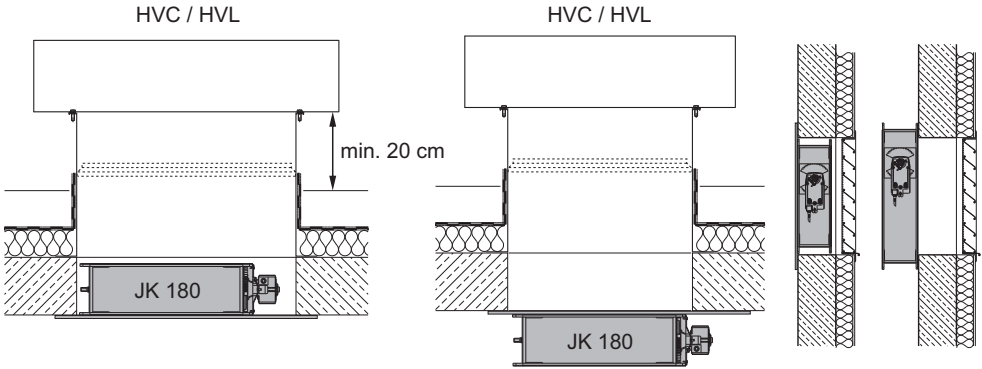
JK-190



NK-SL



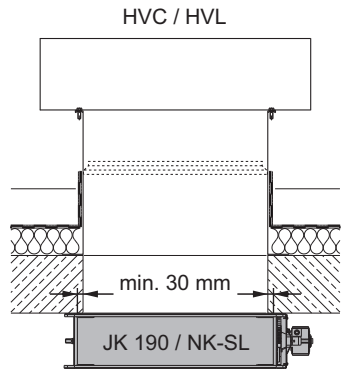
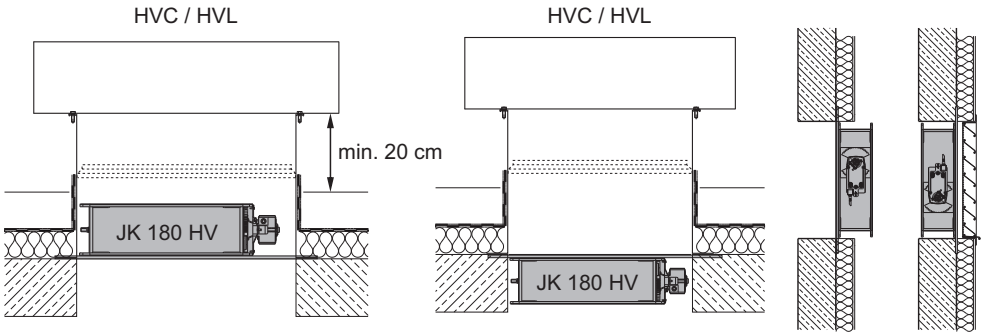
# Mounting - Ventilation flap JK 180, JK 190, NK-SL



**Standard mounting JK-180:**

The ventilation flap is inserted into the ceiling or wall from the inside.  
 If the existing opening is too small, the ventilation flap with motor can also be installed facing into the shaft.  
 Ensure the necessary protective space in the shaft head!

**Optional:** Flap is installed from above. If the shaft head is too high or difficult to reach, the motorised louvre flap is placed on the opening.



**Standard mounting JK-190:**

The ventilation flap is mounted from the inside in front of the ventilation opening.  
 The mounting direction is not relevant.  
 Keep a safety distance of at least 30 mm between the flange and the opening on both sides.  
 Ensure the necessary protective space in the shaft head!

## Maintenance and cleaning

Maintenance work is only allowed when the device is in a de-energized condition! Inspection and maintenance has to be carried out according to D+H maintenance notes. Only original D+H spare parts may be used. Repair is to be carried out exclusively by D+H. Wipe away debris or contamination with a dry, soft cloth. Do not use cleaning agents or solvents.

## Declaration of Conformity

We declare under our sole responsibility that the product described under "Technical Data" is in conformity with the following regulations:

2014/30/EU, 2014/35/EU, 2011/65/EU

S.I. 2016/1091, S.I. 2016/1011, S.I. 2012/3032

Technical file at:

D+H Mechatronic AG, D-22949 Ammersbek

Dirk Dingfelder  
CEO  
12.02.2025

Maik Schmees  
CTO

## Disposal

Electrical devices, accessories, batteries and packaging should be sorted for environmental-friendly recycling. Do not dispose electrical devices and batteries into household waste!

Only for EC countries:

According the European Guideline 2012/19/EU for waste electrical and electronic equipment and its implementation into national right, electrical devices that are no longer usable must be collected separately and disposed of in an environmentally correct manner.



# D+H

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