



LIMODOR
INNOVATION ON AIR

Accessories

Extensive accessories guarantee
reliable ventilation



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Controllers

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IMPRESSUM

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Function table ¹⁾

Accessory	General	LB AP	LB UP	LC/E AP	LC/E UP	LF/E UP	LF/M AP	LF/M UP	LW UP
Correction frame LV1	-	-	-	-	-	X	-	X	-
Extraction connector AS Ø75	-	-	-	-	-	X	-	X	X
Surface mounting set LF/M-AP	-	-	-	-	-	-	X	-	-
Motion module C-BM	-	-	-	-	-	-	X ³	X ³	-
Rotational speed regulators LDR-AC, LDR-EC	-	-	-	-	-	-	-	-	X
Remote control unit LFS1	-	X	X	-	-	X	X	X	-
Humidity module C-FR2, C-FR3	-	-	-	-	-	-	X ³	X ³	-
Humidity controller SFR	-	X	X	-	-	X	-	-	-
Filter trays LFWR, LFWO	X	-	-	-	-	X	-	X	X
Interval module C-IV	-	-	-	-	-	-	X ³	X ³	-
Interval relay SINR	-	X	X	X	X	X	-	-	-
Installation set LF/M-MS	-	-	-	-	-	-	-	X	-
Installation fixture MB	-	X	X	X	X	X	X	X	X
Time delay relays C-NR, C-NR/7, C-NR/TZ	-	-	-	-	-	-	X	X	-
Time delay relays SNR, SNR-E90, SNR-EAV	-	X	X	X	X	X	-	-	-
Timers	X	X	X	-	-	X	X	X	-
Control module LSM (24 volt)	-	X	X	-	-	X	X	X	-
Round air valve	X	-	-	-	-	X	X	X	X
Modification set LF/M-R LF/M-S	-	-	-	-	-	-	X	X	-
Front frame LV	-	-	-	-	-	X	-	-	-
Toilet extraction connector WS Ø50/40/30	-	-	X	X ²	X ²	-	-	X	-
Central control	-	X	X	-	-	X	X	X	-
Central control unit SZE	-	X	X	-	-	X	-	-	-

Table 1

¹⁾ All accessories not included in the table can be used for any LIMODOR device type.

²⁾ ...integrated in device

³⁾ ...only in conjunction with a time delay relay C-NR, C-NR/7 or C-NR/TZ

Time delay relay C-NR

with adjustable on-time and running time
suitable for LIMODOR F/M - Item No.: 55020

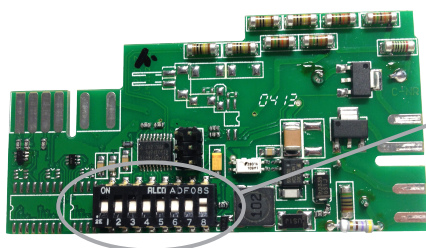
Time delay relay C-NR/7

with fixed running time (8 minutes)
suitable for LIMODOR F/M - Item No.: 55023

The electronic time delay relays types C-NR and C-NR/7 enable the LIMODOR individual fans LF/M to be switched on (C-NR) and off following a delay.

On the C-NR time delay relay, the on-delay time (ND) and the off-delay time (FD) can be configured independently via a DIP switch.

On the C-NR/7 time delay relay, the running time is fixed to approx. 8 minutes and cannot be altered. This running time is generally sufficient to ensure fresh air in the toilet.



DIP switch bank on C-NR

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☐	☐	☐	☒
OFF	☒	☒	☒	☒	☒	☒	☒	☐

e.g.: Running time – 16 min

A DIP switch with 8 switches is affixed to the reverse of the C-NR time delay relay, for configuration of the parameters listed below.

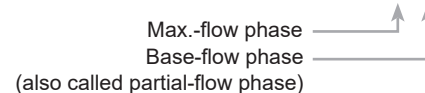
Inverse mode IB

DIP switch 1 is intended exclusively for base-flow devices (2-phase) and must be set to OFF for other types (single-phase blower units). The switch setting indicates whether, when switched on, the fan runs in the max.-flow phase or partial-flow phase. In normal mode with DIP switch 1 = OFF, the fan runs in the max.-flow phase with "LIGHT ON", and also in the max.-flow phase with "LIGHT OFF". If inverse mode (DIP switch 1 = ON) is activated, then the fan runs in the partial-flow phase with "LIGHT ON" and max.-flow mode with "LIGHT OFF".

Inverse mode IB

	ON	OFF
DIP-Switch 1	BF	MF

Only possible for LIMODOR F/M with base-flow (2-phase).
e.g.: Fan installation 2-phase → Fan installation LF/M 60/30



On-delay time EV

DIP switches 2-4 are used for the on-delay time, which is calculated from the sum of the 3 switches according to the table shown. Possible times are: 0.5, 1, 1.5, 2, 2.5, 3 and 3.5 minutes.

On-delay time EV

	ON	OFF
DIP-Switch 2	0,5	0
DIP-Switch 3	1	0
DIP-Switch 4	2	0

Off-delay time AV (running time)

DIP switches 5-8 are used for the running time. The total time is calculated from the sum of the individual DIP switches. Possible times are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 and 30 minutes.

Off-delay time AV

	ON	OFF
DIP-Switch 5	2	0
DIP-Switch 6	4	0
DIP-Switch 7	8	0
DIP-Switch 8	16	0

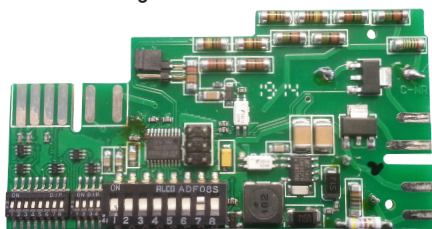
Time delay relay C-NR/TZ

with configurable on time, run time, interval time, etc.
suitable for LIMODOR F/M - Item No.: 55033

The electronic time delay relay C-NR/TZ provides the following configuration options (through a series of DIP switches):

- On- and off-time delay
- Interval mode
- Central control of several LIMODOR F/M individual fans (via control cables)

On the reverse of the C-NR/TZ time delay relay, there are three DIP switch banks, with 8, 4 and 8 switches respectively, where the various parameters can be configured.



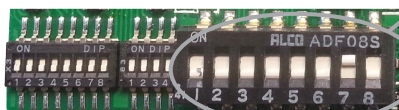
DIP switch bank 1 (8 switches)
DIP switch bank 2 (4 switches)
DIP switch bank 3 (8 switches)



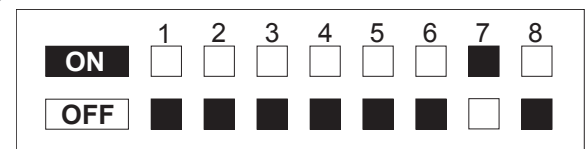
DIP switch bank 1

(as max.-flow timer → on- and off-delays only affect the max.-flow phase)

In this case, the switch bank is identical to that of time delay relay C-NR (Item No.: 55020), and the explanation of the individual DIP switches (inverse mode, on- and off-delay) can therefore be found on the previous page.



DIP switch bank 1 on C-NR/TZ



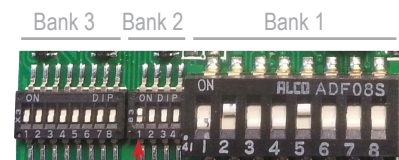
e.g.: Running time – 8 min

DIP switch bank 1

(as max.- and/or partial-flow timer → on- and off-delays affect the max.- and/or partial-flow phases)

Information regarding dual allocation of DIP switch bank 1

DIP switch bank 1 has two functions. The following configuration options for DIP switch bank 1 are only available when DIP switch 1 is activated on bank 2!



Max.-flow timer / partial-flow timer

DIP switches 1-2 allow a running time or on-time delay to be configured for the max.- and partial-flow fan phases. The time specifications are identical for the two fan phases.

Max.-flow timer / partial-flow timer

	ON	OFF
DIP-Switch 1	MF	MF
DIP-Switch 2	BF	BF

DIP-switch 2 - can only be used for LIMODOR F/M with base-flow (2-phase).

e.g.: Fan installation 2-phase → Fan installation LF/M 60/30

On-delay time EV

DIP switches 3-4 are used for the on-delay time, which is calculated from the sum of the two switches according to the table shown. Possible times are: 1, 2, and 3 minutes.

On-delay time EV

	ON	OFF
DIP-Switch 3	1	0
DIP-Switch 4	2	0

Off-delay time AV (running time)

DIP switches 5-8 are used for the running time. The total time is calculated as the sum of the individual DIP switches. Possible times are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 and 30 minutes.

Off-delay time AV

	ON	OFF
DIP-Switch 5	2	0
DIP-Switch 6	4	0
DIP-Switch 7	8	0
DIP-Switch 8	16	0

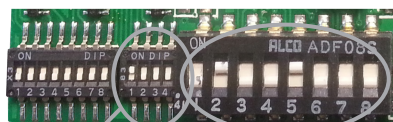
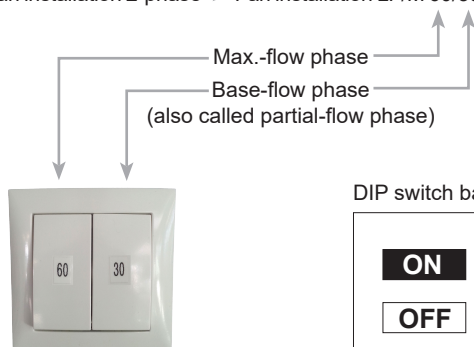
Example – 1

LIMODOR F/M with 2 fan phases

Max.-flow phase – without running time

Partial-flow phase – with a running time of 2 minutes

e.g.: Fan installation 2-phase → Fan installation LF/M 60/30



DIP switch bank 2 on C-NR/TZ

	1	2	3	4
ON	☒	☐	☐	☐
OFF	☐	☒	☒	☒

DIP switch bank 1 on C-NR/TZ

	1	2	3	4	5	6	7	8
ON	☐	☒	☐	☐	☒	☐	☐	☐
OFF	☒	☐	☒	☒	☐	☒	☒	☒

Example – 2

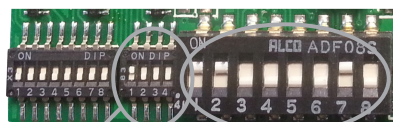
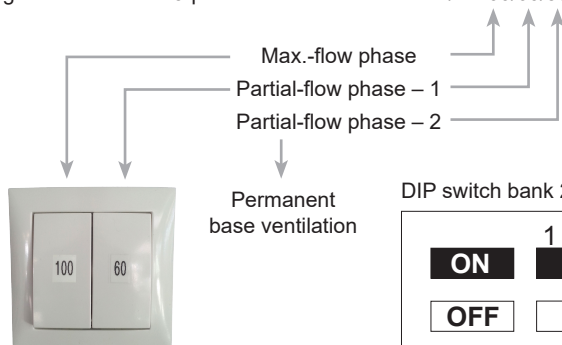
LIMODOR F/M with 3 fan phases

Max.-flow phase – with a running time of 8 minutes

Partial-flow phase – 1 – with a running time of 8 minutes

Partial-flow phase – 2 – permanent base fan (runs 24/7)

e.g.: Fan installation 3-phase → Fan installation LF/M 100/60/30



DIP switch bank 2 on C-NR/TZ

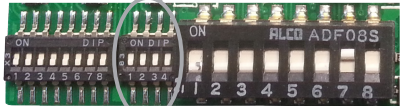
	1	2	3	4
ON	☒	☐	☐	☐
OFF	☐	☒	☒	☒

DIP switch bank 1 on C-NR/TZ

	1	2	3	4	5	6	7	8
ON	☒	☒	☐	☐	☐	☐	☒	☐
OFF	☐	☐	☒	☒	☒	☒	☐	☒

DIP switch bank 2

DIP switch bank 2 has a superordinate function and always takes priority when the DIP switch is activated.



DIP switch bank 2 on C-NR/TZ

	1	2	3	4
ON	☐	☐	☐	☐
OFF	☒	☒	☒	☒

Dual allocation switch bank 1

DIP switch 1 is used for the dual allocation of switch bank 1 (explanation on page 5 – shown in red).

Exchange fan phases – max.-flow to partial-flow

When DIP switch 2 is set to “ON”, the max.-flow phase becomes a partial-flow phase. As an example application, take the case where the internal motion detector (located in the cover plate) does not switch the fan to max.-flow phase, but rather into the partial-flow phase.

Mute

DIP switch 3 is used to switch the fan off when “ON” is set and terminals 3 and 4 are not allocated, providing there is voltage. (Mute only suitable for 3-phase LIMODOR F/M)

Max.-flow off switch

When “ON” is set and the fan is in “switch mode”, it automatically switches from max.-flow to the partial-flow phase after 30 minutes. (e.g.: with LIMODOR F/M 60/30 = 30 m³/h)

Activate max.-/partial-flow timer

DIP-Switch 1	ON	OFF
--------------	----	-----

Exchange fan phases

	ON	OFF
DIP-Switch 2	BF	MF

Mute

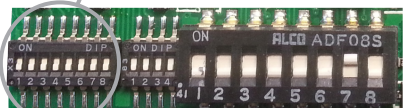
DIP-Switch 3	ON	OFF
--------------	----	-----

Max.-flow off switch

DIP-Switch 4	ON	OFF
--------------	----	-----

DIP switch bank 3

DIP switch bank 3 can be used to configure “interval mode” and the “central controller”.



DIP switch bank 3 on C-NR/TZ

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☐	☐	☐	☐
OFF	☒	☒	☒	☒	☒	☒	☒	☒

Priority switch

As soon as DIP switch 1 is set to “ON”, the room switch has priority over the central controller (where available).

Mode

DIP switch 2 – the fan flow rate (max.-/partial-flow phase) must be specified in 1-channel operation.

Interval mode – flow rate

DIP switch 3 specifies the fan flow rate (max.-/partial-flow phase) in interval mode.

Interval mode – operating time

DIP switches 4 and 5 – in interval mode, the fan runs for the time specified under “ON”. The total time is calculated from the sum of the two switches according to the table shown. Possible times are: 30, 60, and 90 minutes. Further configuration options relating to interval mode are provided by interval module C-IV (Item No.: 55021).

Interval mode – interval time

DIP switches 6–8 – when “ON” is set, the fan runs in max.- or partial-flow phase after the configured interval time. Each time the device switches off, the interval time resets. Possible times are: 1, 2, 3, 4, 5, 6 and 7 hours.

Priority switch

DIP-Switch 1	ON	OFF
--------------	----	-----

Mode

	ON	OFF
DIP-Switch 2	MF	BF

Flow rate

	ON	OFF
DIP-Switch 3	MF	BF

Operating time

	ON	OFF
DIP-Switch 4	30	0
DIP-Switch 5	60	0

Interval time

	ON	OFF
DIP-Switch 6	1	0
DIP-Switch 7	2	0
DIP-Switch 8	4	0

Interval module C-IV

with configurable interval times

suitable for LIMODOR F/M - Item No.: 55021

The interval module C-IV is used to switch the fan on automatically following a variable configurable interval time (IZ); the fan then runs for the configured operating time (BZ) and automatically switches off again. If the fan is switched on via the light switch during the operating time (BZ), then the settings for the time delay relay C-NR or C-NR/7 apply. At the end of the process, the fan continues from where it was interrupted by the light switch. The operating mode (BA) – max.- or partial-flow – can also be configured during the operating time.

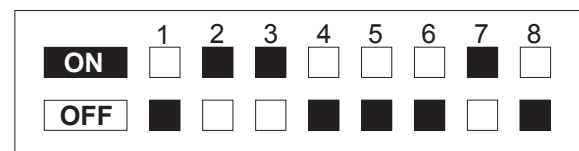
WARNING !!!

The interval relay C-IV can only be used in conjunction with time delay relays C-NR, C-NR/7 and C-NR/TZ. On- and off-time delays are configured by time delay relays.



The reverse of the C-IV interval module has a DIP switch with 8 switches, for configuration of the parameters listed below.

DIP switch bank on C-IV



e.g.:

Fan switches to max.-flow phase (DIP switch 1) at an interval of 4 hours (DIP switch 7) for a duration of 30 minutes (DIP switches 2+3).

Operating mode BA

DIP switch 1 is only to be used for base-flow devices; for other variants (single-phase blower units), it must be switched to OFF.

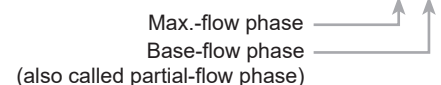
The switch setting indicates whether the fan runs in the max.-flow phase or partial-flow phase during the operating time. In normal mode with DIP switch 1 = OFF, the fan runs in the max.-flow phase. If DIP switch 1 is set to ON, the fan runs in the partial-flow phase.

Operating mode BA

	ON	OFF
DIP-Switch 1	BF	MF

Only possible for LIMODOR F/M with base-flow (2-phase).

e.g.: Fan installation 2-phase → Fan installation LF/M 60/30



Operating time BZ

DIP switches 2-4 are used to set the operating times, which are calculated from the sum of the DIP switches according to the table shown. Possible times are: 10, 20, 30, 40, 50, 60 and 70 minutes.

Operating time BZ [min]

	ON	OFF
DIP-Switch 2	10	0
DIP-Switch 3	20	0
DIP-Switch 4	40	0

Interval times IZ

DIP switches 5-8 are used to configure the interval time. The total time is calculated from the sum of the individual DIP switches according to the table shown.

Possible times are: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 hours.

Interval time IZ [h]

	ON	OFF
DIP-Switch 5	1	0
DIP-Switch 6	2	0
DIP-Switch 7	4	0
DIP-Switch 8	8	0

Humidity module C-FR2

with summer/winter logic (humidity sensor in cover)
suitable for LIMODOR F/M - Item No.: 55025

The humidity module C-FR2, in conjunction with a time delay relay C-NR, C-NR/7 or C-NR/TZ, serves to protect sanitary facilities and wet rooms from excessively high air humidity and to prevent mould from developing on the walls. Using the integrated summer/winter logic, the device identifies whether the humidity originates from an internal damp source (shower, drying laundry, etc.) or from the air outside (rain, snow, etc.). When using humidity module C-FR2, no permanent base-flow phase is necessary, since the sensor is external to the fan and it continually measures and evaluates the air humidity even when the fan is turned off. This not only saves energy, but also controls and regulates the room humidity.

Function

The humidity module is equipped with summer/winter logic. When there is a detectable increase in air humidity in the room, the fan is automatically activated via the C-FR2. The fan will run (in the max.-flow phase – 45, 60 or 100 m³/h, depending on the fan type being used) until the original air humidity in the room is reached or the maximum running time is reached. This ensures that once the external humidity exceeds the air humidity in the room, the fan switches off at the end of the maximum running time, since it is no longer possible to reduce the air humidity in the room. Sleep mode (button combination ON-OFF-ON-OFF) can be used to deactivate the humidity module for 12 hours. If the unit is switched back on, sleep mode will be disabled.

WARNING !!!

Humidity module C-FR2 can only be used in conjunction with time delay relays C-NR, C-NR/7 and C-NR/TZ. On- and off-time delays are configured by time delay relays.

The maximum running time can be configured on the humidity module board by means of a shunt.

Shunt on contact	1-2	2-3
Maximum running time [min]	20	240

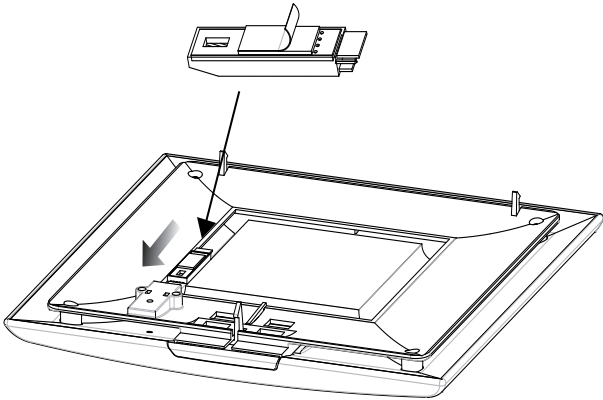
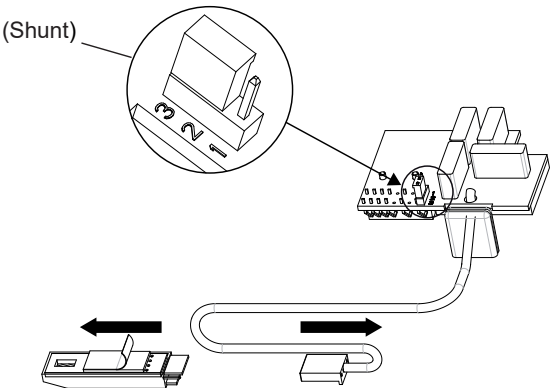
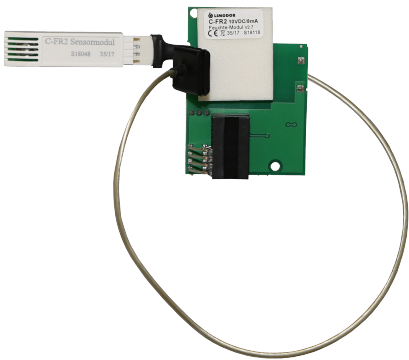
Humidity sensor assembly

Disconnect the cable from the humidity sensor and remove the protective tape from the adhesive film (underside of the sensor). Stick the humidity sensor to the back of the device cover in the recess provided, and reconnect the cable.

Connection recommendation

It is essentially not a problem to have the fan switching on automatically only via the humidity module C-FR2, with no additional switch. However, it is recommended that a separate switch is provided for the fan. This has the clear advantage that the fan can be turned on at any time, as and when required. For example, if an unpleasant smell oc-

curs in the bathroom (bathroom toilet), the fan can be activated with a switch whenever required, while the functionality that automatically activates the fan when it detects an increase in air humidity remains active as before.



Humidity module C-FR2/G

with summer/winter logic (humidity sensor in cover)

suitable for LIMODOR F/M - Item No.: 55034

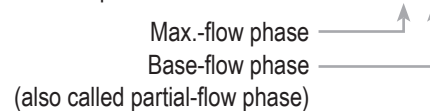
The humidity module C-FR2/G is visually identical to humidity module C-FR2 (Item No.: 55025). The only functional difference is that the C-FR2 switches to max.-flow phase on detecting an increase in humidity, while the C-FR2/G switches to the base-flow phase. (Humidity module C-FR2/G therefore requires a 2-phase fan installation!) Apart from this, all settings/options – summer/winter logic, configurable maximum running time (20/240 min), etc. – are the same as for the C-FR2.

WARNING !!!

Humidity module C-FR2/G can only be used in conjunction with time delay relays C-NR, C-NR/7 and C-NR/TZ. On- and off-time delays are configured by time delay relays.

Only possible in combination with a 2-phase fan installation!

e.g.: Fan installation 2-phase → Fan installation LF/M 60/30



Humidity module C-FR3

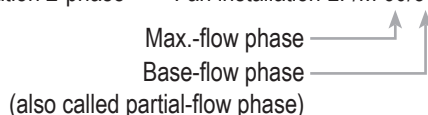
with summer/winter logic (humidity sensor in device)

suitable for LIMODOR F/M - Item No.: 55032

The humidity module C-FR3, in conjunction with a time delay relay C-NR, C-NR/7 or C-NR/TZ, serves to protect sanitary facilities and wet rooms from excessively high air humidity and to prevent mould from developing on the walls. Using the integrated summer/winter logic, the device identifies whether the humidity originates from an internal damp source (shower, drying laundry, etc.) or from the external air (rain, snow, etc.). When using humidity module C-FR3, the fan installation requires a permanent base-flow phase (the fan runs permanently with a low flow rate), so that the humidity sensor located in the device measures the correct values.

Permanent base-flow phase: requires a multi-phase fan installation (two or more flow-rate phases).

e.g.: Fan installation 2-phase → Fan installation LF/M 60/30



Function

The humidity module is equipped with summer/winter logic.

If an increase in humidity is detected, the fan will be automatically switched from the permanent base-flow phase (25, 30 or 40 m³/h, depending on the fan type being used) to the max.-flow phase (45, 60 or 100 m³/h, depending on the fan type being used). The fan will run in max.-flow phase until the original air humidity in the room is reached or for the maximum running time – whichever happens first; the fan then automatically switches back to the base-flow phase.

This ensures that as soon as the external humidity exceeds the air humidity in the room, the fan switches back into base-flow phase at the end of the maximum running time, since it is not possible to reduce the air humidity in the room.

Sleep mode (button combination ON-OFF-ON-OFF) can be used to deactivate the humidity module for 12 hours. If the unit is switched on again, sleep mode will be disabled.



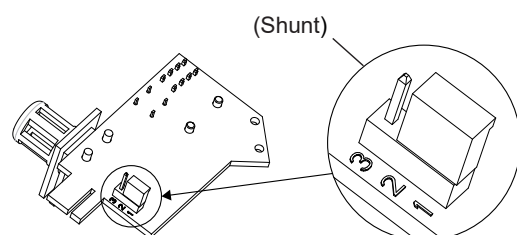
WARNING !!!

The humidity module C-FR3 can only be used in conjunction with time delay relays C-NR, C-NR/7 and C-NR/TZ. On- and off-time delays are configured by time delay relays.

Only possible in combination with a 2-phase fan installation!

The maximum running time can be configured on the humidity module board by means of a shunt.

Shunt on contact	1-2	2-3
Maximum running time [min]	20	240



Motion module C-BM

for automatic on/off fan operation

suitable for LIMODOR F/M - Item No.: 55028

The motion detector provides wireless motion-controlled operation of a LIMODOR individual ventilation device of type LIMODOR F/M with time delay relay C-NR, C-NR/7 or C-NR/TZ. If there is no time delay relay, it is not possible to install the motion detector C-BM.

The sensor used is a passive infra-red type; this type of sensor recognises changes to infrared radiation (radiated heat) caused by the motion of people (or objects), i.e. a temporal change to the temperature gradients in the detection field. Due to their constant body (heat) radiation, this sensor is ideally suited to recognising people.

Function

The integrated motion sensor in the cover plate reacts to moving radiated heat; it sets the fan device in operation when a person enters the sensor area or remains within it. The fan running time ends as soon as the person leaves the sensor area and at the end of the configured (C-NR, C-NR/TZ) or fixed (C-NR/7 – approx. 8 minutes) running time of the time delay relay.

Motion sensor assembly

The motion sensor is already screwed into the cover plate. Connect the cable from the motion module to the motion sensor.

Installation tips

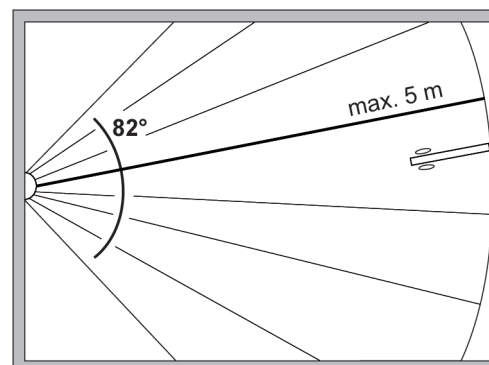
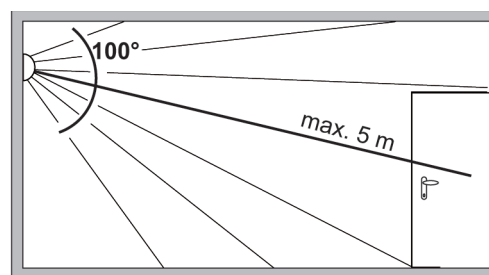
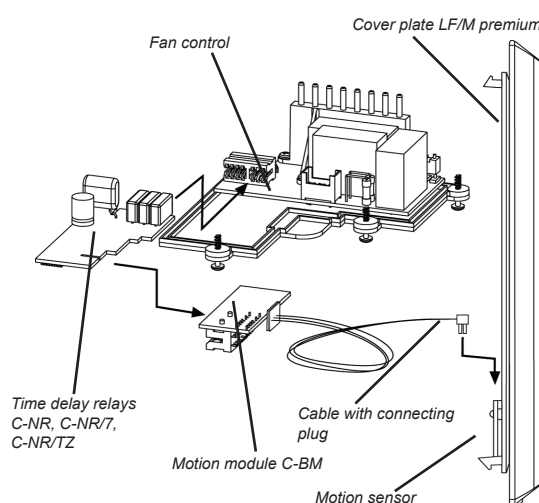
The fan should be mounted such that the sensor located in the cover is able to quickly and reliably capture people who use the room. The wall opposite the entrance door is ideal for this purpose. It should furthermore be ensured that the line of sight from the sensor to the person is clear, and there are no walls, glass screens or other objects that could negatively influence detection.

In particular, take care to observe the range limit (5 metres) and the sensor's limited angular range.

NaPiOn motion sensors are passive infrared sensors that detect changes to radiated heat. They therefore recognise moving objects that have a temperature different from the background temperature.

The following could lead to incorrect sensor behaviour:

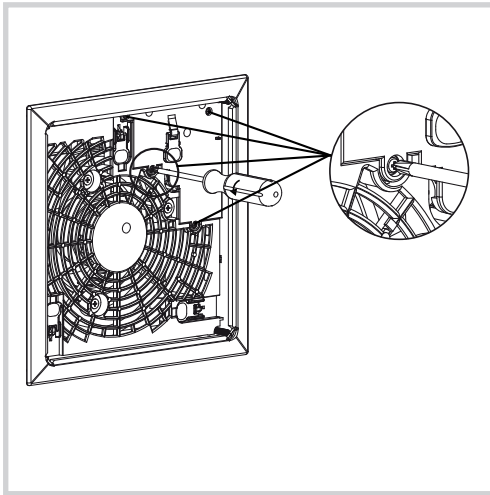
- Small animals (cats, dogs, etc.).
- Rapid changes to air temperature, for example resulting from switching on air conditioning, fan heaters, etc.
- IR filters located in front of the sensor, such as glass or acrylic, which absorb part of the radiated heat, so that objects are no longer recognised.
- If a heat source is moving very quickly or very slowly, it cannot be detected.
- If the temperature gradient between the object and environment is more than 20°C, the range increases.



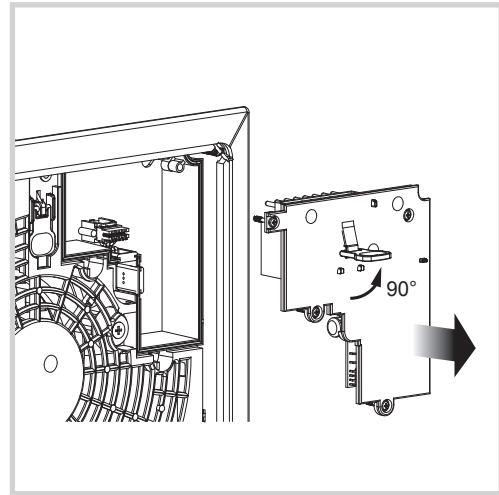
WARNING !!!

The motion module C-BM can only be used in conjunction with time delay relays C-NR, C-NR/7 and C-NR/TZ. On- and off-time delays are configured by time delay relays.

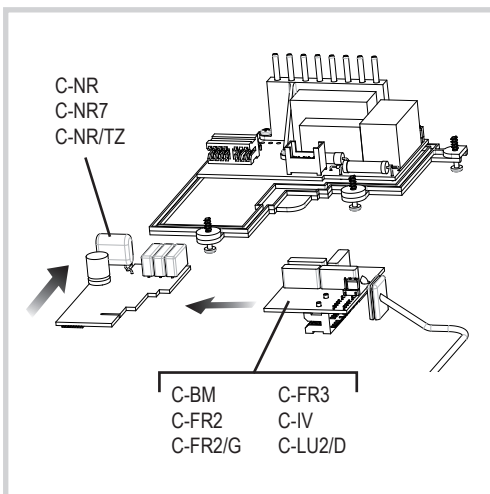
ASSEMBLY of additional modules



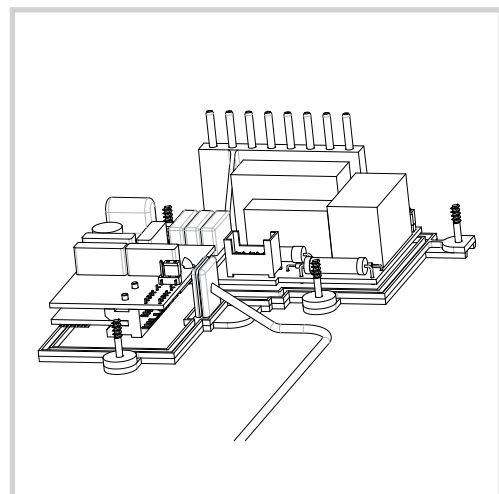
Loosen the screws for the motor controller in the fan installation.



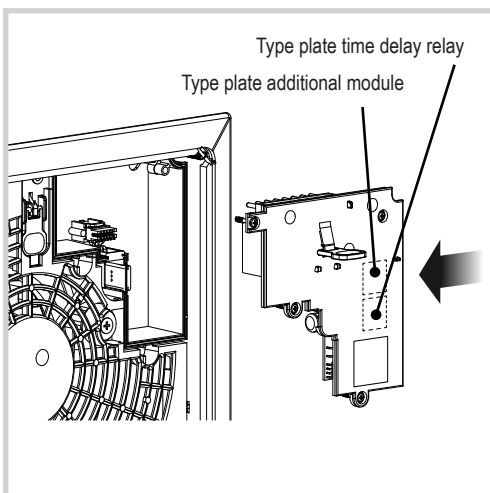
Adjust the red clip to 90 degrees and use it to pull out the motor controller.



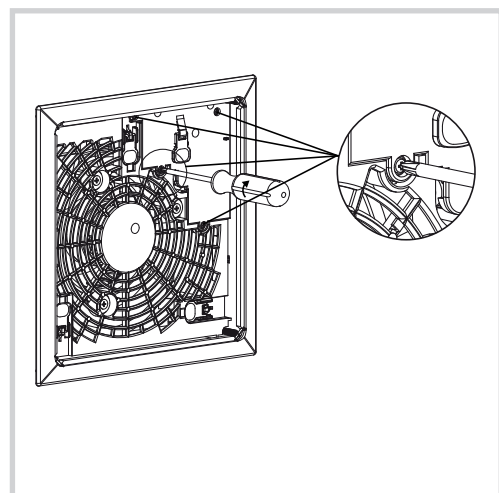
Plug additional module(s) into time delay relay



Plug time delay relay into motor control



Stick controller type plates to the motor controller and fan installation.



Screw in motor controller

Remote control unit LFS1

for central control of several LIMODOR individual fans

Item No.: 55015

The remote control unit LFSE is used to transmit central control commands to LIMODOR single ventilation units of the type F / M, which are equipped with the central control module C-NR/TZ (Item No.: 55033). This control is particularly suitable for nursing home where the fans are turned off at night or centrally, where at certain times the fans must be operated at full load. Wherever you want to switch all fans on / off via a central unit, operate with partial / full load, this controller is to be used.

Technical data

Voltage	230VAC/50Hz
Input voltage S1-S4	230VAC/50Hz
Output voltage F+/F-	230VAC (control impulse)
Output voltage with LSM24V ¹⁾	24VAC (control impulse)
Switching capacity	max. 40 fans
Max. length remote control line	300 m
Permitted ambient temperature	-10°C to +55°C
Dimensions (LxWxH)	90x36x57 mm
Distributor installation	35 mm profile track

¹⁾ use shielded control line.

Channel allocation

A 2-wire remote control line (230VAC or 24VAC) can be used to transmit up to 4 channels to the connected fans, taking the priorities (1 to 4) into account.

Channel	Function	Description	Priority
S1	Max.-flow	All fans in the max.-flow phase	2
S2	Partial-flow	All fans in the partial-flow phase	3
S3	Night switch	All fans in the partial-flow phase when switched on	4
S4	Mute	All fans switched off	1

Table 2

Terminal configuration

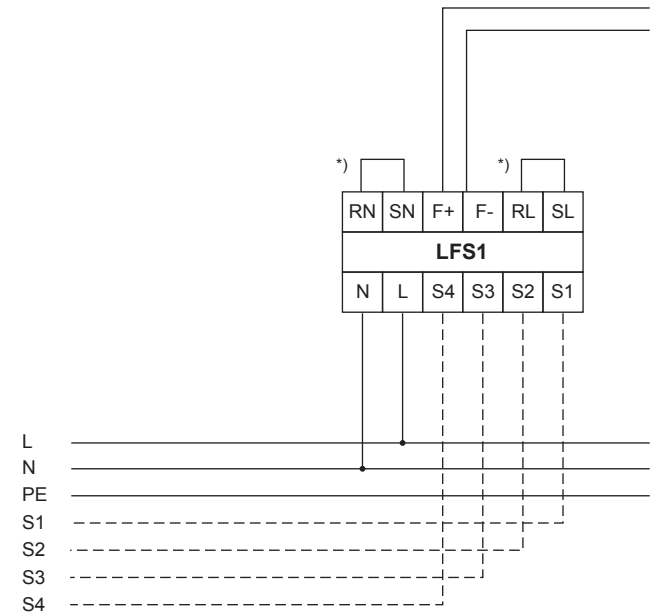
- F+ = Remote control line phase 230/24VAC (control impulse)
- F- = Remote control line neutral 230/24VAC (control impulse)
- S1 = Control input 1 – 230VAC/50Hz; max.-flow
- S2 = Control input 2 – 230VAC/50Hz; partial-flow
- S3 = Control input 3 – 230VAC/50Hz; night mode
- S4 = Control input 4 – 230VAC/50Hz; mute
- RN = Control input neutral 24VAC
- RL = Control input phase 24VAC
- SN = Control input neutral 230VAC
- SL = Control input phase 230VAC



Electric connection example

230 VAC control line

Remote control line 230 VAC



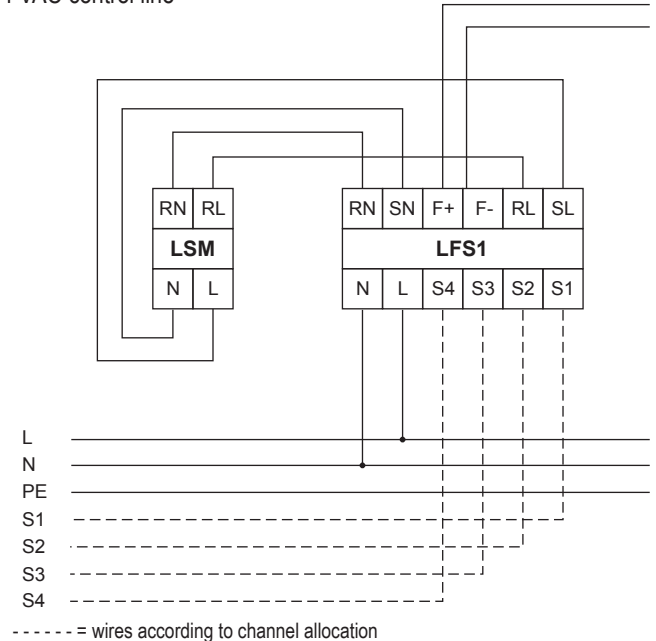
*) Install jumpers if no LSM24V is used.

----- = wires according to channel allocation

Electric connection example

24 VAC control line

Remote control line 24 VAC



----- = wires according to channel allocation

Control unit LSM

for central control of several LIMODOR individual fans at 24 volts
Item No.: 55016

The LSM control unit transmits control commands at 24 volts to LIMODOR individual fan devices of type F/M equipped with central control module C-NR/TZ.

Technical data

Input voltage230VAC/50Hz
Output voltage24VAC/50Hz ¹⁾
Switching capacity12VA/0,5A
Permitted ambient temperature-10°C to +55°C
Dimensions (LxWxH)92x52x62 mm
Distributor installation35 mm profile track

¹⁾ use shielded control line.

Terminal configuration

- 2 = Control input neutral 230VAC
- 3 = Control input phase 230VAC
- 6 = Control output neutral 24VAC
- 7 = Control output phase 24VAC



Timers LU1, LU4

for central control of several LIMODOR individual fans

LU1 – Item No.: 55018

LU4 – Item No.: 55017

The timers LU1 and LU4 provide central control of LIMODOR individual ventilation devices type F/M that are fitted with central control module C-NR/TZ.

The timer LU4 can be used in conjunction with remote control unit LFS1 to control fans individually according to the channel allocation list (p. 13).

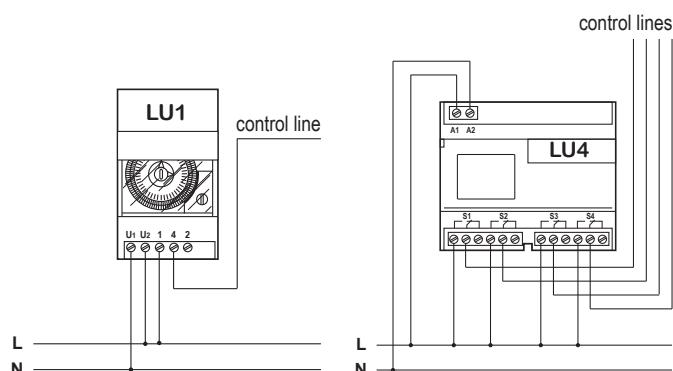


Electric connection

Technical data

	LU1	LU4
Voltage	230VAC, 50Hz	230VAC, 50/60Hz
Switching capacity	16A, cos φ = 1	4 x 10A, cos φ = 1
Number of channels	1	4
Presets		58
Switching step	15 min	1 min
Shortest switching distance	30 min	1 min
Shortest switching distance	+/- 5 min	-
Time basis	sync motor	quartz
Power backup	none	100 h
Accuracy	mains sync	+/- 2,5 sec/day
Distributor installation	35 mm track	35 mm track
Device width	3 modules	6 modules

Table 3

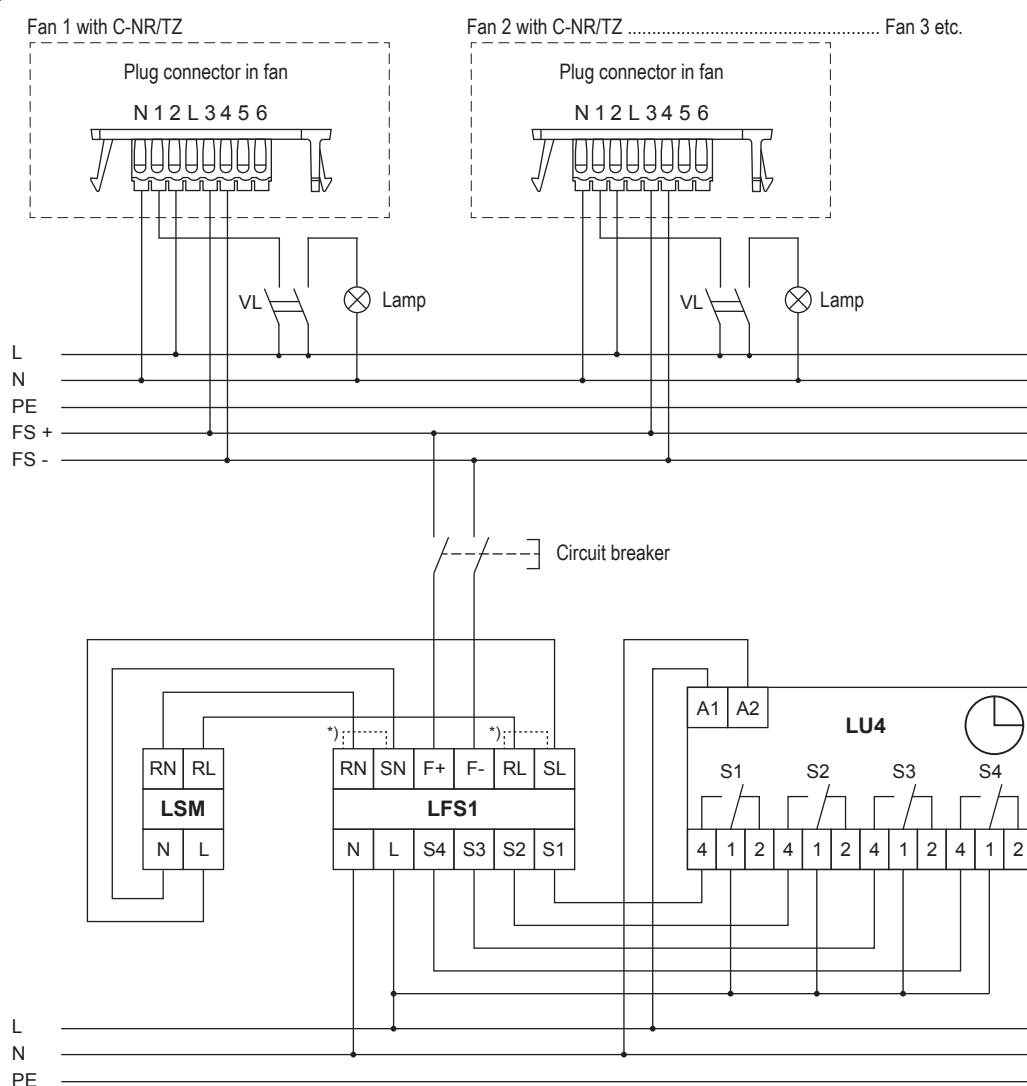


Central control of LIMODOR individual ventilation devices

In order to be able to control several LIMODOR ventilation devices F/M from a central control, a time delay relay C-NR/TZ is needed for signal reception in the fan. A 230VAC or 24VAC control line and the remote control unit LFS1 with/without 24 volt control unit LSM. Timers, external humidity regulators, CO2 switches, etc. can be used for the switching cycles. 4 channels are available in total (see remote control unit LFS1). Ensure that there is a priority sequence for each channel.

Electric connection example

Connection with 4-channel timer LU4 and 24 volt control line. LIMODOR ventilation devices with base-flow phase (e.g. LF/M 60/40, 100/40). All 4 channels are controlled via the timer. However, individual channels can also receive commands via other controllers – e.g. CO2 switches, humidity regulators etc.



LSM = Control module LSM (24 volt)
 LFS1 = Remote control unit LFS1
 LU4 = Timer (with 4 channels)

*) These two jumpers only need to be used if there is no control module LSM in use.

Time delay relay LNR

with configurable running time

Item No.: 55002

Time delay relay LNR-EAV

with adjustable on-time and running time

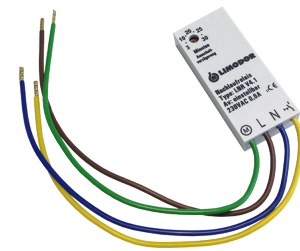
Item No.: 55013

The electronic time delay relays types LNR and LNR-EAV enable LIMODOR ventilation devices to be switched on, and off (LNR), with a time delay.

The time delay relay LNR-EAV enables independent, continuous configuration of the on-time delay (ND) and the off-time delay (FD) using a potentiometer.

When using the time delay relay LNR, only the off-time delay (FD) can be configured in this way.

These time delay relays are suited to installation in the switch box or distributor box.



On-delay time EV

Continuously configurable from 0.02–2.5 min via potentiometer.

Off-delay time AV (running time)

Continuously configurable from 3–30 min via potentiometer.

Technical data

Voltage	230VAC/50Hz
Rated current range	0,6A
Protection class	IP54

Interval delay relay LINR

with configurable interval time, running time and operating time

Item No.: 55031

The interval delay relay LINR is used to switch the fan on automatically after a variable configurable interval time (IZ); it then runs for the configured operating time (BZ) and automatically switches off again. The relay also includes a configurable off-time delay.

The interval delay relay LINR enables independent, continuous configuration of the interval time (IV) and the operating time (BA) using a potentiometer.

The off-time delay (AV) is identical to the operating time (BA), as it is configured using the same potentiometer.

This interval delay relay is suited to installation in the switch box or distributor.



Interval times IZ

Continuously configurable from 1–12 hours via potentiometer.

Operating time BA = Off-time delay AV

Continuously configurable from 5–30 min via potentiometer.

Technical data

Voltage	230VAC/50Hz
Rated current range	0,6A
Protection class	IP54

Time delay relay LNR-W

with configurable on-time and runtime

Item No.: 55040

The electronic time delay relay type LNR-W enables LIMODOR ventilation devices to be switched on and off with a time delay.

With the time delay relay LNR-W, the on-time delay (EV) and the off-time delay (AV) can be configured independently and continuously using a potentiometer.

The LNR-W can be used with a rated current range of up to 6.0 Amperes.

This time delay relay is suited to installation in the switch box or distributor.



On-delay time EV

Continuously configurable from 0.02–2.5 min via potentiometer.

Off-delay time AV (running time)

Continuously configurable from 3–20 min via potentiometer.

Technical data

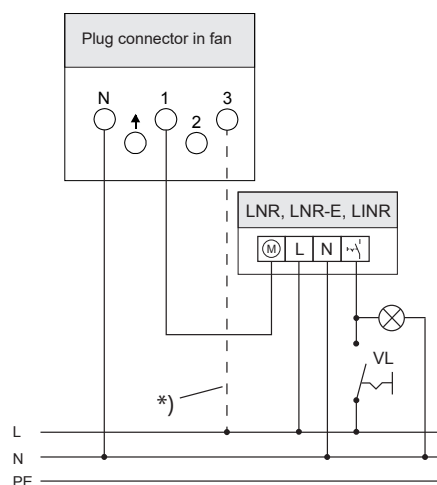
Voltage230VAC/50Hz

Rated current range6,0A

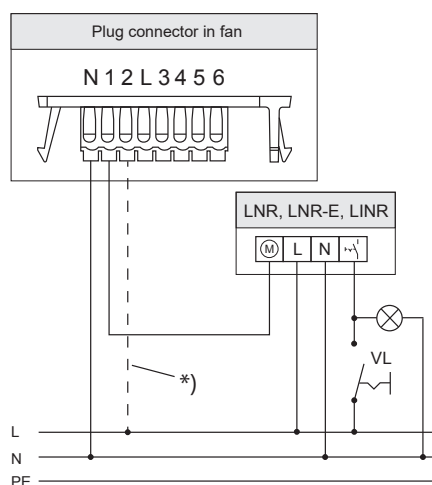
Protection classIP54

Circuit examples

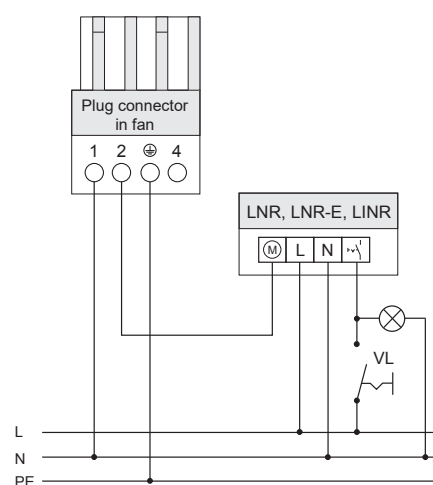
LIMODOR B, C/E, F/E



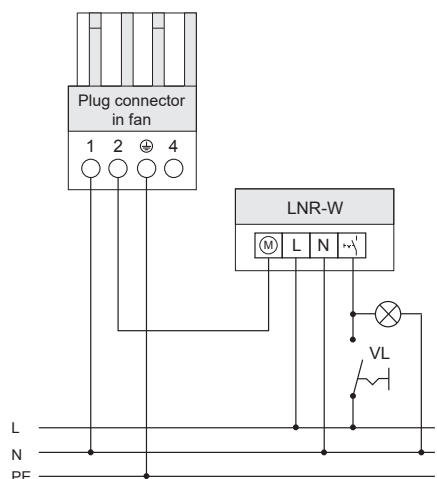
LIMODOR F/M



LIMODOR W - Blower AC385



LIMODOR W - Blower AC485
- Blower EC390



VL = Max.-flow
*) = partial-flow
(also called base-flow)

The following blowers, due to their max. current consumption, can only be used in conjunction with time delay relay LNR-W (Item No.: 55040):

- Blower LW-AC485 (Item No.: 42006)
- Blower LW-EC390 (Item No.: 42007)

Not possible to combine with relays LNR, LNR-EAV, LINR!

Time delay relay SNR

with 7 minute running time in plug-in design
suitable for LB, LC, LF/E – Item No.: 55006

Time delay relay SNR-E90

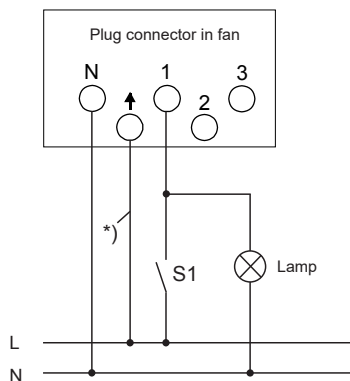
with 7 minute running time and 90 second on-time delay
suitable for LB, LC, LF/E – Item No.: 55012

The plug-in electronic time delay relay SNR enables LIMODOR ventilation devices to be switched off after a delay of 7 minutes. The SNR-E90 is functionally equivalent to the SNR, but with an on-time delay of 90 seconds.



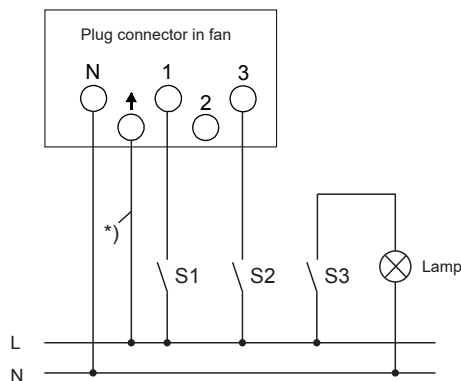
Circuit examples

Normal circuit with or without plug-in relay
LIMODOR B, C/E, F/E



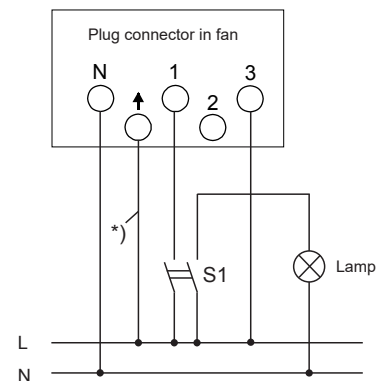
S1.....Fan/lamp switch

Device for 2 fan phases
LIMODOR B 60/30



S1.....Fan switch max.-flow
S2.....Fan switch partial-flow (base-flow)
S3.....Lamp switch

Device with permanent base-flow
LIMODOR B 60/30

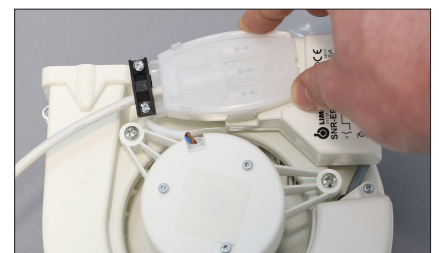


S1.....2-pole fan / lamp switch

*) This connection is necessary with every plug-in relay

WARNING! For partial-flow devices (base-flow devices), the light must always be switched on/off using a 2-pole switch.

Installation



The time delay relay for LIMODOR B, C and F/E simply plugs in between the plug connection (on the blower) and the plug-in terminal.

Time delay relay SNR-EAV

with configurable on-time and running time

suitable for LB, LC, LF/E – Item No.: 55005

The electronic time delay relay type SNR-EAV enables LIMODOR individual fans to be switched on and off with a time delay.

The on-time delay (EV) and the off-time delay (AV) can be configured independently of each other via a DIP switch according to the table below. The total time is calculated as the sum of the individual DIP switches. In normal mode, the fan runs in the max.-flow phase with "LIGHT ON", and also in the max.-flow phase with "LIGHT OFF". If inverse mode* (IB) (DIP switch 1 = ON) is activated, then the fan runs in the partial-flow phase with "LIGHT ON" and the max.-flow phase with "LIGHT OFF".



DIP switch bank on SNR-EAV

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☒	☐	☐	☐
OFF	☒	☒	☒	☒	☐	☒	☒	☒

e.g.: Running time – 2 min

Inverse mode IB

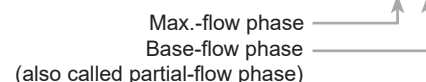
DIP switch 1 is intended exclusively for base-flow devices (2-phase) and must be set to OFF for other types (single-phase blower units). The switch setting indicates whether the fan runs in the max.-flow phase or partial-flow phase, once switched on. In normal mode with DIP switch 1 = OFF, the fan runs in the max.-flow phase with "LIGHT ON", and also in the max.-flow phase with "LIGHT OFF". If inverse mode (DIP switch 1 = ON) is activated, then the fan runs in the partial-flow phase with "LIGHT ON" and the max.-flow phase with "LIGHT OFF".

Inverse mode IB

	ON	OFF
DIP-Switch 1	BF	MF

Only possible for blowers with base-flow (2-phase).

e.g.: Blower installation 2-phase → Blower installation LB 60/30



On-delay time EV

DIP switches 2-4 are used for the on-delay time, which is calculated from the sum of the 3 switches according to the table shown.

Possible times are: 0.5, 1, 1.5, 2, 2.5, 3 and 3.5 minutes.

On-delay time EV

	ON	OFF
DIP-Switch 2	0,5	0
DIP-Switch 3	1	0
DIP-Switch 4	2	0

Off-delay time AV (running time)

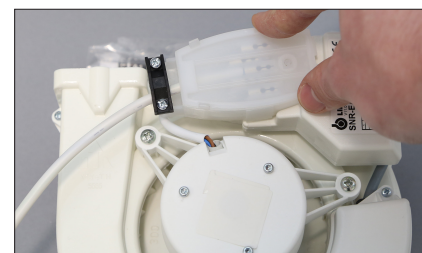
DIP switches 5-8 are used for the running time. The total time is calculated as the sum of the individual DIP switches.

Possible times are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 and 30 minutes.

Off-delay time AV

	ON	OFF
DIP-Switch 5	2	0
DIP-Switch 6	4	0
DIP-Switch 7	8	0
DIP-Switch 8	16	0

Installation



The time delay relay for LIMODOR B, C and F/E simply plugs in between the plug connection (on the blower) and the plug-in terminal.

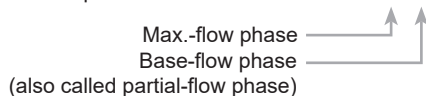
Humidity module SFR

with summer/winter logic (humidity sensor in device)
suitable for LB 60/30 (2-phase) – Item No.: 55011

The humidity module SFR serves to protect sanitary facilities and wet rooms from excessively high air humidity and to prevent mould from developing on the walls. Using the integrated summer/winter logic, the device identifies whether the humidity originates from an internal damp source (shower, drying laundry, etc.) or from the external air (rain, snow, etc.). When using humidity module SFR, the fan installation needs a **permanent base-flow phase** (the fan runs permanently with a low flow rate), so that the humidity sensor located in the device measures the correct values.

Permanent base-flow phase: requires a multi-phase blower installation (two or more flow-rate phases).

e.g.: Blower installation 2-phase → Blower installation LB 60/30



Function – Humidity

The humidity module is equipped with summer/winter logic.

If an increase in humidity is detected, the fan will be automatically switched from the permanent base-flow phase (30 m³/h) to the max.-flow phase (60 m³/h). The fan will run in the max.-flow phase until the original air humidity in the room is reached or for the maximum running time (4 hours) – whichever happens first; the fan then automatically switches back to the base-flow phase.

This ensures that as soon as the external humidity exceeds the air humidity in the room, the fan switches back into base-flow phase at the end of the maximum running time, since it is not possible to reduce the air humidity in the room.

Sleep mode (button combination ON-OFF-ON-OFF) can be used to deactivate the humidity module for 12 hours. If the unit is switched on again, sleep mode will be disabled.

Function - EV and AV

Furthermore, the humidity module SFR (like the time delay relay SNR-EAV) enables on-time (EV) and off-time (AV) delays to be configured. These can be configured independently of each other via a DIP switch according to the table below. The total time is calculated as the sum of the individual DIP switches. In normal mode, the fan runs in the max.-flow phase with "LIGHT ON", and also in the max.-flow phase with "LIGHT OFF". If inverse mode is activated (DIP switch 1), then the fan runs in the partial-flow phase with "LIGHT ON" and the max.-flow phase with "LIGHT OFF".



WARNING !!!

Installation only possible in conjunction with a 2-phase blower installation (permanent base-flow)!

Humidity module SFR cannot be used for the LIMODOR C or LIMODOR F/E, only for the LIMODOR B (2-phase)!



DIP switch bank on SFR

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☒	☐	☐	☐
OFF	☒	☒	☒	☒	☐	☒	☒	☒

e.g.: Running time – 2 min

Inverse mode IB

DIP switch 1 is intended exclusively for base-flow devices (2-phase) and must be set to OFF for other types (single-phase blower units). The switch setting indicates whether the fan runs in the max.-flow phase or partial-flow phase, once switched on. In normal mode with DIP switch 1 = OFF, the fan runs in the max.-flow phase with "LIGHT ON", and also in the max.-flow phase with "LIGHT OFF". If inverse mode (DIP switch 1 = ON) is activated, then the fan runs in the partial-flow phase with "LIGHT ON" and the max.-flow phase with "LIGHT OFF".

On-delay time EV

DIP switches 2-4 are used for the on-delay time, which is calculated from the sum of the 3 switches according to the table shown. Possible times are: 0.5, 1, 1.5, 2, 2.5, 3 and 3.5 minutes.

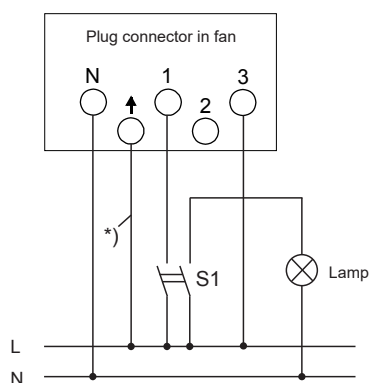
Off-delay time AV (running time)

DIP switches 5-8 are used for the running time. The total time is calculated as the sum of the individual DIP switches.

Possible times are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 and 30 minutes.

Circuit example

Device with permanent
base-flow phase
LIMODOR B 60/30



S1.....2-pole fan / lamp switch

*) This connection is necessary with every plug-in relay

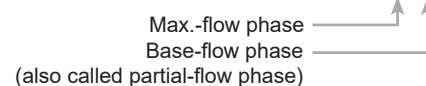
WARNING! For partial-flow devices (base-flow devices), the light must always be switched on/off using a 2-pole switch.

Inverse mode IB

	ON	OFF
DIP-Switch 1	TL	VL

Only possible with a blower with base-flow (2-phase).

e.g.: Blower installation 2-phase → Blower installation LB 60/30



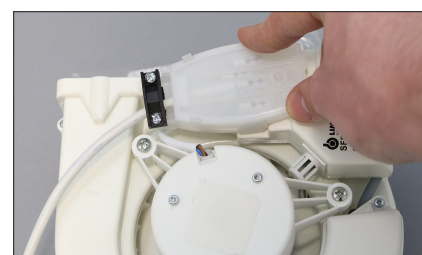
On-delay time EV

	ON	OFF
DIP-Switch 2	0,5	0
DIP-Switch 3	1	0
DIP-Switch 4	2	0

Off-delay time AV

	ON	OFF
DIP-Switch 5	2	0
DIP-Switch 6	4	0
DIP-Switch 7	8	0
DIP-Switch 8	16	0

Installation



The humidity module for LIMODOR B simply plugs in between the plug connection (on the blower) and the plug-in terminal.

Interval delay relay SINR

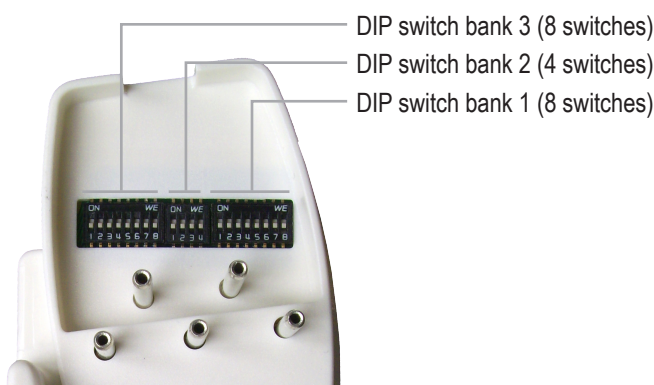
with configurable on time, running time, interval time, etc.

suitable for LB, LC, LF/E – Item No.: 55010

The interval delay relay SINR provides the following configuration options (through a series of DIP switches):

- On- and off- time delay
- Interval mode
- Central control of several LIMODOR individual fans (via control lines)

The upper side of the interval delay relay SINR has three switch banks, with 8, 4 and 8 switches respectively, for configuration of various parameters.



DIP switch bank 1 on SINR

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☒	☐	☐	☐
OFF	☒	☒	☒	☒	☐	☒	☒	☒

e.g.: Running time – 2 min

DIP switch bank 1

(as max.-flow timer → On- and off-delays only affect the max.-flow phase)

Inverse mode IB

DIP switch 1 is intended exclusively for base-flow devices (2-phase) and must be set to OFF for other types (single-phase blower units). The switch setting indicates whether the fan runs in the max.-flow phase or partial-flow phase, once switched on. In normal mode with DIP switch 1 = OFF, the fan runs in the max.-flow phase with "LIGHT ON", and also in the max.-flow phase with "LIGHT OFF". If inverse mode (DIP switch 1 = ON) is activated, then the fan runs in the partial-flow phase with "LIGHT ON" and max.-flow mode with "LIGHT OFF".

On-delay time EV

DIP switches 2-4 are used for the on-delay time, which is calculated from the sum of the 3 switches according to the table shown.

Possible times are: 0.5, 1, 1.5, 2, 2.5, 3 and 3.5 minutes.

Off-delay time AV (running time)

DIP switches 5-8 are used for the running time. The total time is calculated as the sum of the individual DIP switches.

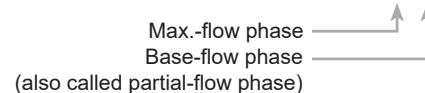
Possible times are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 and 30 minutes.

Inverse mode IB

	ON	OFF
DIP-Switch 1	TL	VL

Only possible for blowers with base-flow (2-phase).

e.g.: Blower installation 2-phase → Blower installation LB 60/30



On-delay time EV

	ON	OFF
DIP-Switch 2	0,5	0
DIP-Switch 3	1	0
DIP-Switch 4	2	0

Off-delay time AV

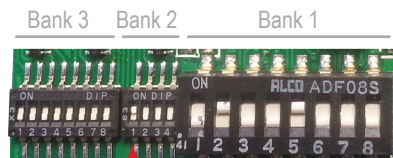
	ON	OFF
DIP-Switch 5	2	0
DIP-Switch 6	4	0
DIP-Switch 7	8	0
DIP-Switch 8	16	0

DIP switch bank 1

(as max.- and/or partial-flow timer → on- and off-delays affect the max.- and/or partial-flow phases).

Information regarding dual allocation of DIP switch bank 1

DIP switch bank 1 has two functions. The following configuration options for DIP switch bank 1 are only available when DIP switch 1 is activated on bank 2!



Max.-flow timer / partial-flow timer

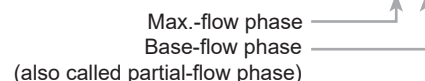
With DIP switches 1-2, a running time or on-time delay can be configured for the max.- and partial-flow fan phases. The time information is identical for the two fan phases.

Max.-flow timer / partial-flow timer

	ON	OFF
DIP-Switch 1	MF	MF
DIP-Switch 2	BF	BF

DIP switch 2 – only possible with a blower with base-flow (2-phase).

e.g.: Blower installation 2-phase → Blower installation LB 60/30



On-delay time EV

DIP switches 3-4 are used for the on-delay time, which is calculated from the sum of the two switches according to the table shown. Possible times are: 1, 2, and 3 minutes.

On-delay time EV

	ON	OFF
DIP-Switch 3	1	0
DIP-Switch 4	2	0

Off-delay time AV (running time)

DIP switches 5-8 are used for the running time. The total time is calculated as the sum of the individual DIP switches. Possible times are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 and 30 minutes.

Off-delay time AV

	ON	OFF
DIP-Switch 5	2	0
DIP-Switch 6	4	0
DIP-Switch 7	8	0
DIP-Switch 8	16	0

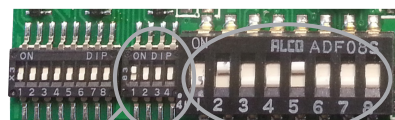
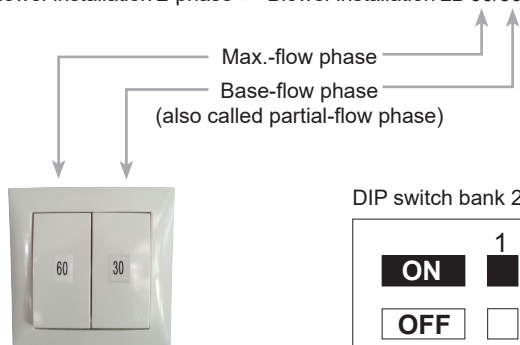
Example

LIMODOR B 60/30 (with 2 fan phases)

Max.-flow phase – without running time

Partial-flow phase – with a running time of 2 minutes

e.g.: Blower installation 2-phase → Blower installation LB 60/30



DIP switch bank 2 on SINR

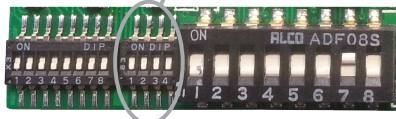
	1	2	3	4
ON	■	□	□	□
OFF	□	■	■	■

DIP switch bank 1 on SINR

	1	2	3	4	5	6	7	8
ON	□	■	□	□	■	□	□	□
OFF	■	□	■	■	□	■	■	■

DIP switch bank 2

DIP switch bank 2 has a superordinate function and always takes priority when the DIP switch is activated.



DIP switch bank 2 on SINR

	1	2	3	4
ON	☐	☐	☐	☐
OFF	☒	☒	☒	☒

Dual allocation switch bank 1

DIP switch 1 is responsible for the dual allocation of switch bank 1 (explanation on page 23 – shown in red).

Exchange fan phases – max.-flow becomes partial-flow

As soon as DIP switch 2 is set to “ON”, the max.-flow phase becomes a partial-flow phase. As an example application, take the case where the internal motion detector (located in the cover plate) does not switch the fan to max.-flow phase, but rather into the partial-flow phase.

Mute

The fan switches off when “ON” is set and terminals 2 and 3 are allocated, providing there is voltage (potential-free input)

Max.-flow off

When “ON” is set in “switch mode”, the fan automatically switches from the max.-flow phase to the partial-flow phase after 30 minutes. (e.g.: for LIMODOR B 60/30 = 30 m³/h)

Activate max.-/partial-flow timer

DIP-Switch 1	ON	OFF
--------------	----	-----

Exchange fan phases

	ON	OFF
DIP-Switch 2	TL	VL

Mute

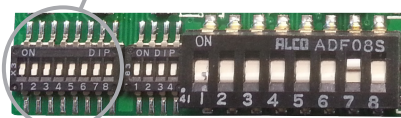
DIP-Switch 3	ON	OFF
--------------	----	-----

Max.-flow off switch

DIP-Switch 4	ON	OFF
--------------	----	-----

DIP switch bank 3

DIP switch bank 3 can be used to configure “interval mode” and the “central controller”.



DIP switch bank 3 on SINR

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☐	☐	☐	☐
OFF	☒	☒	☒	☒	☒	☒	☒	☒

Priority switch

When DIP switch 1 is set to “ON”, the room switch has priority over the central controller (where available).

Mode

DIP switch 2 – the fan flow rate (max.-/partial-flow phase) must be specified in 1-channel operation.

Interval mode – flow rate

DIP switch 3 is used to specify the flow rate (max.-/partial-flow phase) for the fan in interval mode.

Interval mode – operating time

DIP switches 4 and 5 – in interval mode, the fan runs for the time specified under “ON”. The total time is calculated from the sum of the two switches according to the table shown. Possible times are: 30, 60, and 90 minutes. Further configuration options relating to interval mode are provided by the interval module C-IV (Item No.: 55021).

Interval mode – interval time

DIP switches 6 to 8 – When “ON” is set, the fan runs in the max.- or partial-flow phase after the configured time. Each time the device switches off, the interval time resets. Possible times are: 1, 2, 3, 4, 5, 6 and 7 hours.

Priority switch

DIP-Switch 1	ON	OFF
--------------	----	-----

Mode

	ON	OFF
DIP-Switch 2	MF	BF

Flow rate

	ON	OFF
DIP-Switch 3	MF	BF

Operating time

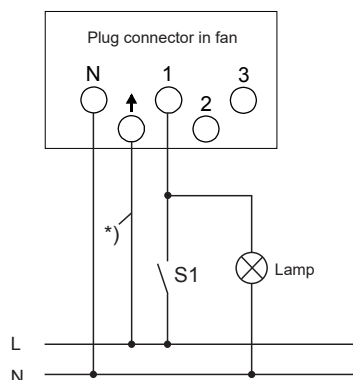
	ON	OFF
DIP-Switch 4	30	0
DIP-Switch 5	60	0

Interval time

	ON	OFF
DIP-Switch 6	1	0
DIP-Switch 7	2	0
DIP-Switch 8	4	0

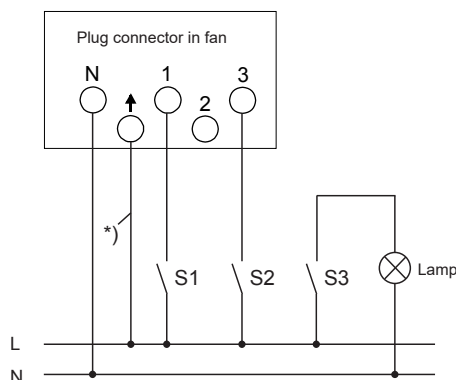
Circuit examples

Normal circuit with or without plug-in relay LIMODOR B, C/E, F/E



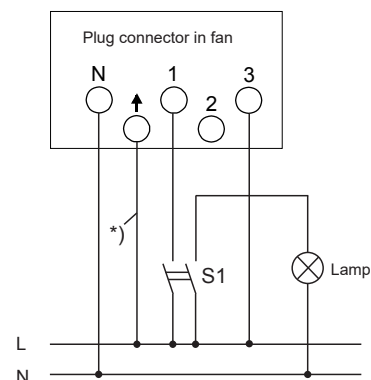
S1.....Fan/lamp switch

Device for 2 fan phases LIMODOR B 60/30



S1.....Fan switch max.-flow
S2.....Fan switch partial-flow (base-flow)
S3.....Lamp switch

Device with permanent base-flow LIMODOR B 60/30

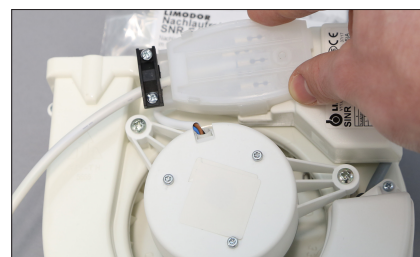


S1.....2-pole fan / lamp switch

*) This connection is necessary with every plug-in relay

WARNING! For partial-flow devices (base-flow devices), the light must always be switched on/off using a 2-pole switch.

Installation



The interval relay for LIMODOR B, C and F/E simply plugs in between the plug connection (on the blower) and the plug-in terminal.

Rotational speed regulator LDR-AC

Item No.: 55001

The rotational speed regulator LDR-AC provides continuous regulation of the LIMODOR W (AC blower) rotational speed, and can be installed flush or surface-mounted.

Technical data:

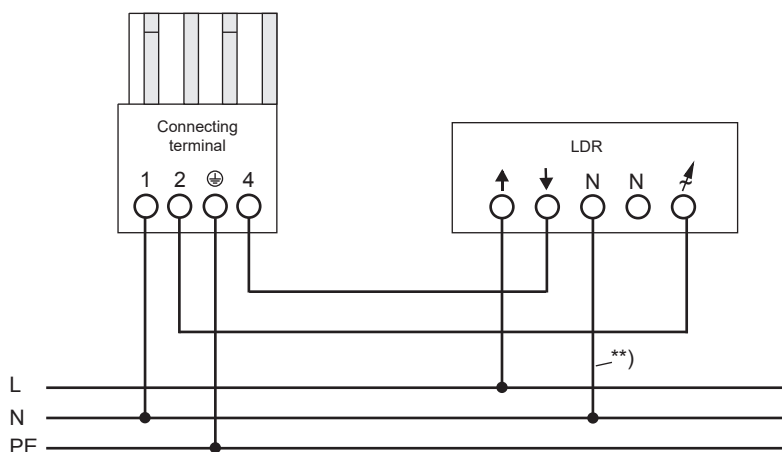
Input voltage230VAC/50Hz
Switching capacity0,15 - 1,5A
Protection classflush-mount=IP44, surface-mount=IP54

Circuit example

Normal circuit for LW blower: *)

- LW-AC385 (Item No.: 42005)
- LW-AC485 (Item No.: 42006)

L = Phase
N = Neutral
PE = Protective earth
↑ = Continuous phase
⚡ = Regulated output to motor



*).... When using a rotational speed regulator, a LW/A series reactor must be used (Item No.: 46001).

**)... This connection is only necessary when using a control lamp.



Rotational speed regulator LDR-EC

Item No.: 55036

The rotational speed regulator LDR-EC provides continuous regulation of the LIMODOR W (EC blower) rotational speed, and can be installed flush or surface-mounted.

The rotational speed regulator can be controlled in 3 different ways:

- Voltage: 0 - 10 V
(Standard setting – may not be adjusted for LIMODOR W blowers!)
- Current: 0 - 20 mA
- PWM-Signal: 0,1 - 100 %

Technical data:

Input voltage230VAC/50Hz
Protection classflush-mount=IP44, surface-mount=IP54

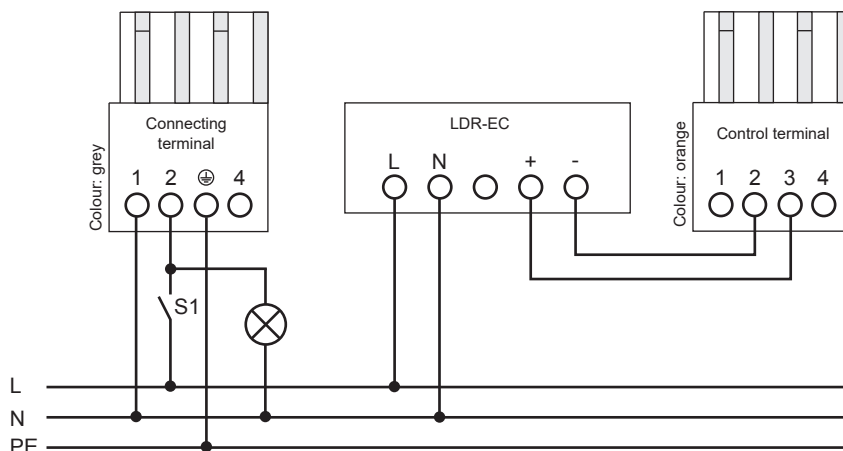


Circuit example

Normal circuit for LW blower:

- LW-EC390 (Item No.: 42007)

L = Phase
N = Neutral
PE = Protective earth
S1 = Fan / lamp switch



Door contact switch TS

Item No.: 55007

The door contact switch TS is used to switch a LIMODOR ventilation device on/off via the door locking mechanism. The door contact switch is installed directly in the metal doorframe and actuated by closing the door.



Technical data:

Input voltage230VAC/50Hz
Switching capacity0,5A

Clockwork timer ZS30

Item No.: 55009

The clockwork timer ZS30 switches a LIMODOR ventilation device on for a time of 1–30 minutes. At the end of the configured time period, the fan automatically switches off.

Technical data:

Input voltage230VAC/50Hz
Switching capacity0,5A



Room hygrostat HG-mini

Item No.: 45011

The room hygrostat HG-mini switches a LIMODOR ventilation device on based on the humidity. The HG-mini reacts rapidly and precisely to changes in humidity: as soon as the air humidity in the room rises above the air humidity configured in the HG-mini (e.g. 50%), the fan device switches on.

It can be installed in an arbitrary location; however, it should be installed in the direction of air flow as far as possible.

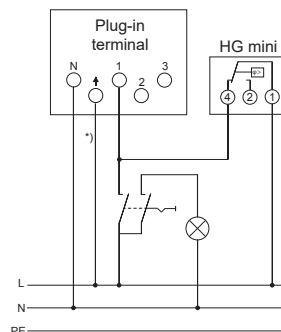


Technical data:

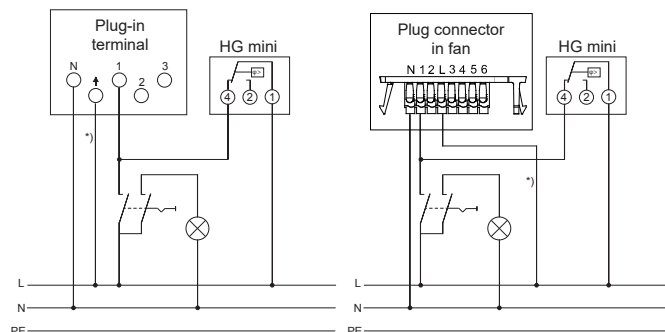
Measurement range	30 to 100 % hum
Measurement accuracy	±3,0 % hum
Switching differential	approx. 4% hum
Switching voltage	24 to 250 VAC
Switching capacity (inductive load)	0,2 A
Minimum load	1 mA at 24 VAC
Acceptable ambient temperature	10 to 60°C
Protection class	IP30
Protection type	II
Dimensions (LxWxH)	75x75x23 mm

Circuit examples

LIMODOR B, C, F/E



LIMODOR F/M



*) This connection is only necessary when using a plug-in relay

Air quality controller QPA-mini

Item No.: 45012

The air quality regulator QPA has an integrated VOC mixed gas sensor which measures the concentration of odorous substances and gases, such as tobacco smoke, human perspiration, kitchen odours, carbon monoxide, methane, ethanol, acetone, methanol, etc. The measured concentration is compared with the target value and when this is exceeded, the fan is switched on.



Technical data:

Voltage	230 VAC/50 Hz
Switching capacity	6,8 A
Power consumption	0,5 VA
Protection class	IP30
Protection type	II
Dimensions (LxWxH)	96x101x39 mm

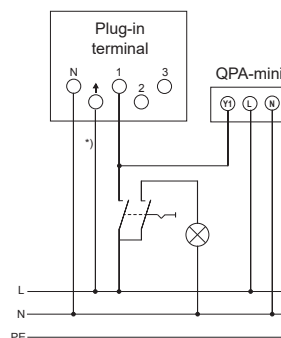
Commissioning

The desired air quality can be set using a jumper on the air quality regulator as follows:

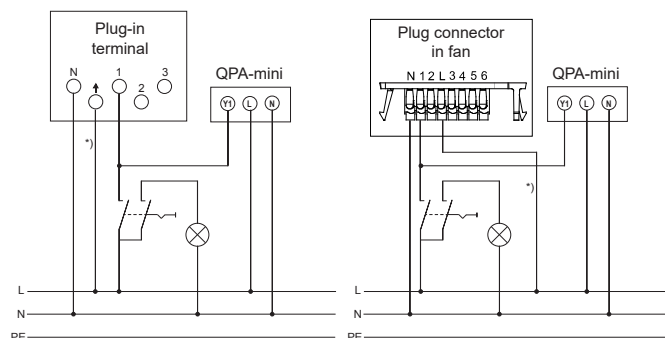
Jumper position	Effect
	Very good air in room increased fan operation
	Good air in room optimal fan operation Factory setting
	Acceptable air in room Minimal fan operation

Circuit examples

LIMODOR B,C,F/E



LIMODOR F/M



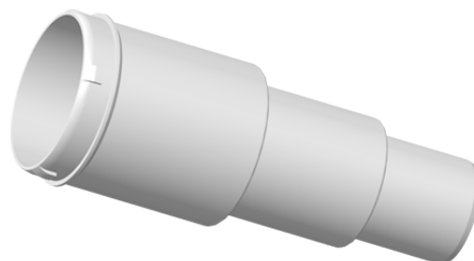
*) This connection is only necessary when using plug-in relay

Toilet extraction connector WS

suitable for LIMODOR B, C and F/M – Item No.: 56010

The toilet extraction connector is used as a connector on the LIMODOR housing, when extraction is to take place directly from the toilet bowl as well as ceiling extraction. The connector is inserted from the outside into the pre-punched recess (Ø 50 mm) in the housing. In order to extract as great a volume as possible from the toilet bowl, we recommend that the ducting is as large as possible (max. Ø 50 mm – cut off unused diameter), and unnecessary bends in the pipes are avoided. The connection should be directly linked to the flush pipe at less than 45°. When extracting over the cistern (cistern connector), care should be taken that the cistern flush button is sealed as well as possible, since otherwise extraction will take place via the flush button and not the pipe.

The additional toilet-bowl extraction is highly effective, because it prevents odd smells from spreading throughout the room by extracting air directly from the toilet bowl.



WARNING !!!

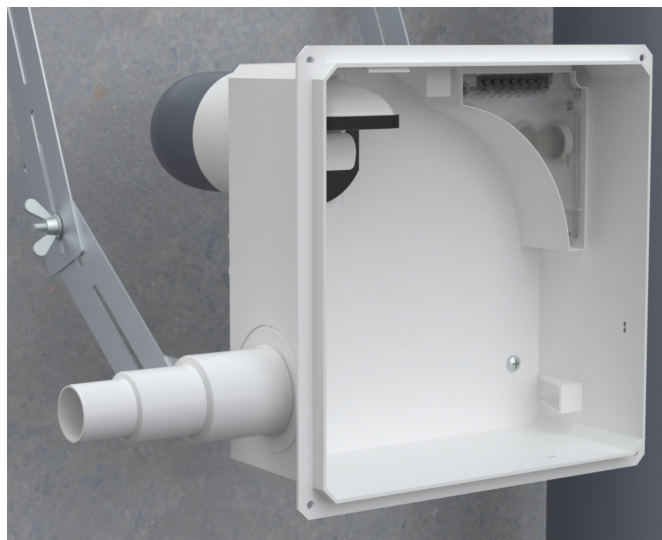
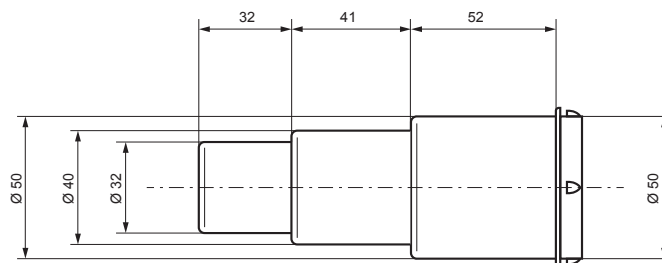
The additional room extraction (also called second-room extraction, Details on page 30) must not be combined with the additional toilet-bowl extraction since this would result in too little negative pressure to extract air from the toilet bowl sufficiently.

Assembly example



e.g.: LIMODOR FM with toilet extraction connector – ducting

Dimensions



e.g.: LIMODOR FM housing with toilet extraction connector

Extraction Connector AS

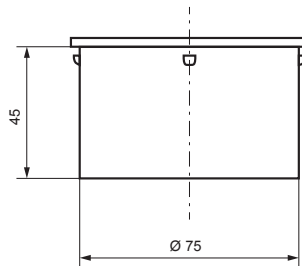
suitable for LIMODOR F/M, F/E and W – Item No.: 56011

The extraction connector AS is used as a connector on the LIMODOR housing, when extraction is to take place directly from a secondary location (2nd room, etc), as well as from the ceiling. The connector is inserted from the outside into the pre-punched recess (Ø 75 mm) in the housing. In order to achieve the most efficient extraction from the secondary location, we recommend that the ducting is as short as possible, and unnecessary bends in the ducts are avoided. In order to protect the cables and fan, an air supply opening with integrated filter should be used in the secondary location where possible. The LIMODOR filter trays LFWR or LFWO are ideal for this purpose.



e.g.: LIMODOR FM housing with toilet extraction connector AS

Dimensions



Round air valves

Metal or plastic design

Round air valves are used as extraction extensions. The desired air flow can be regulated by rotating the disc. Please note, however, that there is no filter integrated in the round air valves and therefore the ducting and fan are not protected. Where ducting and fan should be kept uncontaminated, we recommend using LIMODOR filter trays LFWR.



Shape for
air supply



Shape for air
extraction

Metal design

Type	Item No. (air supply)	Item No. (air extraction)	Dimension
ANM80	70030	70036	Ø 80 mm
ANM100	70031	70037	Ø 100 mm
ANM125	70032	70038	Ø 125 mm
ANM150	70039	70040	Ø 100 mm
ANM160	70033	70041	Ø 160 mm
ANM200	70034	70042	Ø 200 mm



Shape for air extraction
and supply

Plastic design

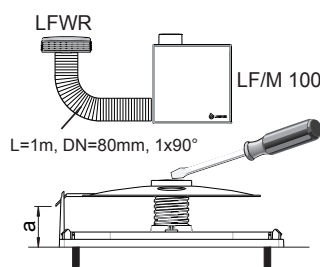
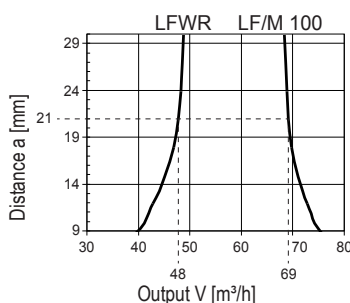
Type	Item No.	Dimension
AN80	70023	Ø 80 mm
AN100	70021	Ø 100 mm
AN125	70022	Ø 125 mm
AN 150	70024	Ø 150 mm

Filter trays LFWR, LFWO

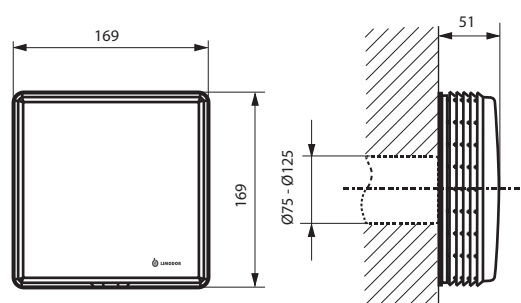
LFWR Item No.: 56002, LFWO Item No.: 56003

The LIMODOR filter tray is to be installed for secondary location extraction with a LIMODOR F/E, F/M or W. The filter tray can also be used for air supply or overflow valves. The filter insert in the cover prevents contamination of the ducting and ventilation devices.

Volume distribution example



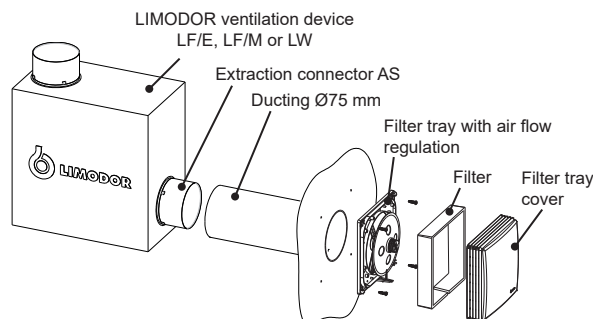
Dimensions



The volume distribution between the device cover and the secondary location (filter tray LFWR) can be configured by adjusting the air flow regulation. However, the volume distribution depends not only on the air flow regulation configuration, but also on the ducting length and the number of bends in the duct. As an example, a LIMODOR F/M 100 with 1 m ducting and one 90° bend is shown in the above diagram. In order to achieve exact volume regulation, the air flow at the extraction locations must be measured.

(If, for example, the filter tray is opened 19 mm, the extracted air volume would be approximately as follows> Filter tray 48 m³/h, LIMODOR F/M 69 m³/h).

Use for secondary location extraction

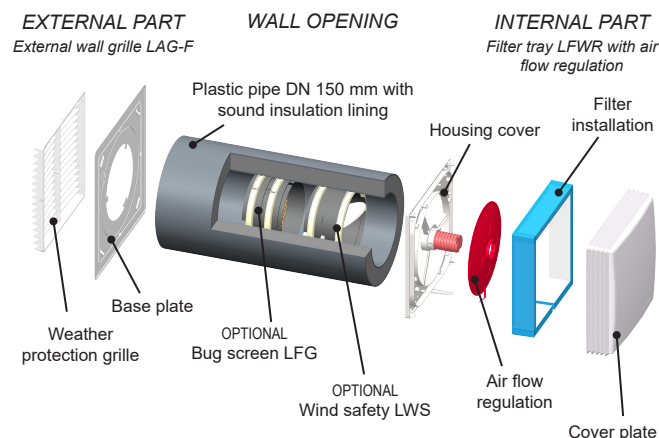


e.g.: LIMODOR FM housing with extraction connector AS – ducting

Installation

Install extraction connector AS in the fan housing and fit ducting or tubing. Cut ducting flush to wall and after plaster- and paintwork is complete, affix the filter tray onto the wall, then seal if necessary.

Use as air supply element



Air supply element **AirOnova LZE-RD**

Assembly

Install air supply duct in external wall and cut off flush to wall after plaster- and paintwork is complete. Screw filter tray firmly onto the wall, then seal if necessary.

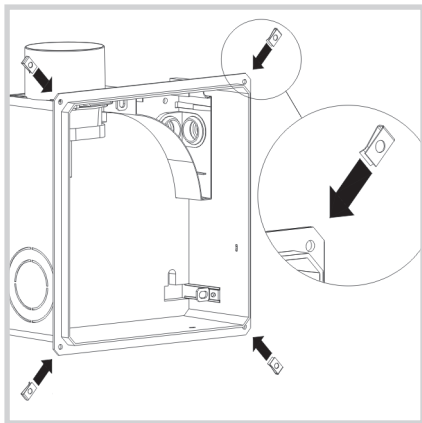
Use as air overflow valve between 2 rooms

For an air overflow opening between 2 living spaces, ducting can be installed in the wall and a filter tray installed at each of the openings. Ideally, use one filter tray with air flow regulation (LFWR) and one filter tray without (LFWO).

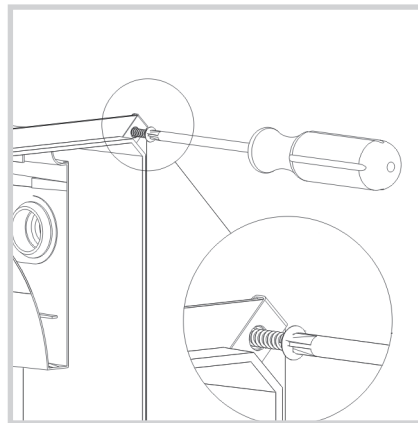
Installation set LFM-MS

suitable for LIMODOR F/M - Item No.: 25001

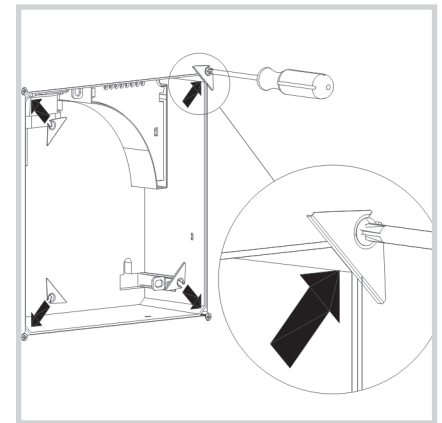
The installation set is used to install the fan housing LIMODOR F/M in a plate cover. The housing is pressed against the recessed cover from behind, and secured to the cover by means of the 4 mounting clips.



Attach quick fasteners



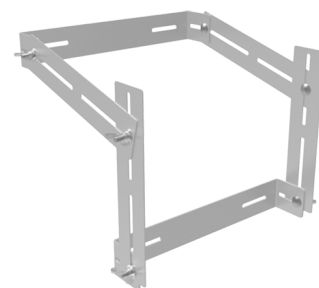
Fastening screws



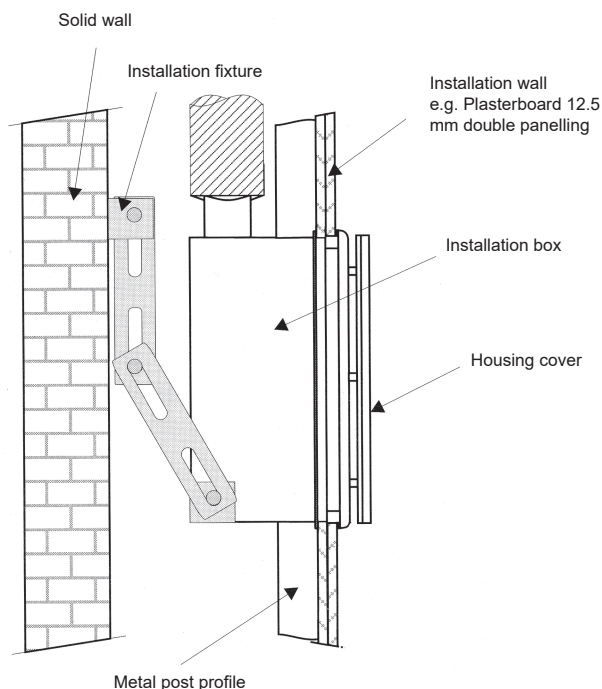
Secure housing

Installation fixture MB

Item No.: 27001



The installation fixture keeps all LIMODOR fan housings (flush-mounted) secure. In particular, when installing in a ventilation shaft, the housing can be secured to the solid wall behind.



((Installation example in a stud partition wall))



e.g.: LIMODOR FM housing mounted using installation fixture MB

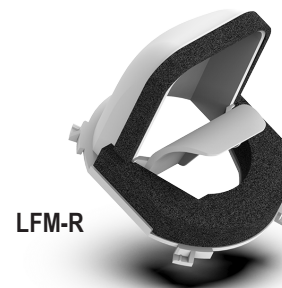
Modification sets LFM-R, LFM-S

suitable for LIMODOR F/M

LFM-R Item No.: 23003, LFM-S Item No.: 23004

The modification set LFM-R is used to modify a standard housing with an exhaust connector on the top left (LF/M-UP), into a housing with rear exhaust connector (LF/M-R).

The modification set LFM-S is used to modify a housing with rear exhaust connector (LF/M-R) into a standard housing with exhaust connector on the top left (LF/M-UP).



LFM-R



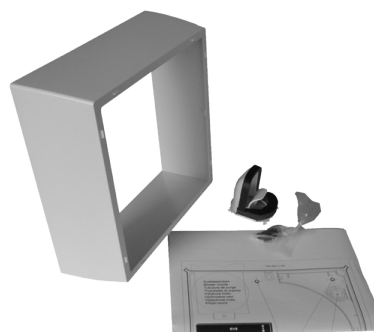
LFM-S



Surface mounting set LFM-AP

suitable for LIMODOR F/M - Item No.: 23002

The surface mounting set LFM-AP is used to modify a standard housing with an exhaust connector on the top left into a housing with rear exhaust connector, and also includes the surface-mounted frame that will be used for housing the final assembly.



Correction frame LV1

suitable for LIMODOR F/M Item No.: 25009

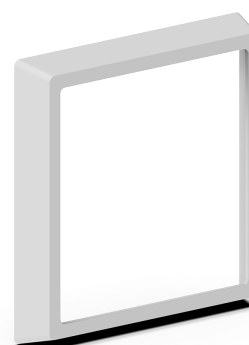
The correction frame LV1 can be used to correct for installation defects such as uneven plaster edge, or the housing protruding up to 10 mm over the plaster level.



Front frame LV

suitable for LIMODOR F/E - Item No.: 25008

The front frame LV can be used to correct for installation defects such as uneven plaster edge, or the housing protruding up to 40 mm over the plaster level.



Grilles LAG, LAG-F

LAG	Item No.: 56004 (Color - similar to RAL 9016 traffic white)
LAG-F	Item No.: 56008 (Color - similar to RAL 9016 traffic white)
LAG-F Anthrazit	Item No.: 56025 (Color - similar to RAL 7016 anthracite gray)

The LAG and LAG-F grilles are external wall grilles for ducting diameters 50 to 160 mm. The LAG-F type is equipped with a bug screen.

Dimensions

L x W x H = 200 x 200 x 23 mm

External wall grilles LA-ES

LA-ES115 Item No.: 70072, LA-ES160 Item No.: 70073

The external wall grille LA-ES is made of stainless steel and is available in two different dimensions. Both sides are fitted with a bug screen.

Dimensions

LA-ES115 – L X W X H = 172 x 172 x 54 mm – can be used up to DN 115 mm

LA-ES160 – L X W X H = 202 x 202 x 56 mm – can be used up to DN 160 mm

External wall grille GD – series

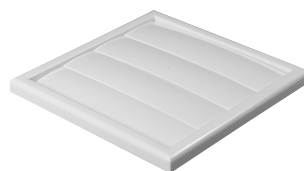
External wall grille GDS
(with fly screen)
Item No.: 70052

External wall grille GDX-100/KOZ
(with blind, without fly screen)
Item No.: 70050

External wall grille GDX-100/KOS
(with fly screen)
Item No.: 70051



GDS



GDX-100/KOZ



GDX-100/KOS

All external wall grilles are suitable for a diameter of 100 mm..

Backflow valve 100

Item No.: 70020

Metal design backflow valve for installation in an air duct DN 100 mm

Dimensions

DN x L = 99 x 100 mm



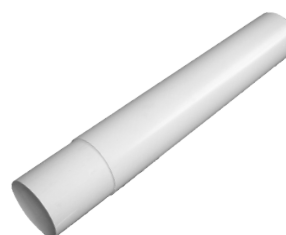
Telescopic duct D/O 100

Item No.: 70060

Telescopic duct for wall openings telescopes from 0.5m to 1m.

Dimensions

DN x L = 100 x 500–1000 mm



Maintenance

LIMODOR mono-duct ventilation devices and accessories are virtually maintenance free and only need to have their outer parts cleaned with a damp cloth and a regular check of the exhaust filter carried out.

Filter contamination depends on the level of air pollution and the daily operating hours of the ventilation device. The exhaust filter should be monitored at intervals of approx. 2 months.

The inner fleece filter must be removed from the housing cover and cleaned or replaced. The filters can be cleaned with water and dishwashing liquid and then air-dried. Regularly cleaning the filters guarantees a long service life for the ventilation device/accessories and a uniform ventilation quality.

All other components of the LIMODOR ventilation device, apart from specially integrated control elements such as humidity or CO₂ sensors, are maintenance-free.

Planning assistance

As a free service, LIMOT offers extensive planning and duct dimension calculations for complex mono-duct ventilation systems – including the material bill of quantities and complete inventory of the necessary components for the entire ventilation system. A LIMOT employee is always at your service, just provide the construction plans.

LIMOT offers more than just high-quality ventilation devices – it also provides top-quality advice when planning ventilation systems. This ensures that your ventilation system functions as it should, replacing bad odours, humidity and fumes with fresh air from outside as quickly as possible.

Warranty

LIMOT guarantees all necessary components for operation of the LIMODOR ventilation devices, even when the devices are over 25 years old. All accessories are available, such as controllers, covers, filter installations and blower units. This ensures that your device remains in good working condition and error-free until the next time the wet room is renovated.

LIMOT furthermore offers a warranty for 5 years from purchase date for all ventilation devices. This warranty covers the complete ventilation device, apart from electronic auxiliary controllers such as time delay relays, humidity controls, motion detectors etc. The warranty period for LIMODOR controllers runs for 2 years from purchase date.

For the warranty to be valid, regular maintenance of the filters installed in the LIMODOR ventilation device must be carried out and the ventilation device must be properly operated.

If a defect occurs in the fan installation after expiry of the LIMOT warranty, you can use the tried and tested LIMOT exchange procedure: just send the defective part to LIMOT and receive a new replacement part at a special reduced price.

Warranty conditions:

It is a condition of the warranty service that defective devices or device parts are made available, along with proof of purchase date on an invoice or delivery note. Defective devices will be replaced free of charge within the warranty period, subject to having been sent to us at no cost. Further costs for repairs at the customer location, in particular compensation claims, are not included.

The warranty ceases to apply if the device is not used properly, if the installation information provided in the manual is not followed or if unauthorised intervention has been carried out.

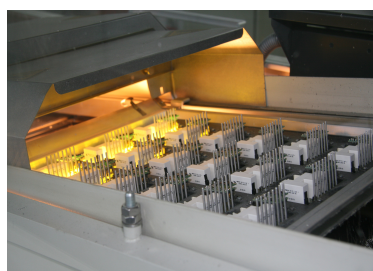


LIMODOR

AirClean
AirOdor
AirOnova
AirVital
AirBase
AquaVent
Limax

QUALITY MADE IN AUSTRIA

In previous years, LIMOT demonstrated technical innovation-strength, which reflects on our LIMODOR products. LIMODOR - products are made of superior material and rigorously tested before distribution. The test results are monitored externally by TÜV, ÖVE and VDE.



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