SmartVent fresh

DECENTRALISED VENTILATION SYSTEMS

dMVHR
FAN7390

Installation Instructions

The expert's guide to installation for a healthier home

Contents

USER AND SAFETY INSTRUCTIONS

Thank you for purchasing this high quality product from SmartVent!

This section provides an overview of the basic safety precautions for safe and proper operation of your ventilation unit.

1.1 User information

Concept of safety instructions

The safety and warning instructions in these operating instructions have a uniform structure and are marked with a symbol on the left side of the instruction. A signal word in front of the text also indicates the hazard level. If several hazard levels exist, the highest level safety instruction is always used.

The safety and warning instructions contain the following information.

SIGNAL WORD: Type and origin of the hazard. Possible consequences of the hazard!

- Measures to avoid the hazard.

A signal word indicates the severity of the potential hazard unless the preventative measures are taken.

DANGER: Immediate danger of serious injury or death.

WARNING: Possible danger of serious injury or death.

CAUTION: Potential risk of mild / moderate physical injury or death.

NOTE: Direct or possible risk of property damage due to an adverse event/state.

If you see this sign, ensure you observe the described measures to prevent possible hazards and/or damage.

Other symbols and notices used in this documentation

In addition to the safety instructions, the following symbols are used:

A **TIP** symbol indicates practical and useful tips for handling the ventilation unit.

A **tool symbol** before an installation sequence lists any additional tools and materials required for the described task.

Red frame surrounding: Graphic shows the interior wall.

Green frame surrounding: Graphic shows the exterior wall.

Action required: this requires the user to perform a specific action.

Check the results: this requires you to check the results of the action you have performed.

USER AND SAFETY INSTRUCTIONS

1.2 Safety instructions

These installation and operation instructions are part of the ventilation unit and must be permanently available. When handing the equipment/system to a third party, the installation and operation instructions must be handed over also. Before performing any work on the system, read the installation and operation instructions carefully and observe all information regarding installation, assembly, operation, cleaning and maintenance contained in this section. Also note the safety instructions that precede the described handling instructions. Non-observance of safety warnings could result in injury and/or property damage.

Intended use

The SmartVent Fresh ventilation units with heat recovery are used to ventilate living rooms and living spaces. They are controlled by a control unit of the SmartVent Fresh system.

General instructions

- When installing the unit/system, observe the applicable standards, regulations and directives. In particular, the applicable building codes, fire protection codes and accident prevention codes of the employers' liability insurance association.
- Use the unit/system only in accordance with the applications described in this documentation and in the detailed installation and operating instructions and only in conjunction with the components recommended, approved and named in this documentation by SmartVent Fresh.
- Modifications or alterations to the unit/system are not permitted.
- Your ventilation system has been developed exclusively for use in ambient temperatures within -20 – 50 °C.
- Proper and safe operation of the unit/system requires proper transport, storage and installation as well as careful usage and cleaning/maintenance.

Installation and assembly

- CAUTION: **The system may only be installed by qualified personnel.**
- Before starting the work, you should have a project plan which shows the number of ventilation units, the position of the ventilation units, the ventilation principle (cross ventilation, single room ventilation, exhaust ventilation) and the corresponding controllers. The exact positioning of the individual ventilation units and control units must be checked by the customer and, if necessary, adapted to the local conditions with the involvement of the responsible construction manager or the user. For optimum functionality, it is recommended that the unit be installed at an appropriate location in the upper wall area.
- WARNING: For joint operation with room air-dependent and room air-independent fireplaces, safety measures must be taken to prevent the creation of a negative pressure in the building. The responsible chimney sweep and/or construction manager decides which measures are to be taken.
- NOTE: The ventilation unit is not suitable for drying out buildings. Do not put it into operation until the construction work has been completed.
- NOTE: Do not install the unit in the vicinity of room air thermostats or in the immediate environment/above sensitive pictures or furniture.
- NOTE: Observe the specified minimum distances on both sides of the wall and frontally to avoid unintentional mixing of outside and exhaust air and to ensure access to the unit and its components.
- NOTE: Exhaust fans may adversely affect the safe operation of appliances burning gas or other fuels (including those in other rooms) due to back flow of combustion gases. These gases can potentially result in carbon monoxide poisoning. After installation of an exhaust fan such as a partition fan or a duct fan the operation of open flued gas appliances should be tested by a competent person to ensure that back flow of combustion gases does not occur.

- **NOTE:** The wall mounting sleeve must be integrated into the building envelope (air resistance layer) in such a way that it is open to diffusion on the outside and impermeable to diffusion on the inside, taking account of structural specifications. Material for this must be provided by the customer. After installing the wall installation sleeve, bring the wall structure back up to the wall installation sleeve and observe the necessary barrier planes to avoid interruption of the thermal insulation composite system.
- **NOTE:** Install wall mounting sleeves and other air ducts **with a gradient of 1 – 2° to the outer wall** to ensure drainage of any condensate.
- **NOTE:** Do not install the ventilation system in places where direct contact with spray or splash water is possible.
- **NOTE:** To prevent algae from settling around the external closure, the installation instructions must be observed exactly (attach all sealing strips!). We recommend a biocidal presetting/water-repellent pre-treatment of the facade surface around the external finishes.
- **NOTE:** To avoid damaging the walls, attach the inside and outside finish of the unit only to completed and completely dried facades/walls.
- **NOTE:** When installing components in (exterior) walls with insulation, use insulating plugs to ensure that the components are securely fastened. Insulation plugs are not included.
- **NOTE:** The ventilation unit has scratch-sensitive plastic surfaces. In particular, do not touch the inside panel with oily and/or dirty hands. Avoid contact with sharp or pointed objects such as rings.

Wiring/connecting the reversing fan

- **CAUTION: The electrical connection of the system may only be carried out by qualified personnel.**
- **CAUTION:** Lay and connect cables only in a voltage-free state (mains connection disconnected at all poles)!
- **NOTE:** Ventilation systems operated with safety extra-low voltage (SELV) have an operating voltage of 6 – 16 V DC. They must not be connected directly to the 230 V mains, but must always be connected and operated via a controller.
- **NOTE: Laying cables whose sheath is not resistant to plastering under plaster leads to a short circuit and cable fire! Lay cables without a plaster-resistant cable sheath in the empty conduit.**
- **NOTE:** The use of a too small cable cross-section leads to a too high voltage drop and/or contacting is not guaranteed! For the fan BUS, use a cable cross-section of at least 0.75 mm² (strand). Use ferrules with collars to connect the strands.

  When using several ventilation units operated by several controllers, you must ensure that the ventilation units are synchronized with each other. You should connect all controllers via a mains fuse in the house distributor.

Operation, cleaning and maintenance

- **CAUTION: Operation and/or maintenance of the ventilation unit and its controllers must not be carried out by children and/or persons who are not fully capable of doing so due to their physical, sensory or mental capabilities, inexperience or lack of knowledge. Young children should be supervised to ensure that they do not play with the unit.**
- **NOTE:** Your ventilation unit has scratch-sensitive plastic surfaces. Do not touch the inner cover with oily and/or dirty hands. Avoid contact with sharp or pointed objects, e.g. rings
- **NOTE:** Do not use strong cleaning agents or solvents. Use a soft, damp cloth to clean the plastic surfaces.

USER AND SAFETY INSTRUCTIONS

- Never use the unit without the filters and inner cover.
- Use either the App or the optional wall controller exclusively to control SmartVent Fresh ventilation units with heat recovery
- Before performing cleaning or maintenance tasks, disconnect the controller's power supply and put on gloves.

If your unit is defective, contact our technical support team.

Any improper use will result in the exclusion of any liability claims.

Unauthorized use

Any use which is not mentioned in the chapter "Intended use" shall be deemed to be improper (unauthorized) use.

In particular, do not install/operate the device in areas where the following may occur:

- Environment containing a lot of oil or grease.
- Flammable, aggressive and corrosive gases, liquids or vapour.
- Extreme dust exposure.
- Ambient temperatures outside the range of -20 – 50 °C.
- Obstacles blocking access to or removal of components from the ventilation unit.

Qualified personnel

All devices integrated into the SmartVent Fresh Connect controller platform comply with technical safety requirements and standards of electrical devices. The controller platform may only be set up and operated in conjunction with this documentation. Installation, electrical connection and commissioning of the system may only be performed by qualified personnel. Qualified personnel within the meaning of the safety notices in this documentation are persons who are authorised to install, put into operation and identify equipment, systems and circuits in accordance with established safety procedures.

Cleaning and maintenance

Any necessary cleaning or maintenance tasks can be carried out by the user by following the instructions. Operation and/or maintenance of the ventilation unit and controller must not be carried out by children and/or persons who are not fully capable of doing so due to their physical, sensory or mental capabilities, inexperience or lack of knowledge.

Conformity

The ventilation unit complies with the technical safety requirements and standards for household electrical appliances. It conforms to the applicable directives of the Australian and New Zealand standards:

- CISPR 14.1:2020 Electromagnetic Compatibility
- AS/NZS 61558.2.6:2009 Low Voltage
- AS/NZS 4268:2017 Wireless

The SmartVent Fresh ventilation system is designed to ventilate living rooms and bedrooms in single- and multi-family houses, hotels and guest houses, rooms in public facilities and work rooms in office buildings. It is designed as an solution for buildings with the special requirements of particularly thin exterior walls, e.g. if no insulation system is installed due to structural conditions.

It is suitable for installation in new buildings as well as for retrofitting in existing buildings. Installation is carried out in the exterior wall.

The ventilation unit comprises a wall sleeve into which a thermal accumulator insert is installed. A closable inner cover conceals the ventilation unit visually discreet on the interior wall side. On the exterior wall a driving rain proof hood covers the unit.

The thermal accumulator insert contains the ceramic thermal accumulator and SmartVent Fresh fan and core. SmartVent Fresh fan and core consists of two airflow optimising guiding vanes, embedding the EC reversible fan. The guiding vanes on both sides of the fan ensures efficient capacity utilisation and even flow through the thermal accumulator. The unique design of EC fan blades reduce sound passage effectively.

The standard length of the wall sleeve is 230 mm. For thicker walls, there is the option of ordering a wall sleeve with a length of 285 mm or 495 mm. Both versions can be trimmed on site.

Choose one of the following options to control SmartVent Fresh ventilation unit:

- Integrated app
- SmartVent fresh e16 wall controller (optional)

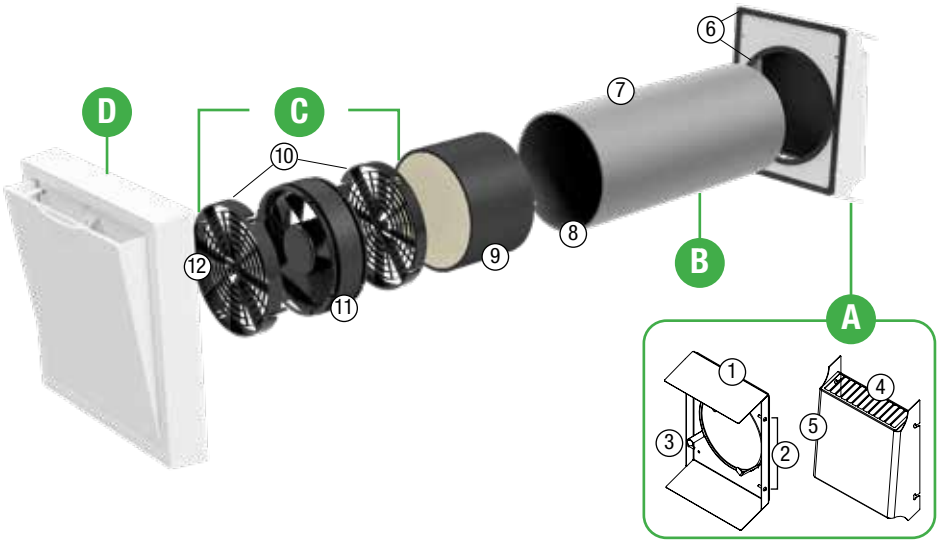
Components (see fig. 2.1)

- Inner cover incl. dust filter of class G3
- Thermal accumulator insert (thermal accumulator and SmartVent Fresh fan and core)
- Wall sleeve
- Exterior closure
- Pollen and activated carbon filter options available as accessory
- Sound and wind protection options available as accessory

1) The installation and operating instructions for the controller do not form part of this documentation and are supplied separately.

SYSTEM OVERVIEW

2.1 Construction



A Exterior closure: Compact weather protection hood

1 Protective hood base plate
2 Fastening screws for cover (4x)
3 Stop bracket for thermal accumulator
4 Protective grid
5 Protective hood cover
6 Sealing tape

B Wall sleeve

7 Wall sleeve R-D160
8 Recess for fan BUS (interior wall side)

C Thermal accumulator insert

(Thermal accumulator and SmartVent Fresh fan and core)
9 Thermal accumulator with insulation
10 Slim guiding vane (2x)
11 EC reversible fan
12 Guiding vane knob

D Connect inner cover

2.2 Function

The SmartVent Fresh ventilation system is used to provide ventilation for living rooms and bedrooms. An integrated thermal accumulator in combination with the EC reversible fan and the guiding vanes ensures optimum heat recovery with maximum air flow.

The ventilation unit operates on the principle of heat recovery by changing the direction of the fan. The integrated thermal accumulator charges itself with heat energy from the room's air as it flows to the exterior (extract air). After **70 seconds**, each EC reversible fan changes direction. When the reversible fan changes direction, it releases the stored heat energy into the incoming outside air (supply air).

For this principle to work correctly and to ensure the room's pressure stability the incoming air and extract air volumes must match, i. e. two SmartVent Fresh ventilation units are recommended. These are operated in pairs in push-pull operation: One ventilation unit works in supply air mode while the other works in extract air mode at the same time.

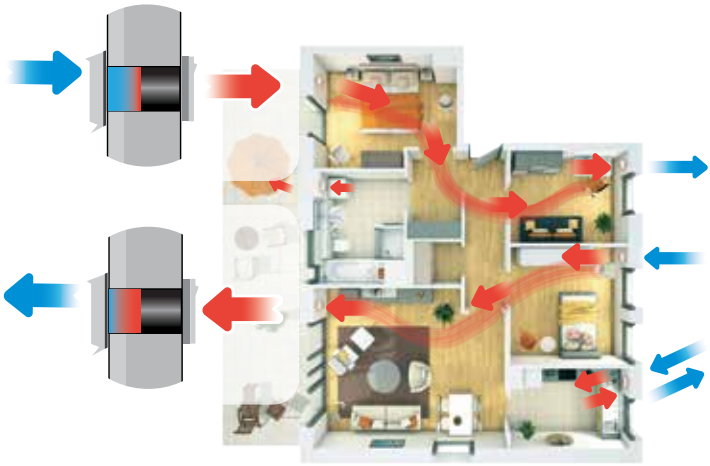
Due to the EC reversible fan's high pressure built-up and active speed control (integrated wind stabiliser) the air flow within the system is kept nearly constant. Thus, the air flow sensitivity to pressure has a deviation of max 30% (air flow) at +/- 20 Pa.

In order to ensure the full functioning of the ventilation system throughout the entire year, an additional, flexible temperature sensor is integrated into the EC reversible fan. This measures the temperature of the air flow. If the temperature falls below +5°C, the reversible fan is automatically switched to extract air mode for 4 cycles. This allows the thermal accumulator to heat up again and prevents cooling of the interior due to cold drafts. During this phase, the mode that has been set on the controller is ineffective. Subsequently, the controller switches the ventilation unit back to the originally selected mode.

A multi-use dust filter of filter class G3 is integrated discreet and easy of access into the inner cover. It filters off dusts as well as allergenic particles (such as pollen) from the ambient air before it can enter living spaces. Dust filters are season independent. For special requirements pollen and activated carbon filters are available as an option.

A decentralised ventilation system is based on the free movement of air between individual pairs of ventilation units. Therefore, internal doors must not have air-tight seals. Ensure adequate air transfer measures: An air gap of about 10mm below the door, unscrew the hinges by 5mm, use a ventilation grille or similar (cross ventilation).

The ventilation unit is controlled via one of the SmartVent Fresh system controllers. Depending on the controller, operating modes and functions may be selected.



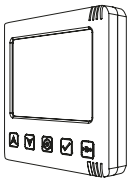
SYSTEM OVERVIEW

2.3 Control elements

The ventilation unit is operated via the Connect platform.

For the Connect platform there are two ways of operation: the App and the SmartVent Fresh Connect.

Depending on the operating mode, different functions can be set.

Designation	Connect Platform	
Number of controllable components	Max. 16 (ventilation devices and additional sensors)	
Multi-zone control	Yes (max. 4 zones; any number of units per zone)	
Unit communication	• 866 MHz wireless network • cable (RS485)	
External interface	Several different sensors per controller platform (zone division and number of sensors per zone arbitrary)	
Operating modes	• Heat recovery • Unidirectional ventilation • Dehumidification and other demand ventilation • Pause function (global and zonal) • Boost function (global and zonal) • OFF	
Fan speed	4 power levels, freely selectable	
Operation via:	**App**	**SmartVent Fresh Connect (optional)**
		
	• Assigning Ventilation zones • Changing and setting ventilation profiles • Defining fan speed for each level • Confirming filter change and changing intervals	• Setting ventilation mode • Setting ventilation profile • Selecting preset fan power level

2.4 Connect platform

The Connect platform is an innovative control system for decentralised ventilation devices with heat recovery featuring the use of the SmartVent Fresh connect inner cover. Up to 16 devices or sensors can be integrated into the Connect platform.

Communication between the control unit and the devices takes place:

by radio or
via a RS485 data cable.

The Connect platform is an assembly of different sensors and ventilation devices. In this platform one device acts as main unit to control the other implemented devices.

The platform can be assembled with the following devices, depending on structural and individual requirements:

The **SmartVent Fresh connect inner cover** is a wireless interior termination to enable integration into the wireless network. In addition to the wireless interface, the SmartVent Fresh connect inner covers have local control electronics, a power supply unit and an automatic closing flap, as well as an integrated humidity/temperature sensor.

The SmartVent Fresh connect inner cover can be assigned as main unit. In this case it is the control node in the Connect platform. Within the usage unit, the main unit is positioned at a central point and distributes the control commands to the ventilation units via the SmartVent Fresh connect inner covers while the sensor system sends the sensor data to the controller. It also serves as interface for the App.

As an option, the **Wireless e16 Wall Controller** (FAN7391) can be used as main unit. In this case it takes over the functions of a main unit and acts as the system's control unit. The wireless control unit has an information display and offers quick access without using the App. If the Wireless e16 is used, no SmartVent Fresh connect inner cover is assigned as main unit.

FAN7391

Indoor CO_2 Sensor (FAN7394) (incl. humidity/temperature sensor) is a wireless sensor for monitoring carbon dioxide, temperature and humidity levels within a ventilation zone for demand-driven ventilation.

FAN7394

Indoor Humidity/Temperature Sensor (FAN7393) (battery operated) is a wireless sensor for monitoring the temperature and humidity values within a ventilation zone for demand-driven ventilation.

FAN7393

Outdoor Humidity/Temperature Sensor (FAN7392) (battery operated) is a wireless outdoor sensor for transmitting the outside temperature to the system.

FAN7392

SYSTEM OVERVIEW

Battery operated appliances

Indoor and Outdoor Humidity/Temperature Sensors (FAN7393 & FAN7392) shall contain the substance of the following, as applicable:

- Battery types are AAA or MN2400 which may be used
- How to remove and insert the batteries (see page 36 for more infomation)
- Non-rechargeable batteries are not to be recharged
- Rechargeable batteries are to be removed from the appliance before being charged
- Different types of batteries or new and used batteries are not to be mixed
- Batteries are to be inserted with the correct polarity
- Exhausted batteries are to be removed from the appliance and safely disposed of
- If the appliance is to be stored unused for a long period, the batteries should be removed
- The supply terminals are not to be short-circuited

2.4 Connect platform

To ensure full functionality of the system, observe a distance of maximum 20 m between the main unit and a system unit, as well as the installation positions given for each component.

In addition to the fixed system components, a mobile device (mobile phone or tablet) with the **App** installed is required as user interface, for setup and full functionality access.
The control app (in the following text “app”) is a free app for Android and iOS operating systems for controlling and programming the system.

It contains of an easily accessible navigation bar for quick settings on the starting screen.

The app has the following menu structure after a connection is made with the controller:

- **Ventilation zone overview**

  To view the status of each zone and make quick adjustments (such as changing the ventilation profile, ventilation mode, ventilation level, activating the boost function, etc.)

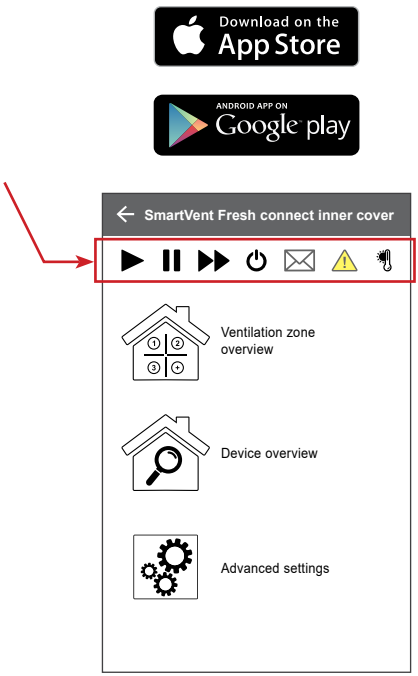
- **Device overview**

  The list of devices paired in the system is displayed, including their names, ventilation zone and status information.

- **Advanced settings**

  To make system settings such as adjusting the stored ventilation profiles, defining maintenance intervals and system updates.

  For a detailed description of the control of the ventilation system via the app, see the separate Connect platform operating instructions.



2.5 Sensor technology

Different sensors are available in the SmartVent Fresh Connect controller platform. These are required to monitor the relevant parameters in the various ventilation zones and to ensure automated ventilation control according to the set profiles. Demand-controlled ventilation is enabled in the ventilation zone assigned to the sensor on the basis of the respective reference variable.

The CO_2 sensor also has a humidity/temperature sensor.

For initial commissioning (see operating instructions for Connect controller platform: Commissioning) and to integrate the sensor system into the ventilation system, a button and an associated LED are used in each case.

The following displays are possible and uniform for all devices to be paired:

LED colour	LED state	Status of the controller
Turquoise	Solid	Device not paired
Green	Flashing	Devices are paired
Green	Solid	Device pairing completed

The data transmission between the sensors and controller takes place at fixed intervals.
Depending on the sensor, the value determination is defined as a fixed cycle or as a check cycle:

- Fixed cycle (60 minutes): Here the sensor system sends a signal to the controller together with the sensor value (temperature, humidity, CO_2 content), thereby reporting its status.
- Check cycle: Here the sensor values are read periodically and checked whether they correspond to the specified value or are within the tolerance range for this value.

  If there are any deviations, the newly measured data is transmitted to the controller.

Sensor hierarchy

TIP:

Several sensors that perform the same task in a zone can be paired with the controller.

The controller then arranges these according to the following sensor hierarchy:

Sensor hierarchy	Sensor type	Component example
Priority 1	Sensor - mains connection	Indoor CO_2 sensor - FAN7394
Priority 2	Sensor - battery-operated	Connect Indoor & Outdoor - FAN7393 & FAN7392
Priority 3	Sensor - controller-integrated	Wireless e16 - FAN7391

SYSTEM OVERVIEW

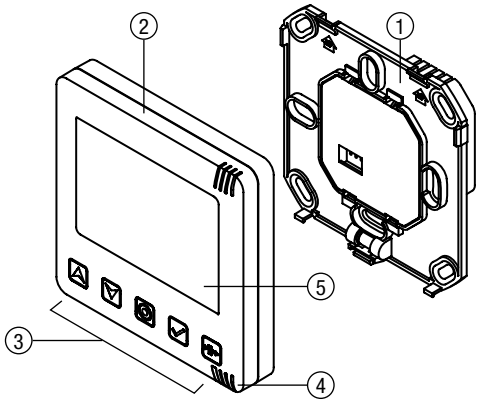
Wireless e16 wall controller (incl. humidity/temperature sensor)

The wireless e16 wall controller (in the following text “controller”) is the control centre for the SmartVent Fresh Connect controller platform. It is used to control and program the individual devices.

The controller also serves as the system interface for the app (Android / iOS).

Communication between the mobile device and the controller takes place via Bluetooth Low Energy (BLE).

The controller consists of a programming unit and a power supply unit with connecting terminals and a fixing frame for installation on the flush-mounted box. The programming unit contains the controller electronics, the user interface (5 capacitive sensor keys) and the display screen (Liquid Crystal Display).
It also has an integrated humidity/temperature sensor.



1 Base plate (power supply unit)
2 Programming unit
3 User interface (sensor keys)
4 Status LED (RGB LED)
5 Display screen (LCD)
6 &7 Navigation keys
8 Mode key
9 Select key
10 Boost / Pause key

The capacitive sensor keys available on the programming unit can be used to start up the ventilation system after installation. The status display (LED, multi-coloured) shows the status of the controller by means of lights in various colours.

The following displays are possible:

LED colour	LED state	Status of the controller
White	Solid	Controller in normal ventilation mode
White	Flashing	Controller is ready for pairing with new components (inner covers, sensors)
Blue	Flashing	Bluetooth connection is being established
Blue	Solid	Bluetooth connection established
Red/White	Alternate flashing	Error or warning message is displayed
Yellow	Flashing	An update is being transferred to the controller

Wireless e16 wall controller (incl. humidity/temperature sensor)

The mode key can be used to trigger system configurations. The different actions are triggered by holding the mode key for different lengths of time.

The display screen shows all information about the ventilation system (ventilation system in normal operation) or, when changing/manually overriding function-defining settings, setting screens.

For more information on operating the controller or the App, please refer to the separate operating instructions for the Connect controller platform.

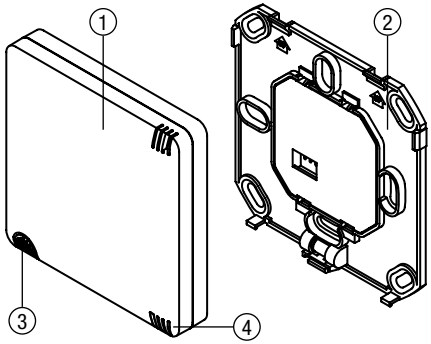
Indoor CO_2 Sensor - FAN7394 (incl. humidity/temperature sensor)

The indoor CO_2 sensor is a sensor for extended background monitoring of the CO_2 concentration in the indoor air in the respective ventilation zone. It also has a humidity/temperature sensor for monitoring the humidity indoors as well as the indoor temperature.

The indoor CO_2 sensor operates according to the NDIR (non-dispersive, infrared) measuring principle by using an infrared light tuned to the wavelength of CO_2. The attenuation of the infra-red light is detected by the sensor and converted into a processable output signal.

It detects the CO_2 concentration in the ambient air within a range of 400 – 10,000 ppm. The higher the CO_2 content of the air, the worse the room air quality.

It transmits the CO_2 values determined to the controller by radio (RF866MHz network) or RS485 data cable.
If the measured CO2 content of the indoor air exceeds the limit defined via the App (factory setting 1,500 ppm), all ventilation devices assigned to the ventilation zone are switched to ventilation operating mode, level 3.



1 Housing with sensor electronics
2 Base plate (power supply unit)
3 Button
4 LED (multi-coloured)

SYSTEM OVERVIEW

Indoor Humidity/Temperature Sensor - FAN7393 (battery operated)

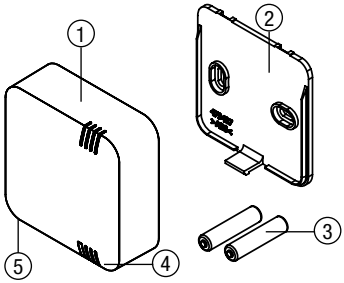
The indoor humidity/temperature sensor is a radio sensor for monitoring temperature and humidity levels within a ventilation zone for demand-led ventilation.

Humidity and temperature influence the quality of the indoor air. The indoor humidity/temperature sensor measures the relative humidity and the temperature in the indoor air, transmits the measured values to the controller by radio (RF866MHz network).

The electrical measuring transducer measures humidity and temperature via a capacitive sensor and converts the measured value into a processable output signal.

The Indoor humidity/temperature sensor measures the relative air humidity in the range 20 – 90 % and the temperature in the range 0 – 60 °C.

If the measured values exceed the limit values stored in the ventilation profile (factory setting 70 %), all ventilation devices assigned to the ventilation zone are switched to ventilation operating mode, level 3.



1 Housing with sensor electronics
2 Base plate
3 Battery (2 x AAA required)
4 LED (multi-coloured)
5 Button (bottom of housing)

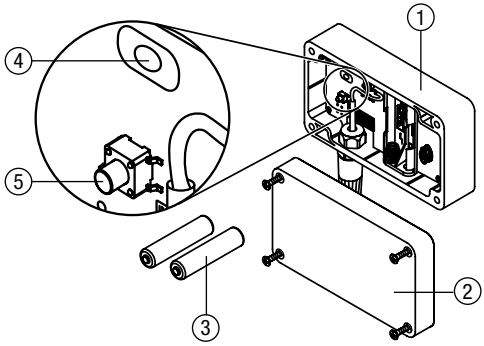
Outdoor Humidity/Temperature Sensor - FAN7392 (battery operated)

The Outdoor humidity/temperature sensor is a radio sensor for measuring the relative humidity and temperature in the ambient air and sending the measured values to the controller. It serves as an outdoor sensor for all ventilation zones.

Both measured variables (humidity and temperature) are mandatory for the use of automatic ventilation profiles (see Connect controller platform operating instructions).

The electrical measuring transducer measures the humidity and temperature via a capacitive sensor and converts the value into a processable output signal.

The Outdoor humidity/temperature sensor measures the relative air humidity in the range 20 – 90 % and the temperature in the range -20 – 60 °C.



1 Housing with sensor electronics
2 Cover
3 Battery (2 x AAA required)
4 LED (multi-coloured)
5 Button

DANGER

Exposed electrical components.

Electric shock and injury due to live components (230V, 50Hz)!

- Before working on electrical installations, disconnect all affected equipment from the power supply.
- Observe the requirements for protection class II when laying the power supply cable.
  Do not lay live cables.
- Lay the mains connection cables and data cables separately.
- Guide the system components of the ventilation system to the same automatic safety device.
  Installation and connection must only be performed by qualified and trained personnel.

NOTE

Insufficient wire cross-section.

Excessive voltage drop and/or contact cannot be guaranteed!

Only use the following cable cross-sections:

• Power cable:	1.5mm²
• if selected: Connecting cable for e.g. pressure monitor:	max. 0.8mm²
• if selected: RS485 data cable:	0.25 – 0.5mm², length max. 500m

---

TIP:

When laying the cables, make sure that there is sufficient play, and observe the maximum cable length.

The communication of the system components (Wireless e16 wall controller, Connect inner covers, Indoor CO_2 sensor) can be carried out via the 866 MHz radio network or RS485 data cable.
Accordingly, the following cabling is possible:

A: Connection/communication of the system components via 866 MHz radio network

B: Connection/communication of the system components via RS485 data cable

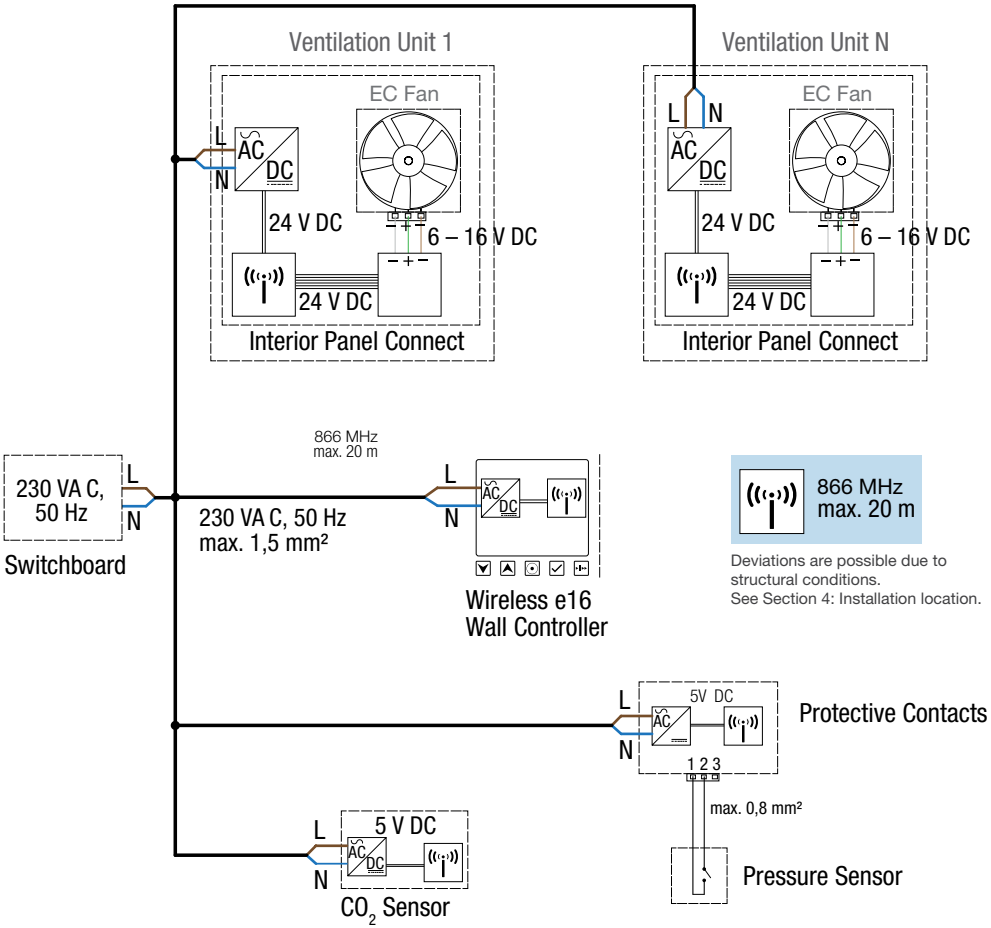
The combination of both connection types is possible. For example, communication between the inner cover and the controller can take place via RS485 data cable, while the sensor system communicates with the controller via radio.
The following special features must be taken into account:

The battery-operated Indoor/Outdoor humidity/temperature sensors do not require a mains connection.
They communicate with the controller exclusively by radio; it is not possible to connect an RS485 data cable.

ELECTRICAL CONNECTION

3.1 A: Connection of the system components via 866 MHz radio network

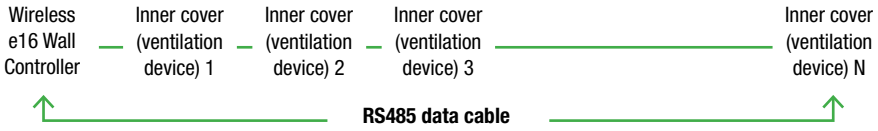
Electrical connection of controller, inner cover and sensors via radio communication.



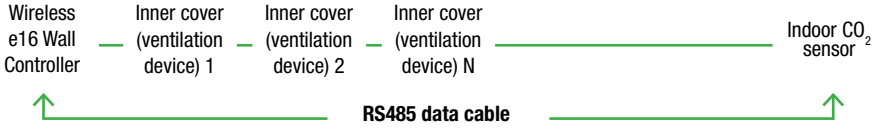
3.1 B: Connection of the system components via RS485 data cable

Potential connections

Scenario 1



Scenario 2



NOTE

Inserting the jumper.

If communication between the controller and the Connect inner cover and/or CO_2 sensor is via an RS485 data cable, a jumper for activating the RS485 data cable must be inserted on the first (Wireless e16 wall controller) and last device in the entire series!

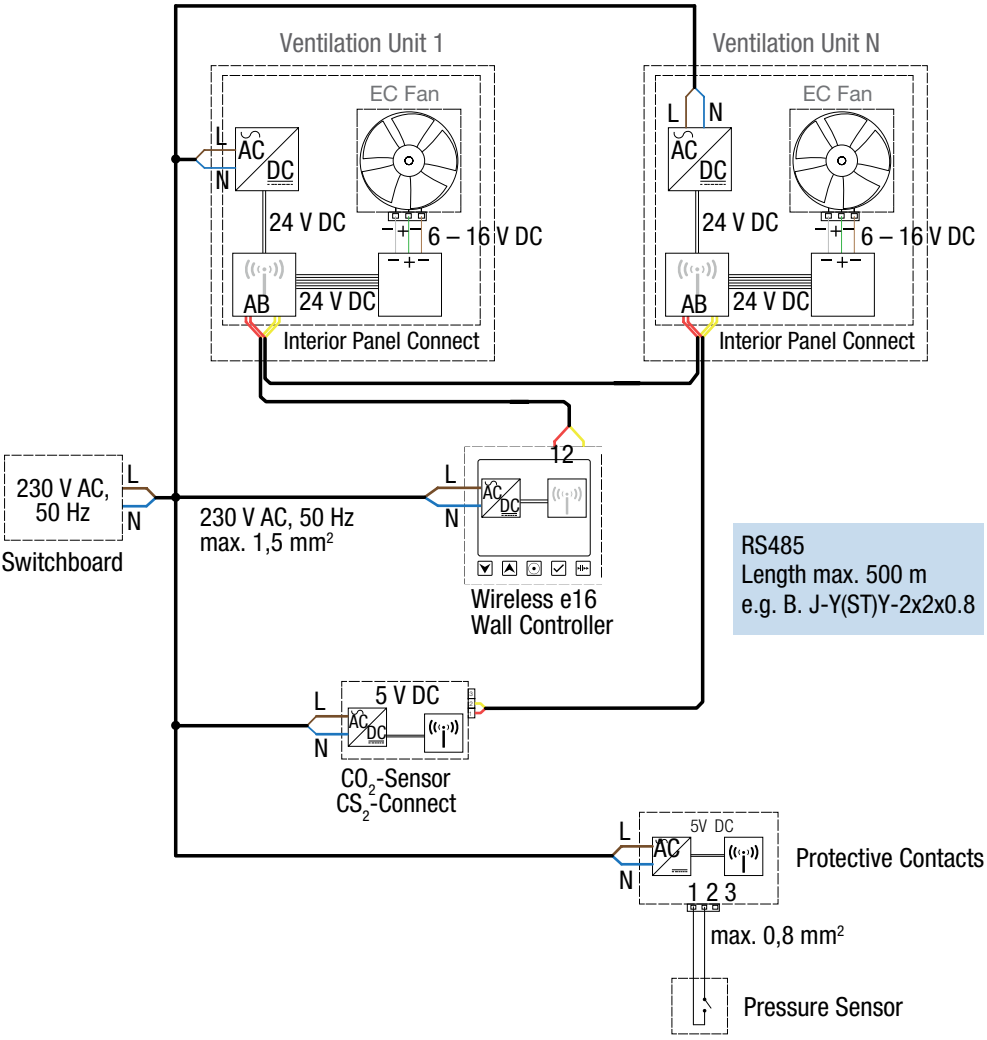
Configuration

RS485 data cable	Data
Starting point	Jumper setting 120Ω
End point	Jumper setting 120Ω
Cable type	Shielded cable with twisted wire pairs, e.g. CAT 5 network cable
Max. recommended distance	500m with fully equipped system
Transmission rate	38,400 bps

ELECTRICAL CONNECTION

3.1 B: Connection of the system components via RS485 data cable

Electrical connection of the controller, inner cover and sensors via data cable communication.



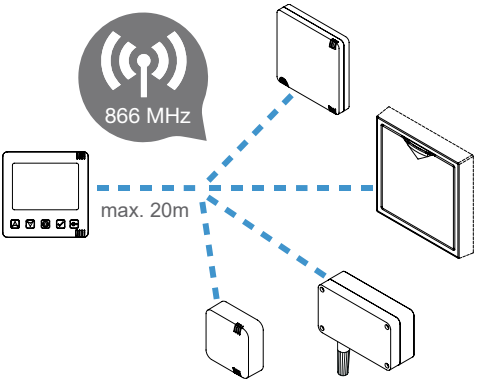
4.1 Installation position

- Read the “Installation” and “Electrical connection” sections carefully before installation to avoid installation errors. The installation and connection of the entire ventilation system must be carried out by qualified and trained personnel.
- Please observe the following procedure before installation:

  Step 1: Disconnect all affected electrical components from the power supply.

  Step 2: Secure all affected electrical components against being switched on again.

  Step 3: Check that all electrical components concerned are voltage-free.
- Check the delivery for completeness and transport damage upon receipt using the delivery note. Report missing items immediately.



NOTE

Unstable radio connection due to obstacles.

- Mount all devices in the ventilation system at a distance from the controller of no more than 20 m.

Mount the controller in a central location within the utilisation unit. All components of SmartVent Fresh Connect should be approximately equidistant from the controller. Pay attention to structural conditions that may limit the radio range (e.g. thick walls with steel beams, underfloor heating or solid concrete ceilings, etc.). The controller must be freely accessible at all times!

- Only install all ventilation system devices intended for indoors
  - on finished and flat interior walls.
  - in rooms which are free from aggressive or corrosive gases and extreme dust exposure.
- Only install the Outdoor humidity/temperature sensor
  - on completed exterior walls.
  - out of direct sunlight.
- The devices in the SmartVent Connect controller platform are mounted differently on interior or exterior walls:
  - Inner cover: using wall sleeves

    The installation of the wall sleeve is not included in this document,

    see: 5040 - 0035 (surface-mounted),

    and the installation instructions for the respective ventilation device.
  - Controller, indoor CO_2 sensor and switching contact: by means of the junction box
  - Indoor / Outdoor humidity/temperature sensors: directly on the wall

4.2 Junction boxes | Connect inner cover housing

Junction boxes

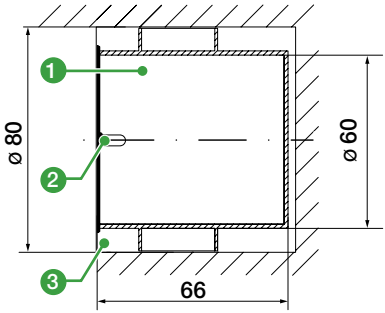
Several junction box variants are available for mounting the controller, CO_2 sensor and switching contact:

- Flush-mounted box
- Flush-mounted plasterboard box

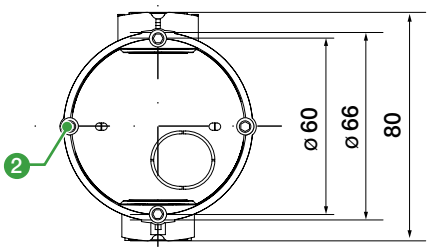
We recomend European flush boxes as an alternative in NZ:

Part code: DCT4411

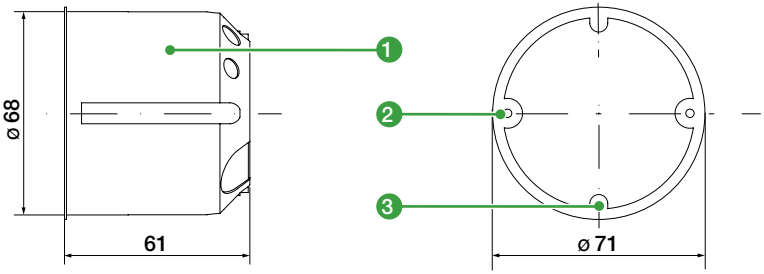
Dimensions: 72mm(H) x 72mm(W) x 35mm(D)



Flush-mounted box 60x66



1 Flush-mounted box 60x66
2 Base plate fixing points (2 x)
3 Wall opening



Flush-mounted plasterboard box 61x68

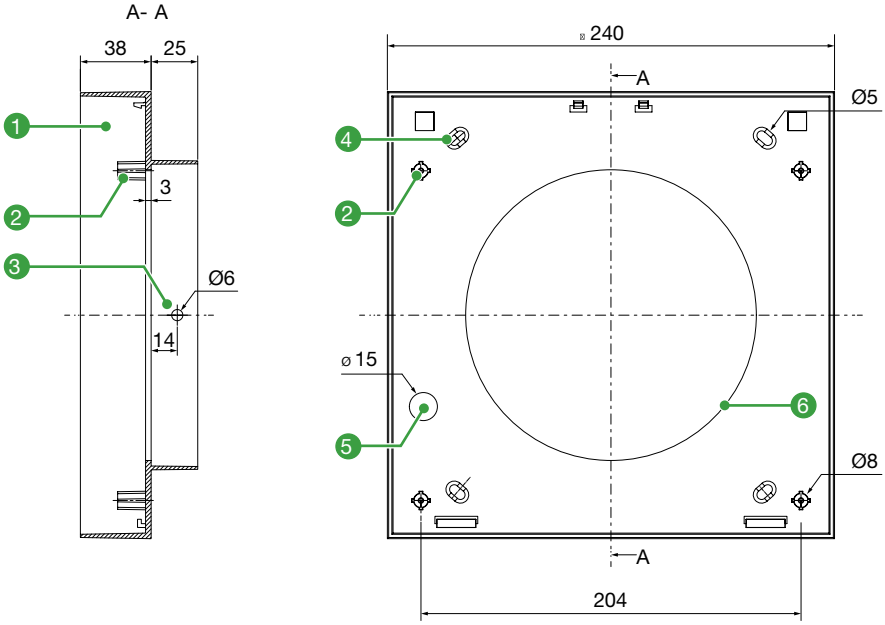
1 Flush-mounted plasterboard box 61x68
2 Plasterboard box fixing points (2 x)
3 Base plate fixing points (2 x)

4.2 Junction boxes | Connect inner cover housing

Connect inner cover housing

For mounting the Connect inner cover, two housing variants are available to accommodate the holding plate including electronics:

- R-D160 housing (flush or surface-mounted)
- R-D200 housing (flush or surface-mounted)

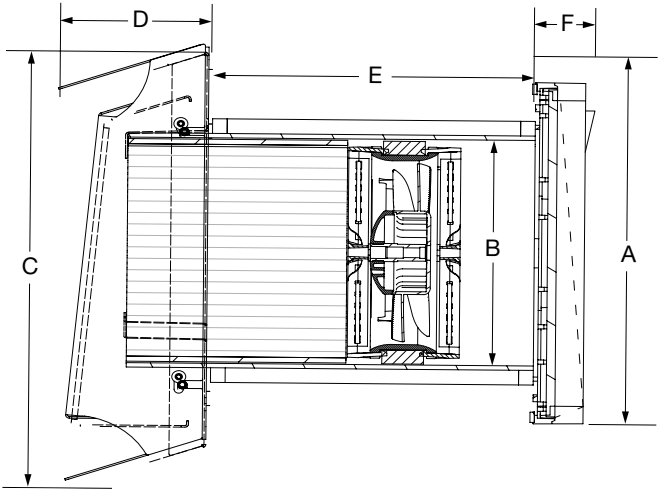


1 Inner cover housing
2 Electronics cover fixing points (4 x)
3 Wall sleeve fixing hole (2 x)
4 Interior wall fixing hole (4 x)
5 Cable gland
6 Opening for wall sleeve

Designation	Width (mm)	Height (mm)	Depth (mm)	Ø (mm)
Junction boxes | Mounting enclosure				
Wall opening for flush-mounted box 60x66	-		66	82
Wall opening for plasterboard wall box 68x61	-		61	68
Housing for Connect flush-mounted / wall-mounted inner cover	240	240	38	-
Devices				
Base plate of controller, CO_2 sensor and switching contact	86	86	30	-

PREPARING FOR INSTALLATION

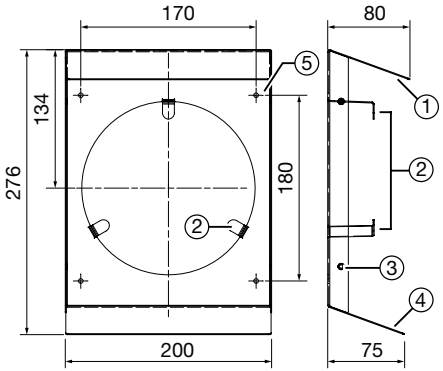
4.3 Dimensions (mm)

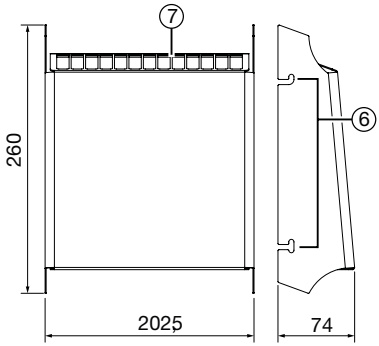


A	B	C	D	E	F
270	Ø160	276	80	≥ 140	44

4.4 Dimensional drawings of components

Compact Weather Protection Hood





1 Upper drip rail
2 Bracket for thermal accumulator (3x)
3 Fastening screws for cover (4x)
4 Bottom drip rail
5 Exterior wall attachment with Ø8 mm, min. 50 mm deep (4x)
6 Guidance for fastening screws (4x)
7 Protective grid

5.1 Creating a wall opening

DANGER: The wall contains electrical cables.

Electric shock and injury due to live components (230V, 50Hz)!

- Before installing the wall openings, check for the presence of cables in the drilling area.

CAUTION: Falling masonry when creating the wall opening can lead to physical injuries and/or damage to property!

- Protect flooring against falling masonry.
- Remove objects from the immediate vicinity of the drilling area in the interior.

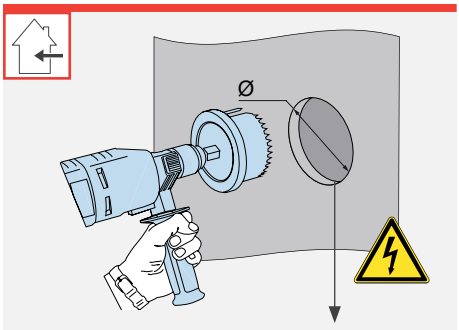
TIP:

- The controller must be located in a central position in the dwelling unit. (See 4: Installation location). Ideally create the milling hole for the junction box for installing the controller at a height of 1.50 m from the floor or at the height of other existing light switches (accessibility for operation).
- Create the milling hole for the junction box for installing the CO_2 sensor or the switching contact no more than 20 m away from where the controller is installed.

  Select the installation location of the CO2 sensor in the air flow of the room at medium room height and install the wall opening there. The measured values at the installation site must correspond to those in the room in order to obtain accurate measurement results.
- The wall opening for mounting the Connect inner cover is also the mounting location of the ventilation device. This can be taken from the ventilation concept.

Creating wall openings for junction boxes (controller, CO2 sensor, switching contact)

Milling drill



Flush-mounted: Milled hole Ø 82 mm, depth 66 mm

Plasterboard wall: Milled hole Ø 68 mm, depth 61 mm

Requirements:

- The masonry must be dry and in a load-bearing condition.
- Plasterboard wall is completed.
- No lintels in the location of the planned milled holes.

▶ Cut a milled hole in the interior wall for the components' junction box:

- Controller programming unit,
- switching contact,
- CO_2 sensor.

Be aware of the maximum cable lengths. (see 3: Electrical connection)

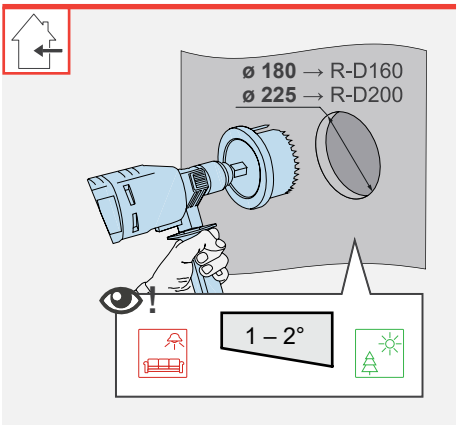
➡ The wall opening for the box is created.

INSTALLATION AND ASSEMBLY

5.1 Creating a wall opening

Creating a wall opening for the Connect inner cover

The wall opening for the Connect inner cover is also the wall opening in which the ventilation device is installed. The Connect inner cover replaces the inner cover of the respective ventilation device. The exact installation position can be found in the ventilation concept. Consult your planner before installation if you are at all uncertain. The installation of the other components of the ventilation device is not part of this documentation. This can be found in the separate installation instructions for the respective ventilation device.



Requirements:

- The masonry must be dry and in a load-bearing condition.
- No load-bearing elements in the position of the drill hole.

NOTICE: Accumulation of condensate in the wall sleeve leads to damage to the brickwork and exterior wall!

- Create the wall opening with a slope of 1° to 2° to the exterior wall.

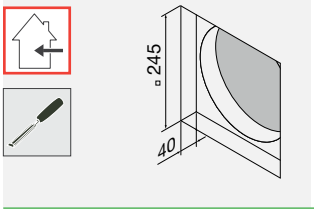
▶ Make the wall opening (core hole) for the ventilation device for mounting the Connect inner cover (for position, see separate installation instructions for the respective ventilation device and concept).

▶ Drill a wall opening
- **Ø 225 mm for wall sleeve R-D200**
- **Ø 180 mm for wall sleeve R-D160**

with a slope of 1° to 2° to the exterior wall.

➡ The wall opening for the ventilation device has been created.

Additionally for installation of the ventilation device with flush-mounted Connect UP inner cover:



▶ Create an opening for the flush-mounted housing on the interior wall, centred on the core drill hole, for installing the inner cover.

Dimensions: 245 x 245 x 40 (W x H x D mm)

Then mount the wall sleeve in the wall opening. The installation of the wall sleeve is not included in this document. It can be found in the installation instructions for your specific ventilation device.

5.1 Creating a wall opening

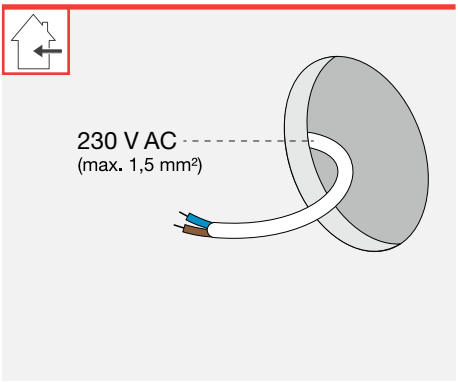
Laying the cables

DANGER: **Exposed electrical components.**

Electric shock and injury due to live components (230V, 50Hz)!

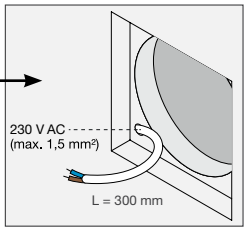
- Before working on electrical installations, disconnect all affected equipment from the power supply.
- Observe the requirements for protection class II when laying the power supply cable. Do not lay live cables.
- Lay the mains connection cables and data cables separately.
- Lead all components of the ventilation system to a circuit breaker.

Installation and connection must only be performed by qualified and trained personnel.



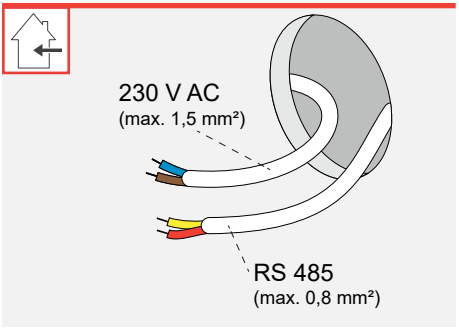
▶ Lay the 230 V AC mains connection cable to the wall opening for connecting the

- Controller,
- CO_2 sensor,
- Switching contact,
- Inner cover



➡ You have laid the mains connection cable.

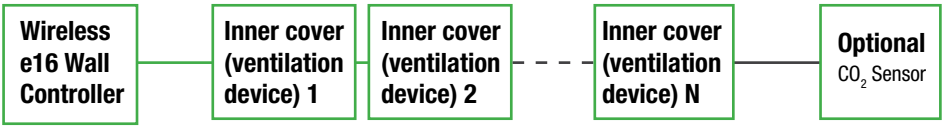
Laying the data cable (only if the system devices communicate by cable)



▶ Lay the RS485 data cable between the components' wall openings:

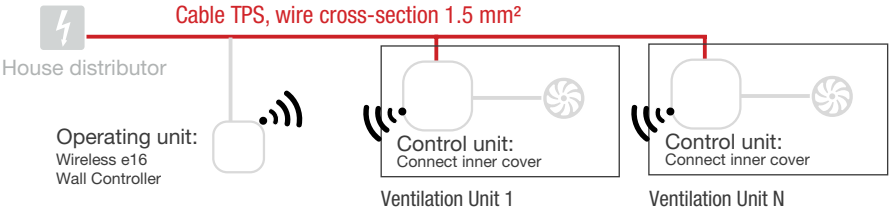
- The first device connected is always the controller.
- The other system components are connected in series (see principle sketch below).

➡ You have laid the mains connection cable.



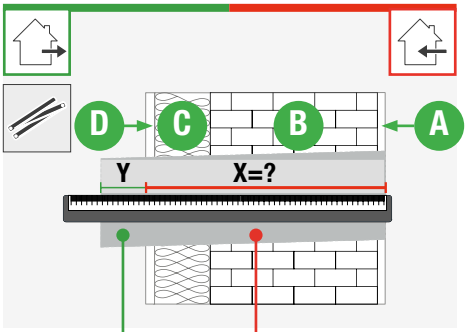
INSTALLATION AND ASSEMBLY

System communication by radio:



5.2 Installing the wall sleeve

Measuring tape, angle grinder, spirit level, non-pressing 2K polyurethane foam, cutter, mounting wedge set and Styrofoam discs



Requirements:

- The wall opening Ø 180 mm is finished.
- The cables to the wall opening of the ventilation unit have been laid.

▶ Determine the exact wall thickness X:

D = Exterior rendering, incl. other superstructures if applicable.

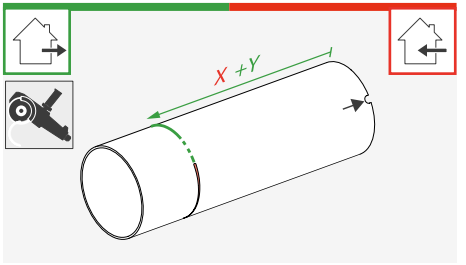
C = Insulation, if necessary incl. air gap

B = Masonry, incl. relining if necessary

A = Interior plaster

Y = Protrusion of the wall sleeve in the outer area (depending on the installation situation exterior rendering or masonry)

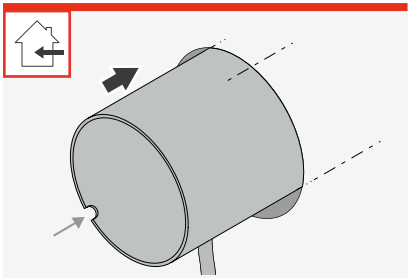
Inner cover / External termination	X in (mm) =		Y in (mm) =
	Connect mounted on the surface	Connect Concealed	
Standard	A+B+C+D	A+B+C+D-38	45



▶ Cut the wall sleeve to the determined dimension X + a protrusion of Y on the exterior wall.

Be careful not to cut away the cut-out for the ventilation unit connecting cable.

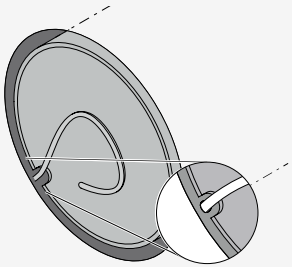
5.2 Installing the wall sleeve



- Remove the Styrofoam discs from the wall sleeve.
- Insert the wall sleeve into the wall opening so it is flush with the interior wall.

  Note the thickness of the plaster.

  The recess for the connecting cables is located on the interior wall side and near the cables laid to the wall opening.

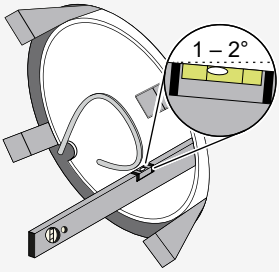


- Guide all connecting cables through the cut-out in the wall sleeve.

NOTICE: Accumulation of condensation water in the wall sleeve.

Damage to exterior wall and masonry and the building structure!

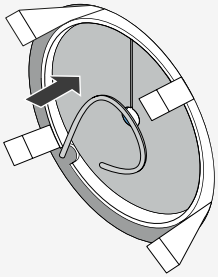
- Attach the wall sleeve with a slope of 1° to 2° to the exterior wall.



- Attach the wall sleeve inside and outside with the mounting wedges so that there is a slope of 1 – 2° to the exterior wall.
- Check the angle of the wall sleeve using a spirit level.

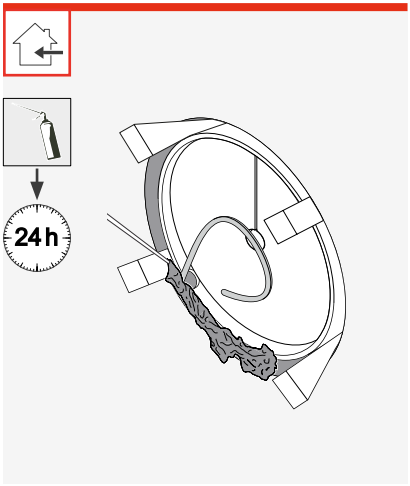
NOTICE: Contamination of the wall sleeve by e.g. plaster residues leads to damage of the components in the wall sleeve.

- Before foaming the free space between the wall sleeve and masonry, insert styrofoam discs.



- Insert the styrofoam discs into the wall sleeve from the inside and outside.

5.2 Installing the wall sleeve



NOTICE: Interruption of the thermal insulation composite system.

Damage to the building structure!

- During installation, replace the wall structure as far as the wall sleeve and if necessary guide the housing (flush-mounted inner covers) towards it.
- Observe the necessary barrier levels.

Foam-seal the gap between the wall sleeve and masonry all the way around with non-pressing 2K polyurethane foam.

NOTICE: Connect inner covers:
Leave a 30 mm gap behind the interior wall edge of the wall sleeve, otherwise the housing can no longer be inserted.

Depending on the inner cover to be used, cut off the excess, hardened mounting foam and protruding mounting wedges as follows:

Connect Mounted on the Surface:

- 30mm behind the interior wall edge of the wall sleeve (gap)
- Flush with the exterior wall

Connect Concealed:

- 30mm behind the interior wall edge of the wall sleeve (gap)
- Flush with the exterior wall

Take care not to damage the connecting cable on the interior wall.

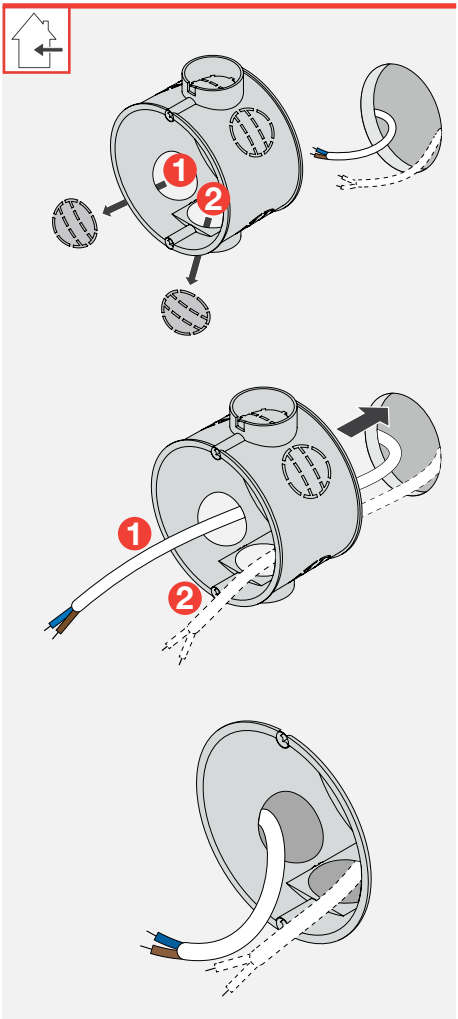
The wall sleeve is installed.

5.3 Junction box | Mounting the inner panel housing

Inserting the junction box

When installing the controller, CO_2 sensor or switching contact, the base plate of the respective device is mounted on a flush-mounted or flush-mounted plasterboard box. The mains connection cable is fed through the box and connected to this base plate.

If the connection to the ventilation device is to be made via RS485 data cable, this is also fed through the box and connected to the base plate of the controller and/or CO_2 sensor. Make sure that the box is sufficiently deep to accommodate the cables.



We recommend European flush boxes as an alternative in NZ:

Part code: DCT441

Dimensions: 72mm(H) x 72mm(W) x 35mm(D)

Requirements:

- The wall openings have been created.
- The cables are laid.

▶ Break one cable gland each

- for the mains connection cable (1) and if the connection to devices of the ventilation system is made by cable
- for the connecting cable to the device (2) out of the box.

▶ Lay

- the mains connection cable (1) and if the connection to devices of the ventilation system is made by cable
- the connecting cable (RS485 data cable) to the device (2), or if a switching contact is connected
- the connecting cable for e.g. a pressure monitor (2) through the break-outs.

▶ Insert the prepared box into the wall opening.

▶ Fill the space between the interior wall and the box **with a suitable filler.**

➡ The junction box is inserted.

5.3 Junction box | Mounting the inner panel housing

Installing the inner cover housing

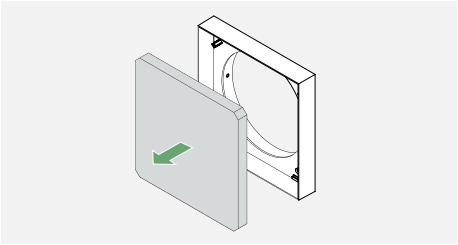
The installation of the housing is described here on the basis of the flush-mounted housing.
The surface-mounted housing is mounted on the inside wall in the same way.

DANGER: **Exposed electrical components.**

Electric shock and injury due to live components (230V, 50Hz)!

- Before working on electrical installations, disconnect all affected equipment from the power supply.
- Secure the system against being switched on again.

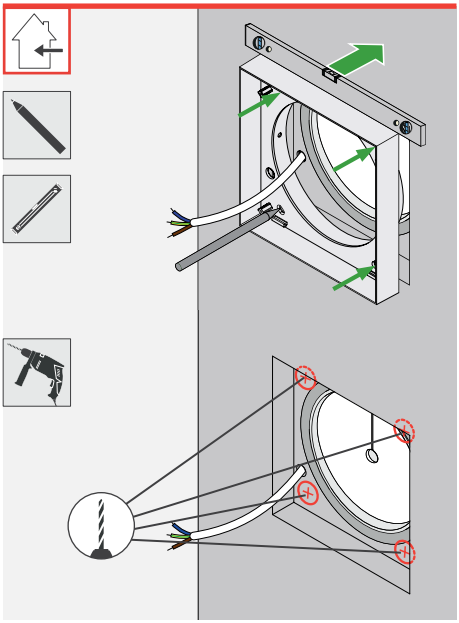
Spirit level, pencil, drill, cordless screwdriver, screws, dowels



Requirements:

- The wall sleeve is installed.
- The cables are laid.

▶ Remove the protective cover from the housing.



▶ Place the housing centred around the wall sleeve on the inside wall.

The centring spigot of the flush-mounted box is inserted over the wall sleeve and lies flush against the stop.

▶ Align the housing using a spirit level.

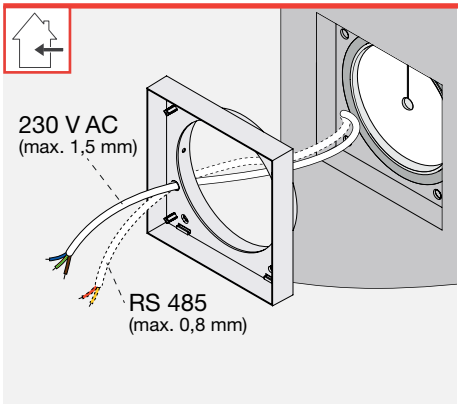
▶ Mark the four corner drill holes.

▶ Drill the four holes with Ø 6 mm, min. 40 mm deep.

▶ Insert the dowels into the holes.

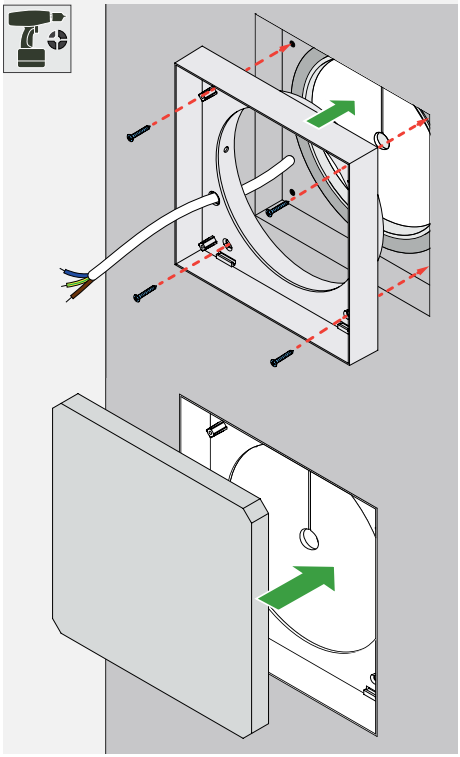
5.3 Junction box | Mounting the inner panel housing

Installing the inner cover housing



▶ Lay

- the mains connection cable (230 V AC)
- the RS485 data cable, if available from the rear through the cable gland of the housing.



▶ Screw the housing into the dowels using the screws.

! The centring spigot of the flush-mounted box is inserted over the wall sleeve and lies flush against the stop.

NOTE: If the housing is soiled, e.g. by plaster residue, it is no longer possible to attach the inner cover electronics!

- Seal the housing dust-tight during the entire construction process.

▶ Reinsert the plaster protector into the housing.

➡ The Connect inner cover housing is installed.

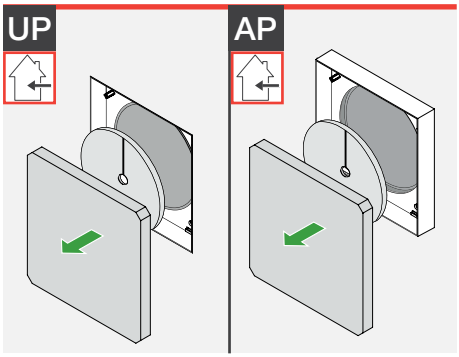
5.4 Connect inner cover

In order to be able to mount the inner cover, the wall sleeve and housing must be installed:

- Wall sleeve: The installation of the corresponding wall sleeve is not part of this documentation.

It can be found in the installation instructions for the respective ventilation device.

- Inner cover housing: See Section 5.3 of this documentation.



Requirements:

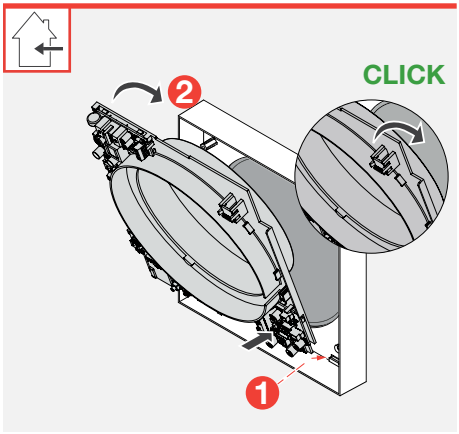
- The wall sleeve and housing are installed and provided with protective covers.

▶ Connect R-D160 UP/AP inner cover housing 2003-0245

▶ Remove the protective cover from the housing and from the wall sleeve.

➡ Access to the installation site is clear.

Snapping the holding plate with the electronics into the housing



Requirements:

- The housing and wall sleeve are freely accessible.

NOTE: Malfunction of the ventilation device due to damage to the electronics.

- Do not damage the electronic components when inserting the holding plate!

- Hold the holding plate at a slight angle and slide it downwards into the guide provided in the housing (1).
- Swivel the holding plate towards the housing and then gently press it into it (2).

➡ The holding plate should snap audibly into place.

5.5 Connecting the mains cable and fan cable

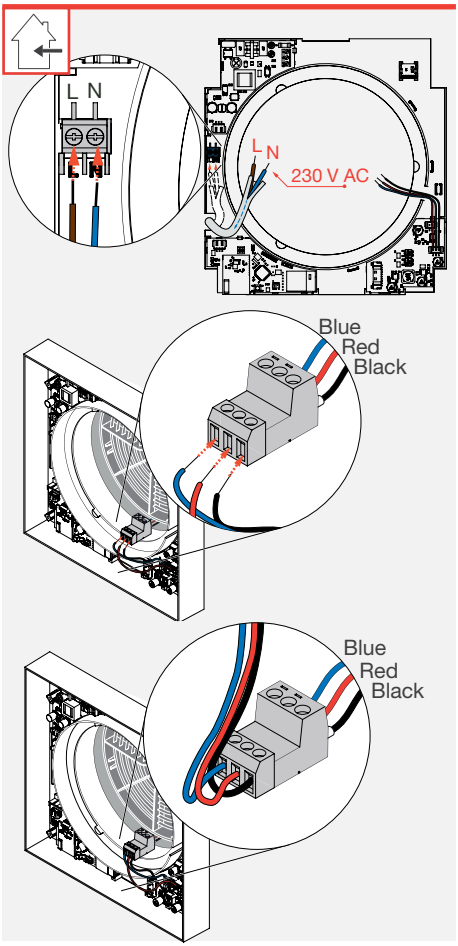
DANGER: Exposed electrical components.

Electric shock and injury due to live components (230V, 50Hz)!

- Before working on electrical installations, disconnect all affected equipment from the power supply.
- Observe the requirements for protection class II when laying the power supply cable. Do not lay live cables.
- Lay the mains connection cables and data cables separately.

Installation and connection must only be performed by qualified and trained personnel.

Stripping tool, small slotted screwdriver



Requirements:

- The holding plate is mounted in the housing.

▶ Shorten the mains connection cable to the required length and strip approx. 7 mm of insulation with the stripping tool.

Fix this cable (blue/brown) in the screw terminal on the electronics of the holding plate:

- Connect the phase conductor with cable L (brown).
- Connect the neutral conductor with cable N (blue).

➡ The mains connection cable is installed.

Requirements:

- A thermal accumulator insert of the SmartVent Fresh ventilation system is mounted in the wall sleeve according to the corresponding installation instructions.

▶ Connect the cables (blue, red, black) to the plug-in connector of the ventilation device.

NOTE: Fan cable connection.

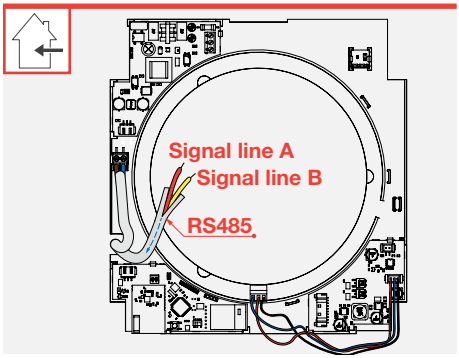
- When connecting, always make sure that the cable with the colour coding corresponding to the assignment is inserted into the corresponding socket!

➡ The fan cable is installed.

5.5 Connecting the mains cable and fan cable

Connecting the data cable (only for communication between system devices by cable)

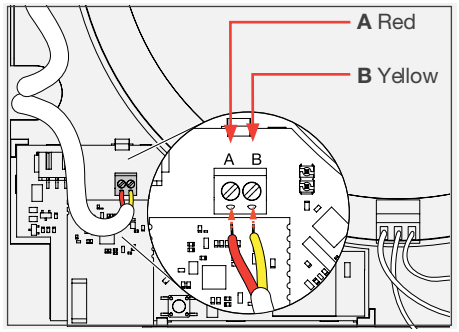
Stripping tool, small slotted screwdriver



Requirements:

- An RS485 data cable has been laid.
- The holding plate is mounted in the housing.
- The mains cable and fan cable are connected.

▶ Shorten the RS485 data cable to the required length and strip approx. 7 mm of insulation with the stripping tool.



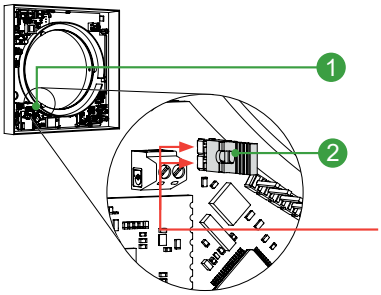
Connect this cable (red/yellow) to the holding plate:

- Signal cable A (red) to “A”.
- Signal cable B (yellow) to “B”

➡ The RS485 data cable is installed.

If an RS485 data cable is used for communication between the controller and the ventilation devices and/or CO_2 sensor, the jumpers for the first (Wireless e16 Wall Controller) and last devices in the line must be set as shown below.

Position of jumper on the Connect inner cover



1 Slot for the jumper

2 Jumper connected

The 2-pin connector for the jumper is located on the holding plate of the inner cover.

On delivery, the jumper is only plugged into one pin (deactivated) or is included as an accessory.

Use the two pins to activate the connection with the RS485 data cable.

5.6 Installing the weather protection hood

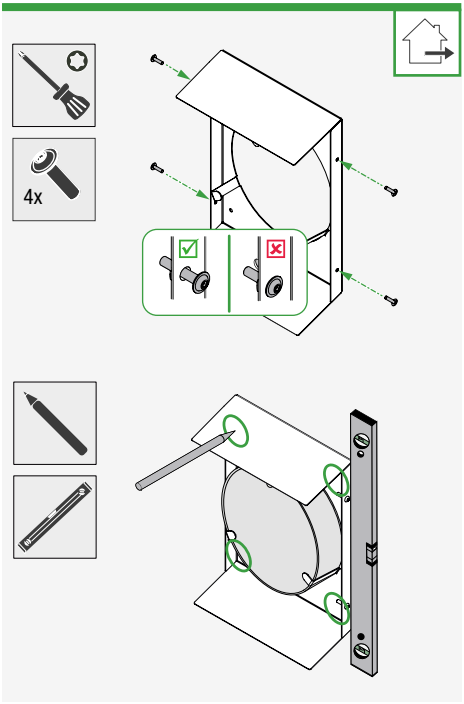
NOTE: Installation on an unfinished exterior wall
results in damage to the exterior wall!

- Only install the weather protection hood (exterior closure) once the exterior wall is finished and completely hardened.

NOTE: Penetration of condensate and/or algae build-up around the weather protection hood
results in damage to the masonry/exterior wall and/or discoloration of the façade!

- Affix all sealing tapes prior to installing the weather protection hood base plate.
- Carry out a biocide/water-repellent pre-treatment on the render around the weather protection hood in vulnerable areas (Consult your planner for further information!).

Spirit level, pen, drilling machine with drill bit Ø8 mm, electrical screwdriver, wall plugs (insulation plugs when using Simplex or with insulated exterior walls), permanently elastic outdoor sealant, sealing tape, screws



Requirements:

The exterior wall is finished and level.
The wall sleeve is fitted.

- Remove the protective disc from the wall sleeve on the exterior wall side.
- Turn the four lateral screws together with captive washers loosely from the outside into the four threaded holes (blue arrows) on both sides of the base plate.

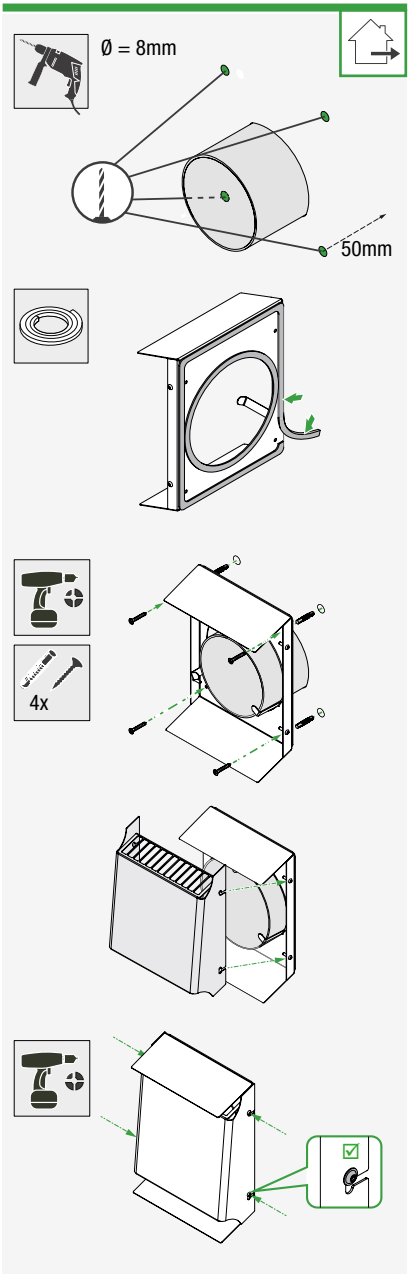
NOTE: Damage to the masonry/external wall due to misaligned drip rails!

- Make sure that the slopes on both drip rails are aligned to down-facing.

- Push the base plate onto the protruding wall sleeve. Observe the alignment of the drip rails: The slope leads in direction of the ground/bottom.
- Align the base plate using a spirit level.
- Mark out the four bore holes for fastening the base plate.

INSTALLATION AND ASSEMBLY

5.6 Installing the weather protection hood



▶ Drill the four holes with Ø8mm to a depth of min. 50 mm.

TIP: Apply the sealing tape only immediately before mounting the base plate.

This prevents excessive expanding of the sealing tape and facilitates installation.

▶ Affix the sealing tape, 9mm, on the external wall side and circumferentially to the base plate:

- around the opening for the wall sleeve.
- at a distance of 5mm from the outer edge.

Make sure that the sealing tape does not protrude over the inside edge of the wall sleeve opening.

▶ Insert the wall plugs into the drill holes.

▶ Secure weather protection hood base plate to the external wall using four screws.

▶ Hook the cover of the from the front into the lateral screws (blue arrows) of the base plate.
Make sure that the washers are placed between the cover and the screw.

▶ Pull down the cover until it snaps into place.

▶ Secure the cover to the base plate using the lateral screws.

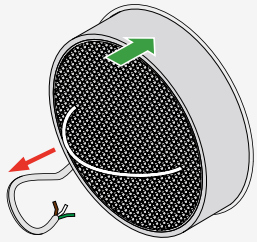
➡ The weather protection hood is installed.

5.7 Installing the thermal accumulator insert and connect the fan to the controller

Installing the thermal accumulator insert

NOTE: **Do not store/stack the thermal accumulator outside the wall sleeve.**
This may cause damage or breakage to the ceramic block!

- Insert the thermal accumulator immediately after removing it from the packaging

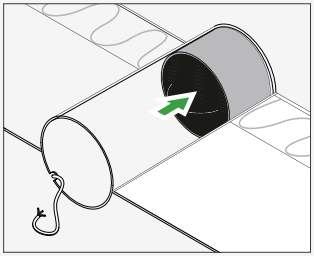


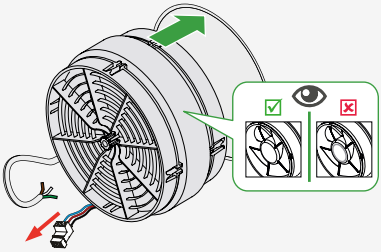
Requirement:
The weather protection hood is installed.

Remove the protective discs from the wall sleeve.

From the interior, slide the thermal accumulator into the wall sleeve as far as the end-stop.
Make sure that the handle is facing towards the interior.

Make sure that the controller cable (fan-BUS) is facing towards the interior.





Insert SmartVent Fresh fan and core into the wall sleeve so that you can reach the plug-in connection.

Ensure that the fan's side **WITHOUT** type plate is directed to the interior room side.

➡ The thermal accumulator is inserted.

NOTE: **For electrical connection between controller and fan as well as fitting the inner cover see installation manual for controller platform "Smartvent Fresh Connect".**

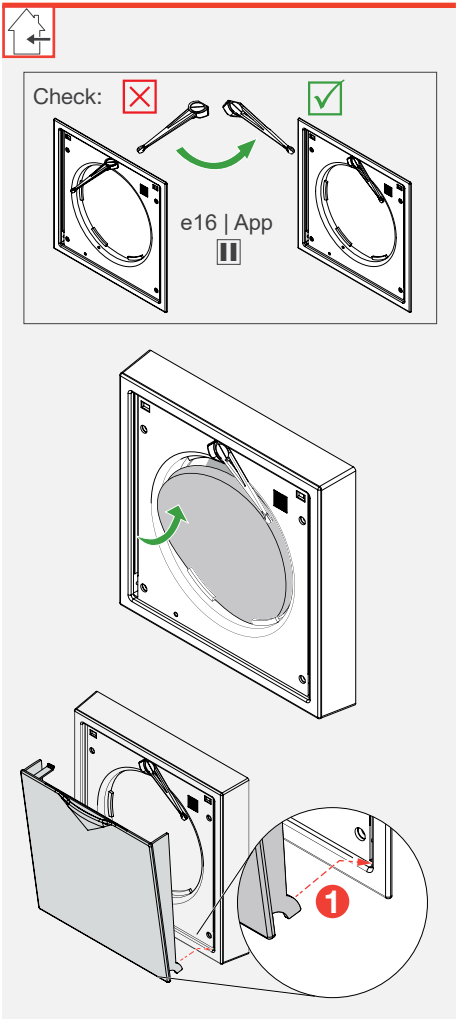
5.8 Inserting the filter and mounting the automatic closing flap

NOTE: Locking arm in wrong position. Breakage of the locking arm.
Before the closing flap is fitted, the locking arm must be swivelled to the right (delivery state).
This is done exclusively via the controller or the App.

To do this, switch all devices to pause (see operating instructions for the Connect controller platform:

See 5.12 - Pairing System Components).

Never swivel the locking arm by hand!



Requirements:

- Check the position of the locking arm: it must be swivelled to the right.

  If necessary, correct the position on the controller via the app (see operating instructions for the Connect controller platform).

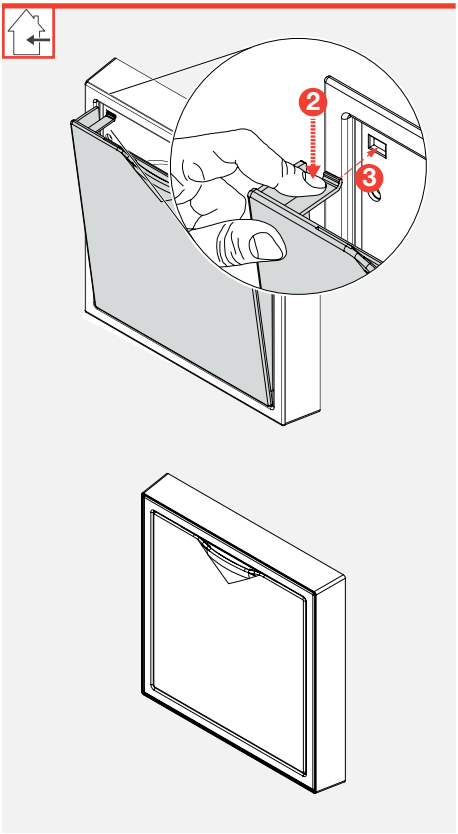
- Push the filter (standard dust filter, alternatively pollen or activated carbon filter) behind the provided guides (filter holder) into the electronics cover and insert it in this way.

  Position the filter firmly between the filter holders.

→ The filter is installed.

- Hook the lugs of the closing flap into the electronics cover at the bottom (1).

5.8 Inserting the filter and mounting the automatic closing flap



- Press the spring clip at the top slightly downwards (2).
- Guide the closing flap to the top of the electronics cover (3), pushing the slightly depressed spring clip into the opening provided in the electronics cover. The spring clip engages and the closing flap is pulled and held by the installed magnets on the electronics cover.

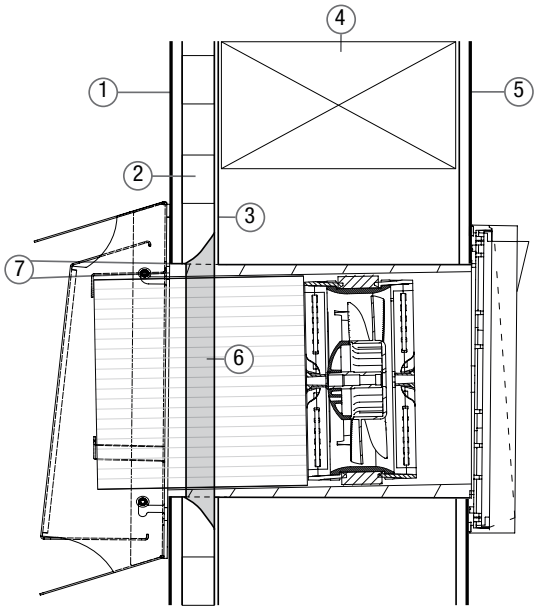
➡ Magnets hold the closing flap in the closed position.

➡ The engaged spring clip prevents possible falling off when opening/closing the closing flap.

➡ The closing flap is installed.

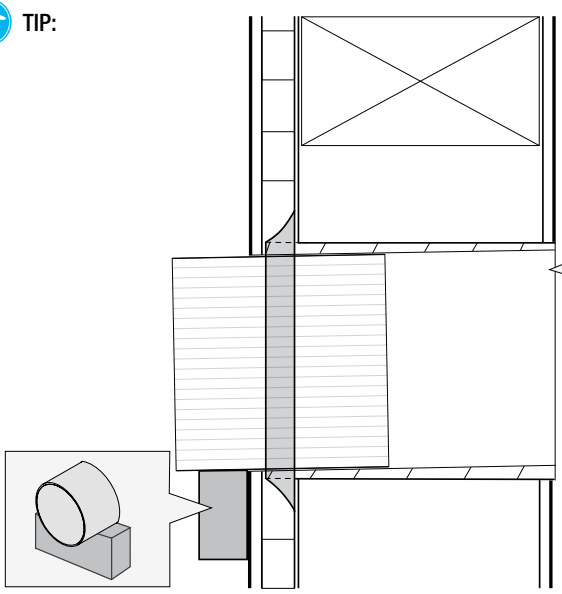
INSTALLATION AND ASSEMBLY

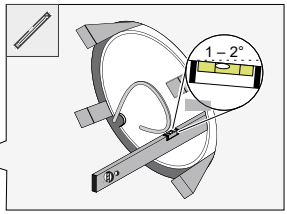
5.9 Timber framed construction



1 Cladding material
2 20mm battons
3 Building paper
4 Timber nog
5 Gib board
6 Trade seal
7 Minimum lean of 2° to the exterior cladding

TIP:





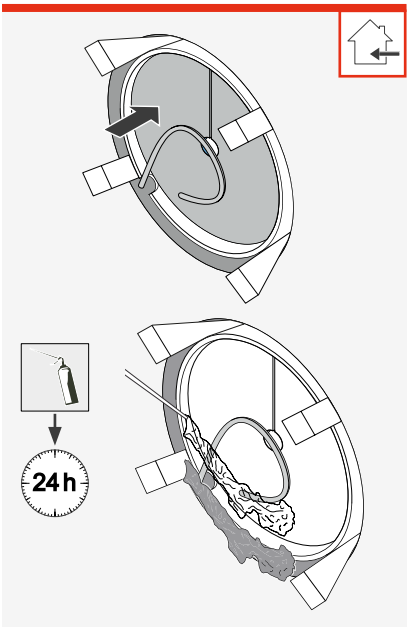
▶ Attach the wall sleeve inside and outside with the mounting wedges so that there is a slope of 1 – 2° to the exterior wall.

▶ Check the angle of the wall sleeve using a spirit level.

▶ Please refer to page 18 to 22 for more details.

▶ Affix a block of wood to support the tube at 2°.

5.9 Timber framed construction



▶ Insert the Styrofoam discs into the wall sleeve from the inside and outside.

NOTICE: Interruption of the thermal insulation composite system.

Damage to the building structure!

- During installation, replace the wall structure as far as the wall sleeve and if necessary guide the housing (flush-mounted inner covers) towards it.
- Observe the necessary barrier levels.

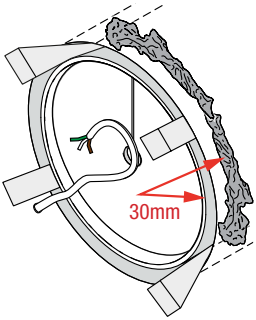
Foam-seal the gap between the wall sleeve and masonry all the way around with non-pressing 2K polyurethane foam.

NOTICE: Connect / Undercover inner covers: Leave a 30 mm gap behind the interior wall edge of the wall sleeve, otherwise the housing can no longer be inserted.

Depending on the inner cover to be used, cut off the excess, hardened mounting foam and protruding mounting wedges as follows:

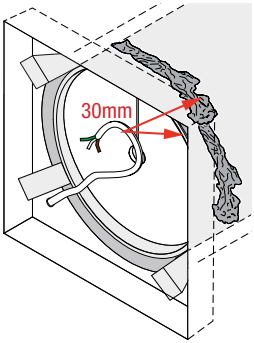
Connect Mounted on the Surface:

- 30mm behind the interior wall edge of the wall sleeve (gap)
- Flush with the exterior wall



Connect Concealed:

- 30mm behind the interior wall edge of the wall sleeve (gap)
- Flush with the exterior wall



Take care not to damage the connecting cable on the interior wall.

The wall sleeve is installed.

INSTALLATION AND ASSEMBLY

5.9 Timber framed construction

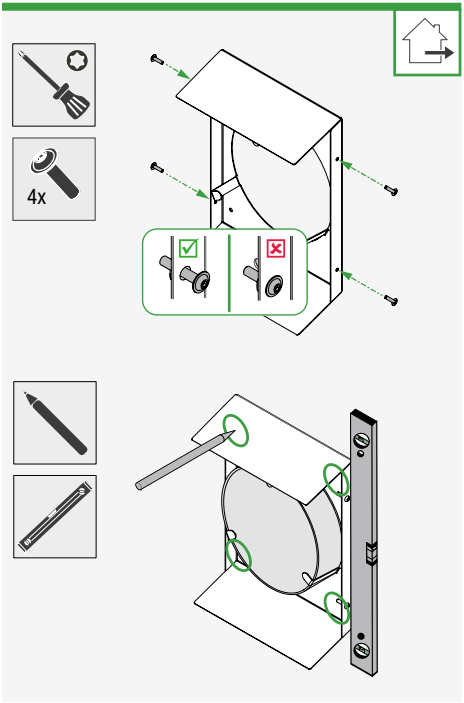
NOTE: Installation on an unfinished exterior wall
results in damage to the exterior wall!

- Only install the weather protection hood (exterior closure) once the exterior wall is finished and completely hardened.

NOTE: Penetration of condensate and/or algae build-up around the weather protection hood
results in damage to the masonry/exterior wall and/or discolouration of the façade!

- Affix all sealing tapes prior to installing the weather protection hood base plate.
- Carry out a biocide/water-repellent pre-treatment on the render around the weather protection hood in vulnerable areas (Consult your planner for further information!).

Spirit level, pen, drilling machine with drill bit Ø8 mm, electrical screwdriver, wall plugs (insulation plugs when using Simplex or with insulated exterior walls), permanently elastic outdoor sealant, sealing tape, screws



Requirements:

The exterior wall is finished and level.
The wall sleeve is fitted.

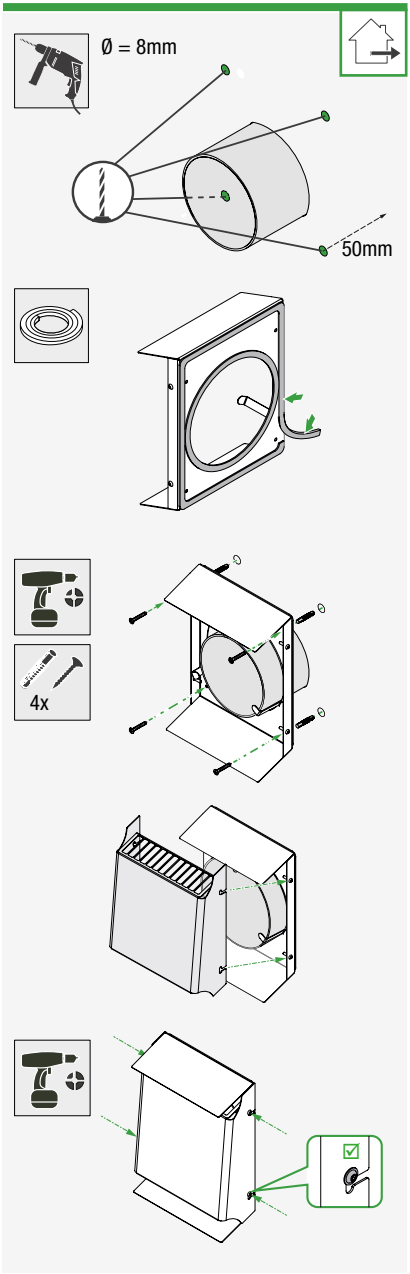
- Remove the protective disc from the wall sleeve on the exterior wall side.
- Turn the four lateral screws together with captive washers loosely from the outside into the four threaded holes (blue arrows) on both sides of the base plate.

NOTE: Damage to the masonry/external wall due to misaligned drip rails!

- Make sure that the slopes on both drip rails are aligned to down-facing.

- Push the base plate onto the protruding wall sleeve. Observe the alignment of the drip rails: The slope leads in direction of the ground/bottom.
- Align the base plate using a spirit level.
- Mark out the four bore holes for fastening the base plate.

5.9 Timber framed construction



▶ Drill the four holes with Ø8mm to a depth of min. 50 mm.

TIP: Apply the sealing tape only immediately before mounting the base plate.

This prevents excessive expanding of the sealing tape and facilitates installation.

▶ Affix the sealing tape, 9mm, on the external wall side and circumferentially to the base plate:

- around the opening for the wall sleeve.
- at a distance of 5mm from the outer edge.

Make sure that the sealing tape does not protrude over the inside edge of the wall sleeve opening.

▶ Insert the wall plugs into the drill holes.

▶ Secure weather protection hood base plate to the external wall using four screws.

▶ Hook the cover of the from the front into the lateral screws (blue arrows) of the base plate.
Make sure that the washers are placed between the cover and the screw.

▶ Pull down the cover until it snaps into place.

▶ Secure the cover to the base plate using the lateral screws.

➡ The weather protection hood is installed.

5.10 Initial setup with the SmartVent Fresh connect inner cover as main unit

Overview

The SmartVent Fresh connect inner cover is a network inner cover (radio or RS485 data cable) and replaces the standard inner covers of the ventilation devices to facilitate integration into the Connect platform. In addition to the radio interface, the SmartVent Fresh connect inner covers have local control electronics, a power supply unit, an integrated humidity/temperature sensor, and an automatic closing flap.

Function

If an inner cover is paired to the main unit, it controls the associated decentralised ventilation unit with heat recovery (one ventilation unit per inner cover) using the information received from the controller. It controls 4 ventilation modes with different speed levels in which the respective SmartVent Fresh ventilation unit then operates:

- **Heat recovery**

In heat recovery mode, each ventilation unit changes direction (supply air / extract air) every 70 seconds. Ventilation units can be “paired” so that two units form a pair that works in opposite phases, i.e. one ventilation unit works in supply air direction while the other operates in extract air direction. After 70 seconds, both units switch over to the other direction.

- **Unidirectional ventilation**

In this ventilation mode, the units in a ventilation zone operate with a constant air flow direction, with one unit per pair of units operating in the supply air direction and the other in the extract air direction.

- **Pause function**

The ventilation units pause for a pre-defined period of time. The automatic closing flap is closed for this time. Operation is then continued on the basis of the ventilation profile selected for this ventilation zone (saved in the controller, ventilation profile tables [see separate “Operating instructions for Connect platform”, Annex]).

- **Switch off**

The ventilation units are switched off and the closing flaps close.

There are four levels for the ventilation units, which define the units’ speed and air flow. These can be adapted by users to their personal values.
The factory standard settings for the ventilation levels are:

- Ventilation level 1 – 25 %
- Ventilation level 2 – 35 %

The inner cover only needs to be operated during commissioning or after restarting the ventilation system. If the inner covers are paired with the controller and thus integrated into the Connect platform, they communicate and/or supply the measured values automatically. No further operation on the devices is required; settings are made via the app.

5.10 Initial setup with the SmartVent Fresh connect inner cover as main unit

SmartVent Fresh connect inner cover as main unit

A SmartVent Fresh connect can act as main unit in the Connect platform. If assigned as main unit, the respective SmartVent Fresh connect inner cover becomes, in addition to its normal function as controller for the ventilation device, the control centre for the Connect platform, and serves as the system interface for the app (Android / iOS). Communication between the mobile device and the main unit takes place via Bluetooth Low Energy (BLE).

The following displays are possible:

LED colour	LED state	Status of the controller
CYAN	Solid	Device not paired
WHITE	Solid	Ventilation unit in normal ventilation mode
WHITE	Flashing	SmartVent Fresh connect inner cover is ready for pairing with new components
BLUE	Flashing	Bluetooth connection is being established
BLUE	Solid	Bluetooth connection established
RED	Flashing	Error or warning message is displayed
YELLOW	Flashing	An update is being transferred to the controller

Table 1: Status LED display of SmartVent Fresh connect main unit

SmartVent Fresh connect inner cover as system device

As a system device, the SmartVent Fresh connect inner cover regulates the ventilation unit. Paired (by radio or by cable) with the Wireless e16 Wall Controller, it is controlled by the latter. For initial commissioning (see operating instructions for Connect platform: Commissioning) and to integrate the inner cover into the Connect platform, a button and an associated LED are used to give feedback during commissioning or to display the device status.

The following displays are possible and uniform for all devices to be paired:

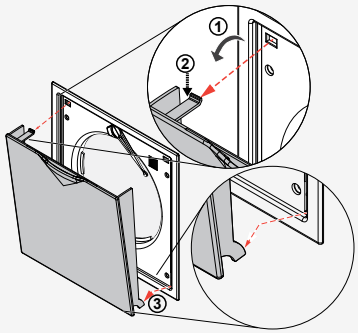
LED colour	LED state	Status of the controller
CYAN	Solid	Device not paired
GREEN	Flashing	Pairing in progress
GREEN	Solid	Device pairing completed
VIOLET/YELLOW	Alternate flashing	Device identification is active
RED/GREEN	Alternate flashing	SK19-Connect switching contact triggered
YELLOW	Flashing	An update is being transferred to the controller
YELLOW	Flashing	An update is being transferred to the controller

Table 2: Status LED display of pair SmartVent Fresh connect devices unit

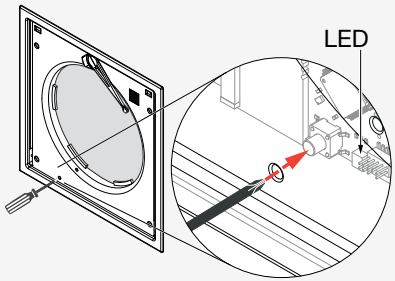
5.11 Assigning the SmartVent Fresh connect inner cover as main unit and setting the Bluetooth connection

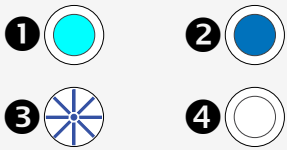
NOTE: An SmartVent Fresh connect inner cover used as main unit must be chosen on a ventilation device in a central location within the utilisation unit. All components of the Connect platform should be approximately equidistant from this SmartVent Fresh connect inner cover. Pay attention to structural conditions that may limit the radio range (e.g. thick walls with steel beams, underfloor heating or solid concrete ceilings, etc.). The main unit must be freely accessible at all times!

Before setting an SmartVent Fresh connect inner cover as main unit or establishing a Bluetooth connection, remove the SmartVent Fresh connect inner cover's closing flap:



- ▶ Pull the closing flap forward, away from the electronics cover (1)
- ▶ Press the spring clip at the top slightly downwards (2) so that it slides out of the opening provided and continue pulling the closing flap into your direction.
- ▶ Lift the lower lugs out of the guide and remove the closing flap (3).
- ➔ The electronics cover becomes visible and accessible.





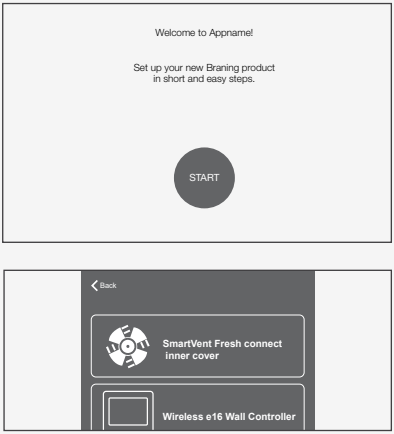
Assigning the SmartVent Fresh connect inner cover as main unit

- ▶ Push a tool (e.g. a small screwdriver) through the hole as shown to operate the button behind it.
- ▶ Press the button to activate the SmartVent Fresh connect inner cover.
- ➔ The LED lights up CYAN (❶).
- ▶ Press and hold the button again until the LED lights up BLUE (❷). Then stop holding the button.
- ➔ The LED lights up Blue (❸).
- ▶ Press the button again to confirm the designation.
- ➔ The LED lights up solid WHITE (❹).
- ➔ The SmartVent Fresh connect inner cover is assigned as main unit.

5.11 Assigning the SmartVent Fresh connect inner cover as main unit and setting the Bluetooth connection

The most convenient way to operate the Connect system is with the app.

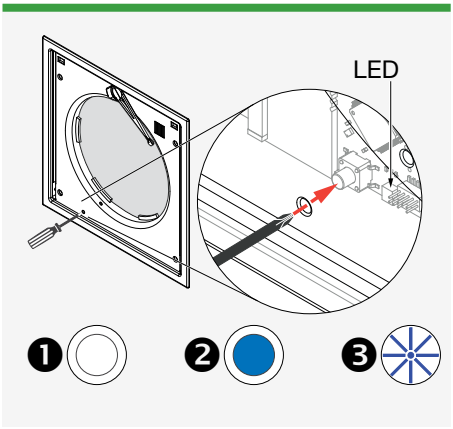
To connect the app to the SmartVent Fresh connect inner cover main unit, Bluetooth must be enabled and the app must be given location access.



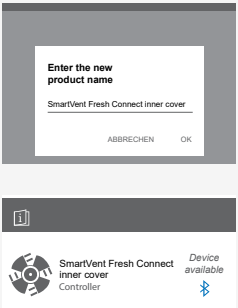
- ▶ Download the app to your mobile device (with Android or iOS operating system).
- ▶ Enable Bluetooth and location on your mobile device if these functions are disabled.
- ▶ Open the app on your mobile device.
- ➔ The start screen appears.
- ▶ Touch the START button.
- ➔ A window appears with a selection of devices that can be paired with your mobile device if necessary.
- ▶ Select the “SmartVent Fresh connect inner cover” button here.
- ➔ The display screen shows the request to pair with the main unit.

To use the app, a Bluetooth connection must first be established between the main unit and the mobile device. Bear in mind the Bluetooth range.

5.11 Assigning the SmartVent Fresh connect inner cover as main unit and setting the Bluetooth connection



- ▶ Push a tool (e.g. a small screwdriver) through the hole in the main unit's electronics cover as shown to operate the button behind it.
- ▶ Press the button on the main unit and hold it until the LED turns BLUE (❷), then release it.
- ➔ The LED flashes BLUE (❸) and the Bluetooth connection can be established.
- ▶ While the LED on the SmartVent Fresh connect inner cover is flashing BLUE, press the "Connect" button on your mobile device.
- ➔ The main unit and mobile device connect. A message appears when the connection is completed.
- ▶ Press "Complete setup" on your mobile device.

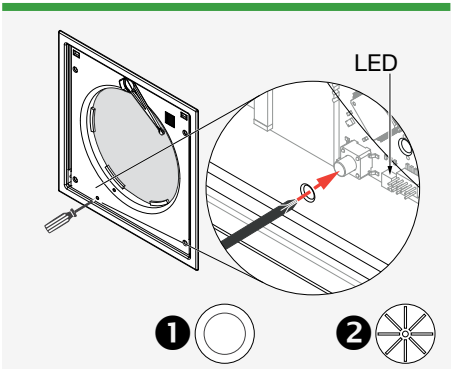


- ▶ Enter a name. This is freely selectable and can consist of a maximum of 20 characters.
  Or: Keep the product name for the main unit.
- ▶ Press "OK".
  The controller appears on the display screen to indicate that it is connected and available.
  The Bluetooth symbol appears in blue.

5.12 Pairing of system components

To pair system components with the main unit and thus integrate them into the Connect platform, component pairing must first be activated on the main unit. Then all system components to be integrated must be activated so that they can be recognised and paired by the main unit.

Activate component pairing on the SmartVent Fresh connect inner cover main unit



Requirements:

- Tools: Tool (pin Ø 2 mm / 50 mm long), e.g. screwdriver
- The electronics cover is visible and accessible. (see 5.9: Assigning main unit)
- The SmartVent Fresh connect inner cover is connected to the power supply.

▶ Push a tool (e.g. a small screwdriver) through the hole as shown to operate the button behind it.

▶ Press the button on the main unit and hold it until the LED turns WHITE (❶), then release it.

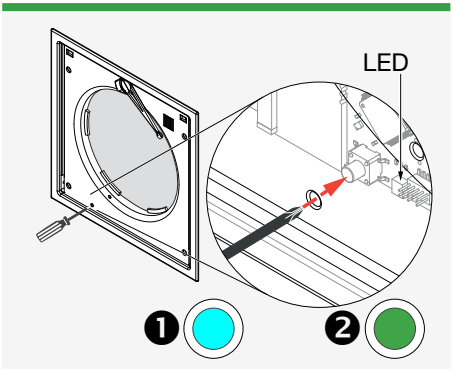
➔ The LED starts flashing WHITE (❷).

While the white LED flashes on the SmartVent Fresh connect inner cover main unit (approx. 5 minutes), all components to be integrated must be activated. If there is not enough time to activate all components, component pairing must be activated again on the main unit.

Activated units are automatically recognised and paired by the controller.

5.12 Pairing of system components

Pairing other SmartVent Fresh connect inner covers (system device)



Requirements:

- Tools: Tool (pin Ø 2 mm / 50 mm long), e.g. screwdriver
- The electronics cover is visible and accessible. (see 5.11: Assigning main unit)
- The component pairing on the main unit is activated.
- The SmartVent Fresh connect inner cover is connected to the power supply.

▶ Push a tool (e.g. a small screwdriver) through the hole as shown to operate the button behind it.

▶ Press the button to activate the Connect inner cover.

➔ The LED lights up CYAN (❶).

▶ Press and hold the button again until the LED lights up GREEN (2, approx. 3 s), then release it.

➔ The LED starts flashing GREEN.

➔ The SmartVent Fresh connect inner cover is ready for pairing with the main unit (activated).

Device status	
Pairing with main unit	Paired with main unit
	

Pairing with the main unit is executed automatically.

The LED on the SmartVent Fresh connect inner cover flashes GREEN during component pairing and lights up solid GREEN when pairing has been completed.

For a better overview, management and later assignment to ventilation zones, it is useful to identify the sequence of the paired components and mark it, e. g. with numbers noted on the electronics cover.

▶ Continue with the activation of further SmartVent Fresh connect inner covers and their pairing as described above.

▶ Recommendation: Mark the paired SmartVent Fresh connect inner covers consecutively.

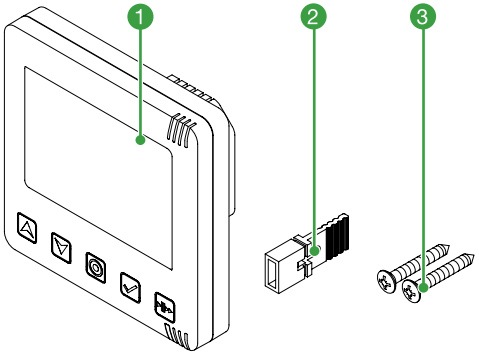
After pairing all SmartVent Fresh connect inner covers acting as system devices, the closing flaps must be refitted.

If other components (sensors, switching contact) are paired to the main unit, this step can also be performed at the end of the pairing process.

5.12 Pairing of system components

Wireless e16 Wall Controller

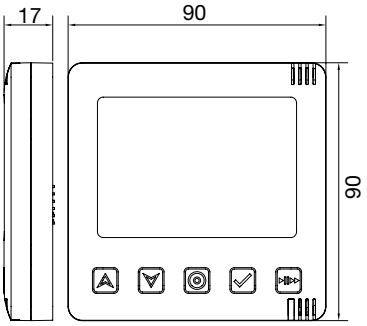
Scope of supply, dimensions and fixing elements



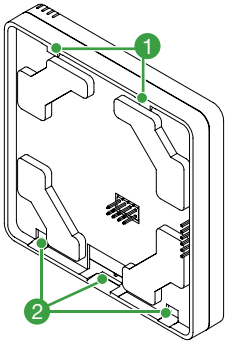
1 Controller, consisting of:
- Programming unit
- Base plate with power supply unit

2 Jumper (attached)

3 Fixing screws (2x)



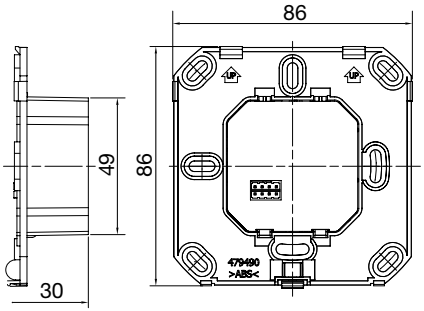
Dimensions of the programming unit



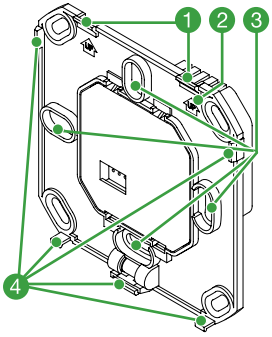
Rear view of the programming unit

1 Hooks for hanging in the eyelets on the base plate

2 Cut-out for engaging the locking hooks of the base plate



Dimensions of the base plate



Front view of the base plate

1 Eyelets for hanging the programming unit

2 Flush-mounted installation marking (top)

3 Fixing points for box (4x)

4 Locking hooks for snapping into the programming unit

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

Wireless e16 Wall Controller

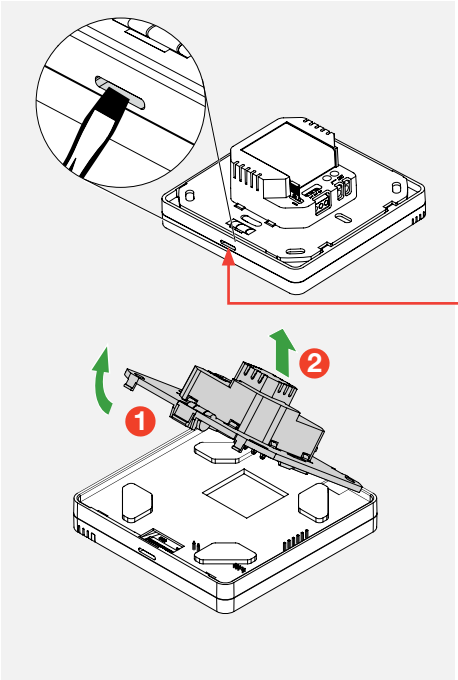
Installation accessories and installation dimensions

Designation	Width (mm)	Height (mm)	Depth (mm)
Base plate	86	86	30
Programming unit	90	90	17

Disconnecting the base plate from the programming unit

First remove the base plate from the programming unit. To do this, unlock the snap-in connection.

Small slotted screwdriver



Requirements:

- The controller is unpacked and shows no signs of transport or other damage.

▶ Insert a small screwdriver into the narrow opening on the bottom of the controller.

▶ Carefully press the locking hook that can be reached in this way downwards.

▶ Swivel the base plate upwards (1) and unhook itbfrom the upper eyelets (2).

➡ The programming unit and base plate are separate

5.12 Pairing of system components

Wireless e16 Wall Controller

Connecting cables

The mains connection cable and, if necessary, the RS485 data cable are connected to the rear of the base plate of the controller's programming unit.

DANGER: Exposed electrical components.

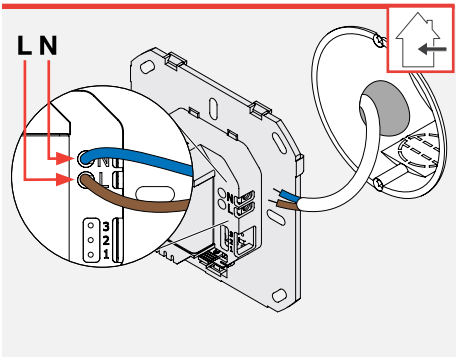
Electric shock and injury due to live components (230V, 50Hz)!

- Before working on electrical installations, disconnect all affected equipment from the power supply.
- Observe the requirements for protection class II when laying the power supply cable. Do not lay live cables.
- Lay the mains connection cables and data cables separately.

Installation and connection must only be performed by qualified and trained personnel.

Stripping tool, small slotted screwdriver

Connecting the mains connection cable



Requirements:

- The cable has been laid.
- The power supply is disconnected.

▶ Strip approx. 8.5 mm of the mains connection cable with the stripping tool.

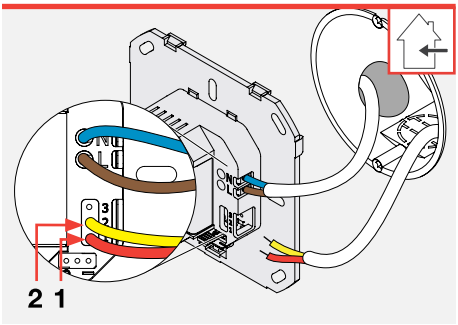
▶ Fix this cable (blue/brown) in the screw terminal on the programming unit's base plate:

- Connect the phase conductor with cable L (brown).
- Connect the neutral conductor with cable N (blue).

▶ Push the mains connection cable into the box.

➡ The mains connection cable is installed.

Connecting the data cable (only if the system devices communicate via cable)



▶ Strip approx. 8.5 mm of the RS485 data cable with the stripping tool.

▶ Secure the RS485 data cable (red/yellow) into the screw terminal on the programming unit's base plate:

- Signal cable A (red) to "1".
- Signal cable B (yellow) to "2".

Push the RS485 data cable into the box.

➡ The RS485 data cable is installed.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

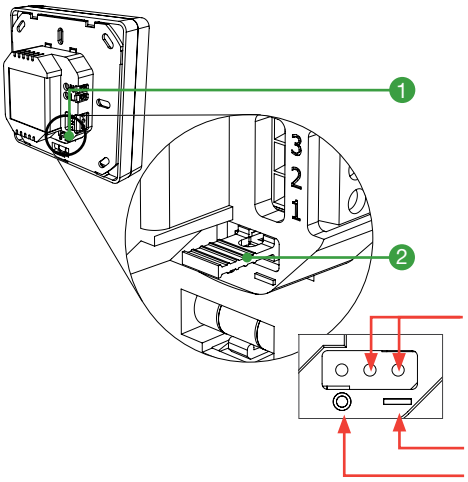
Wireless e16 Wall Controller

Only when using an RS485 data cable

If an RS485 data cable is used for communication between the controller and the ventilation devices and/or CO_2 sensor, the jumpers must be set for the first and last devices in the line as shown below.

Position of the pin connectors for the jumper

Wireless e16 wall controller and Indoor CO_2 sensor jumpers



1 Slot for the jumper

2 Jumper connected

The 3-pin connector for the jumper is located on the rear of the programming unit.

On delivery, the jumper is plugged into the first two pins from the left (RS485 deactivated).

Use the first two pins from the right to activate the RS485 data cable connection.

The marking on the housing also serves as a guide:

I = RS485 activated

0 = RS485 deactivated

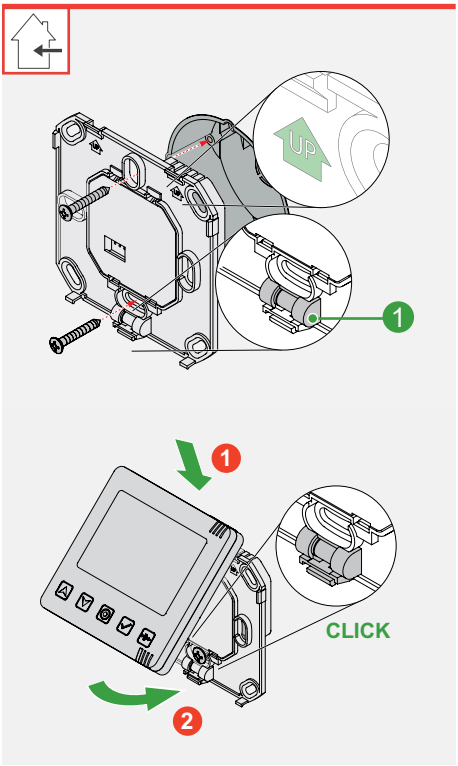
5.12 Pairing of system components

Wireless e16 Wall Controller

Installing the programming unit

The programming unit's base plate is installed on a flush-mounted or plasterboard wall box.
The programming unit is then hooked into the installed base plate using a snap-in connection.
The mains connection and RS485 data cables are located in the box and are distributed in the box.

Phillips screwdriver



Requirements:

- The box is fitted.
- The mains connection cables and, if necessary, the RS485 data cable are connected to the base plate.

▶ Turn the connected base plate by 180°.

▶ Align the base plate horizontally in front of the box using the built-in spirit level (1).

The installation marking, arrow with lettering UP (top), is directed upwards.

▶ Screw the programming unit's base plate to the box using fixing screws.

➡ The base plate is installed.

▶ Hold the programming unit at a slight angle and hook the upper hooks of the programming unit into the eyelets on the base plate (1).

▶ Swivel the programming unit towards the base plate and then press it onto the base plate (2).

➡ The programming unit should snap audibly into place.

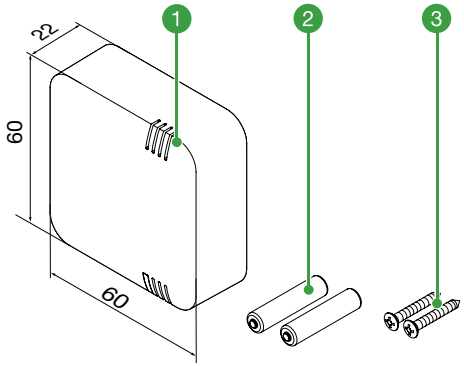
➡ The controller is installed.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

Indoor humidity/temperature sensor

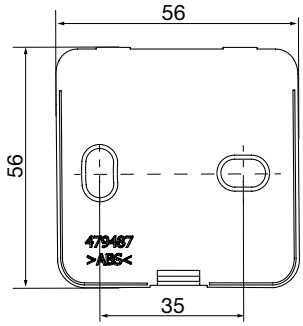
Scope of supply, dimensions and fixing elements



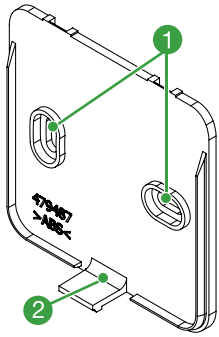
1 Indoor humidity/temperature sensor, comprising:
- Housing with sensor electronics
- Base plate

2 Battery (2 x AAA)

3 Fixing screws (2x)



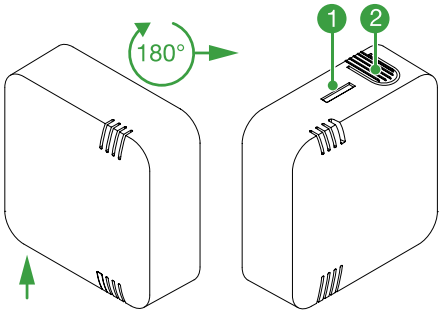
Base plate



Base plate fixing elements

1 Hole for wall mounting

2 Hook to snap into the housing



Indoor humidity/temperature sensor control element

TIP:

The controls are located on the underside of the Indoor humidity/ temperature sensor.

1 Opening for snap-in connection

2 Button

5.12 Pairing of system components

Indoor humidity/temperature sensor

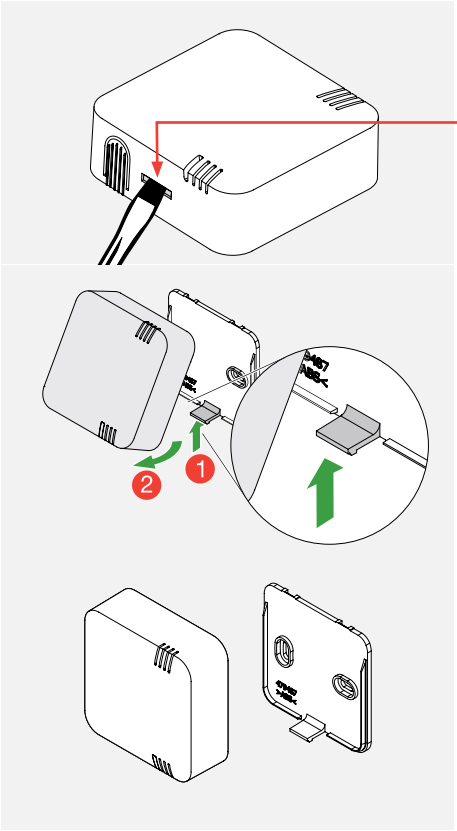
Installation accessories and installation dimensions

Designation	Width (mm)	Height (mm)	Depth (mm)
Base plate	56	56	2
Housing	60	60	22

Separating the base plate from the housing

First separate the base plate from the housing. To do this, unlock the snap-in connection.

Small slotted screwdriver



Requirements:

- The Indoor humidity/temperature sensor is unpacked and shows no signs of transport or other damage.

▶ Insert a small screwdriver into the narrow opening on the underside of the Indoor humidity/temperature controller.

▶ Carefully press the locking hook that can be reached in this way upwards (1) until it disengages from its anchorage.

▶ Swivel the housing away from the base plate (2) and lift the upper hooks of the housing out of the eyelets on the base plate.

▶ Remove the housing from the base plate.

➡ The housing and base plate are separate.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

Indoor humidity/temperature sensor

Installing the indoor humidity/temperature sensor

The base plate of the Indoor humidity/temperature sensor is mounted directly on the wall.

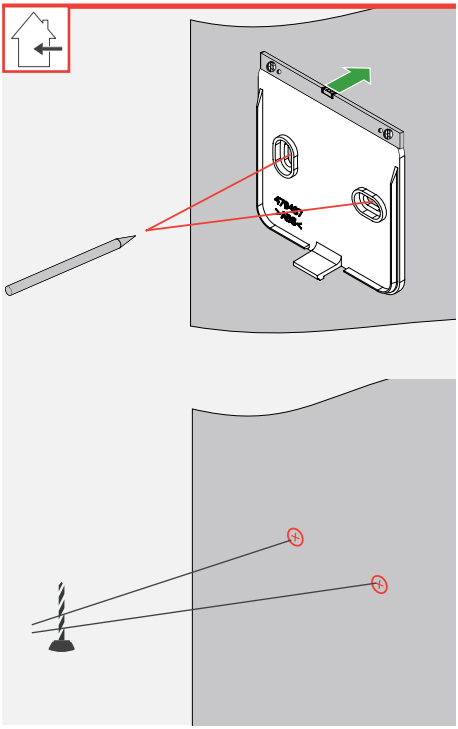
The batteries are then inserted into the housing and the housing is hooked into the installed base plate by means of a snap-in connection.

Select the installation location of the Indoor humidity/temperature sensor at medium room height.

The measured values at the installation site must correspond to those of the room in order to obtain accurate measurement results. The sensor must not be exposed to direct sunlight.

Ensure that the installation location of the Indoor humidity/temperature sensor is no more than 20m from the controller.

Spirit level, pencil, drill with 6 mm drill bit, dowels (2x).



Requirements:

- The masonry must be dry and in a load-bearing condition.
- Plasterboard wall is completed.
- No lintels in the location of the planned drill holes.

▶ Hold the base plate at the installation location and level it with a spirit level.

▶ Mark the drill holes.

➡ The drilling template is prepared.

▶ Drill the dowel holes at the markings.

▶ Insert the dowels.

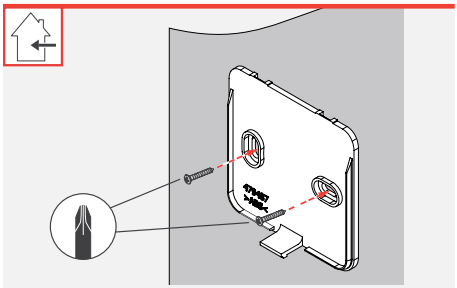
➡ The wall is prepared for screwing on the base plate.

5.12 Pairing of system components

Indoor humidity/temperature sensor

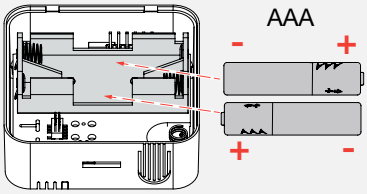
Installing the indoor humidity/temperature sensor

Cordless screwdriver with Phillips head or Phillips screwdriver, screws (2x) from the accessory pack.



- Hold the holes in the base plate so that they align with the screw holes.
- Screw the screws into the screw holes.

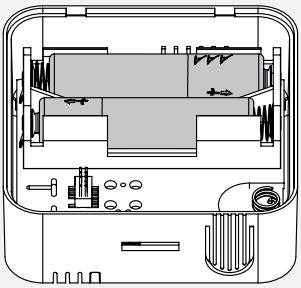
➡ The base plate is installed on the wall.



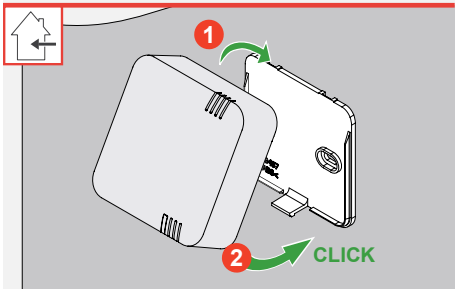
NOTE: Incorrect polarity of the batteries.

- Insert the batteries according to the polarity marked in the housing.

- Insert the batteries into the battery compartment in the housing.



➡ The batteries are inserted and the housing is ready for mounting on the base plate.



- Slide the housing from above onto the base plate and hook the hooks of the housing back into the eyelets of the base plate.
- At the bottom, slide the housing over the locking hook and press it gently onto the base plate until it clicks into place.

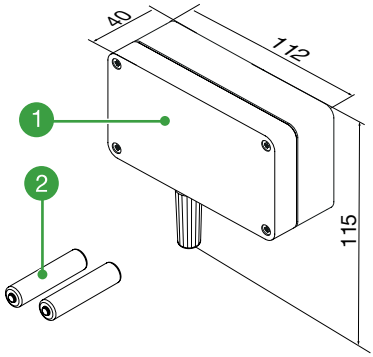
➡ The Indoor humidity/temperature sensor is installed.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

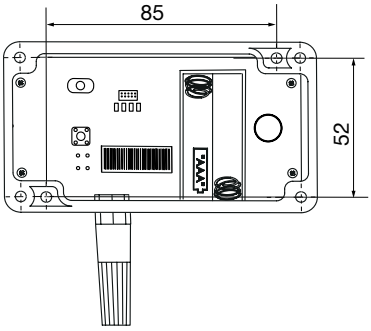
Outdoor humidity/temperature sensor

Scope of supply, dimensions and fixing elements

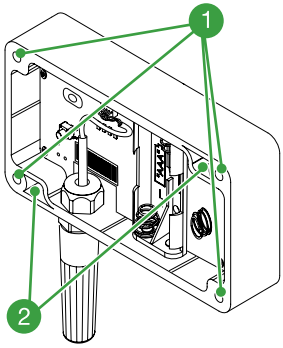


1 Outdoor humidity/temperature sensor, comprising:
- Housing with sensor electronics
- Cover

2 Battery (2 x AAA)

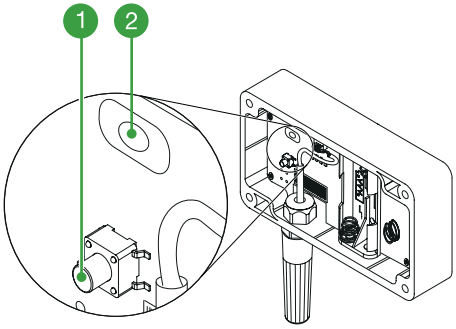


Dimensions of the installation holes



Holes in the housing

1 Threaded hole for fixing the cover
2 Hole for wall mounting



Controls in the housing

TIP:
The controls are located in housing of the Outdoor humidity/ temperature sensor.

1 Button
2 LED (multi-coloured)

5.12 Pairing of system components

Outdoor humidity/temperature sensor

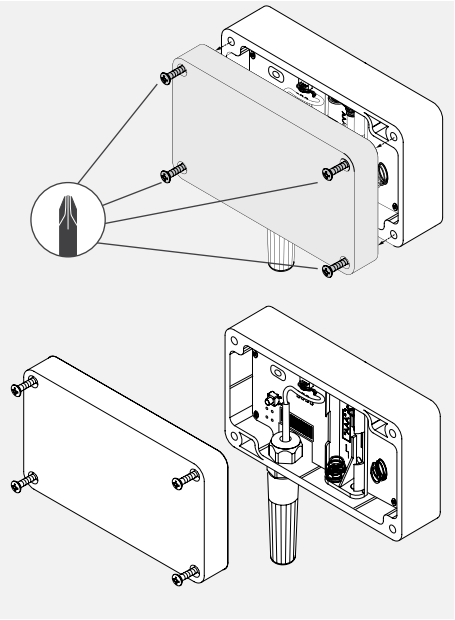
Installation accessories and installation dimensions

Designation	Width (mm)	Height (mm)	Depth (mm)
Housing	112	115	25
Cover	112	65	15

Removing the cover from the housing

The cover must first be disconnected from the housing. To do this, loosen the four fixing screws.

Phillips screwdriver



Requirements:

- The Outdoor humidity/temperature sensor is unpacked and shows no signs of transport or other damage.

▶ Use a screwdriver to loosen the 4 fixing screws on the housing of the Outdoor humidity/temperature sensor.

▶ Remove the cover from the housing.

➡ The cover and housing are separate.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

Outdoor humidity/temperature sensor

Installing the outdoor humidity/temperature sensor

The housing of the Outdoor humidity/temperature sensor is mounted directly on the wall.

The batteries are then inserted into the housing and the cover is screwed back on to the housing.

NOTE: Faulty readings due to direct sunlight.

Direct sunlight can damage the electronics and lead to incorrect measured values. Select the Outdoor humidity/temperature sensor installation location so that it is not exposed to direct sunlight.

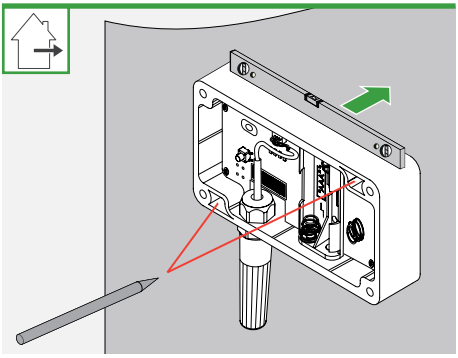
Incorrect measured values can impair the system function, e.g. by reacting too strongly to heat sources. It is recommended to install it in a shady place in a northern orientation.

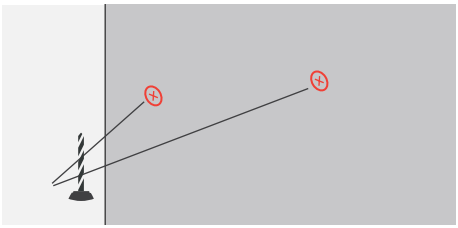
During installation, chimneys, canopies, windows and doors must be avoided in addition to heat sources. Do not install the outdoor sensor in the immediate vicinity of the ventilation devices.

To change the battery, the outdoor sensor must be easily accessible even after installation.

Ensure that the installation location of the Outdoor humidity/temperature sensor is no more than 20m from the controller.

Spirit level, pencil, drill with 6 mm drill bit, dowels (2x)





Requirements:

- The masonry must be dry and in a load-bearing condition.
- No lintels in the location of the planned drill holes.

▶ Hold the housing at the installation location and level it with a spirit level.

▶ Mark the drill holes.

➡ The drilling template is prepared.

▶ Drill the dowel holes at the markings.

▶ Insert the dowels.

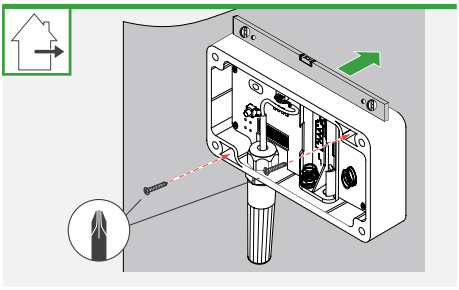
➡ The wall is prepared for screwing on the housing.

5.12 Pairing of system components

Outdoor humidity/temperature sensor

Installing the outdoor humidity/temperature sensor

Cordless screwdriver with Phillips head or Phillips screwdriver, screws (2x) from the accessory pack



▶ Hold the holes in of the housing so that they align with the screw holes.

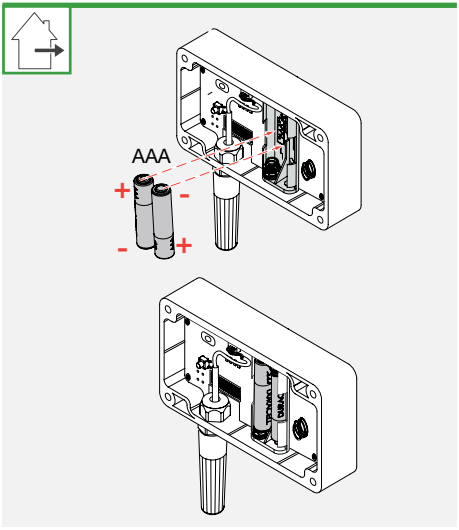
Check the horizontal alignment with the spirit level.

▶ Screw the screws into the screw holes.

➡ The housing is mounted on the wall.

NOTE: Incorrect polarity of the batteries.

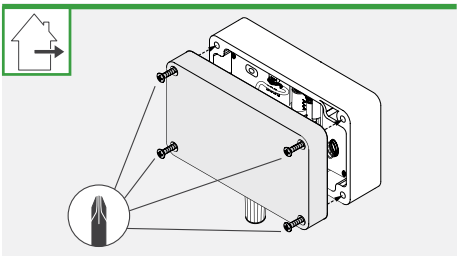
- Insert the batteries according to the polarity marked in the housing.



▶ Insert the batteries into the battery compartment in the housing.

➡ Once the batteries are inserted, the housing can be closed again with the cover.

▶ Slide the cover onto the housing.



▶ Screw the 4 screws back in to fix the cover to the housing.

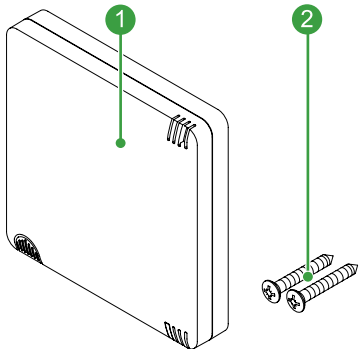
➡ The Outdoor humidity/temperature sensor is installed.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

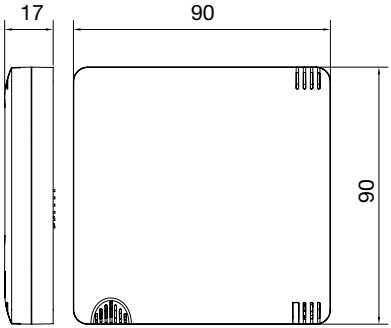
Indoor CO_2 sensor

Scope of supply, dimensions and fixing elements

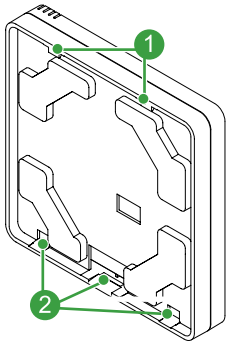


1 CO_2 sensor comprising:
- Housing
- Base plate

2 Fixing screws (2x)



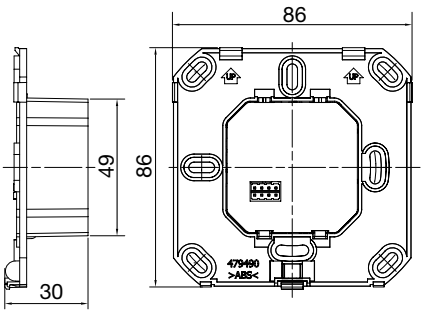
Dimensions of the housing



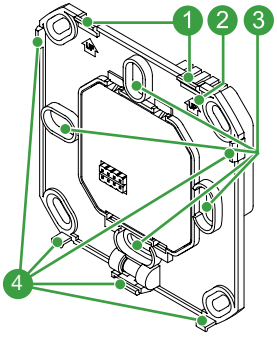
Rear view of the housing

1 Hooks for hanging in the eyelets on the base plate

2 Cut-out for engaging the locking hooks of the base plate



Dimensions of the base plate



Front view of the base plate

1 Eyelets for hanging the CO_2 sensor

2 Installation marking up arrow

3 Fixing points for box (4x)

4 Locking hooks for snapping into the CO_2 sensor

5.12 Pairing of system components

Indoor CO_2 sensor

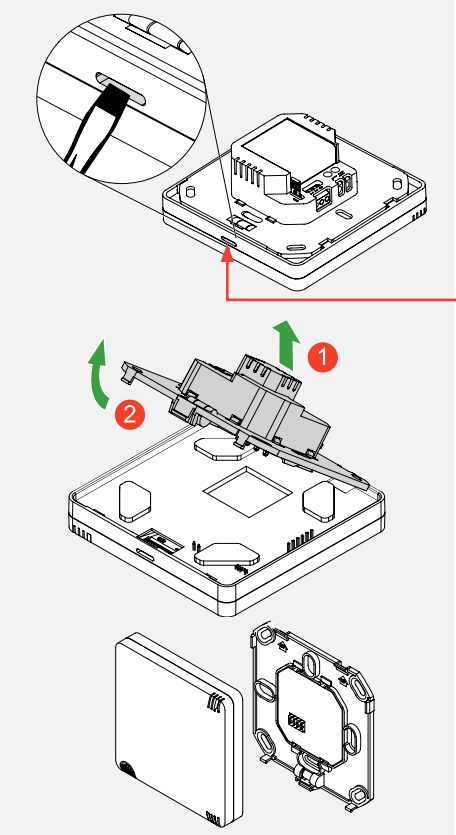
Installation accessories and installation dimensions

Designation	Width (mm)	Height (mm)	Depth (mm)
Base plate	86	86	30
Housing	90	90	17

Separating the base plate from the housing

First separate the base plate from the housing. To do this, unlock the snap-in connection.

Small slotted screwdriver



Requirements:

- The CO_2 sensor is unpacked and shows no signs of transport or other damage.

▶ Insert a small screwdriver into the narrow opening on the underside of the CO_2 sensor.

▶ Carefully press the locking hook that can be reached in this way downwards.

▶ Swivel the base plate upwards (1) and unhook it from the upper eyelets (2).

➡ The housing and base plate are separate.

INSTALLATION AND ASSEMBLY

5.12 Pairing of system components

Indoor CO_2 sensor

Connecting the mains connection cable

The mains connection cable is connected to the back of the CO2 sensor's base plate.

DANGER: **Exposed electrical components.**

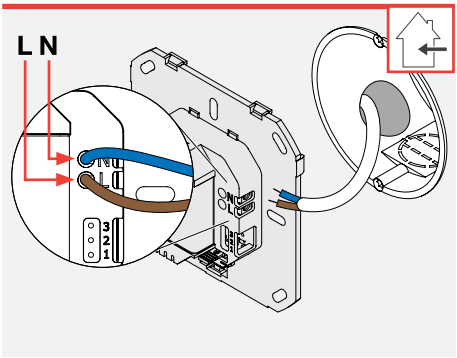
Electric shock and injury due to live components (230V, 50Hz)!

- Before working on electrical installations, disconnect all affected equipment from the power supply.
- Observe the requirements for protection class II when laying the power supply cable. Do not lay live cables.
- Lay the mains connection cables and data cables separately.

Installation and connection must only be performed by qualified and trained personnel.

Stripping tool, small slotted screwdriver

Connecting the mains connection cable



Requirements:

- The cable has been laid.
- The power supply is disconnected.

▶ Strip approx. 8.5 mm of the mains connection cable with the stripping tool.

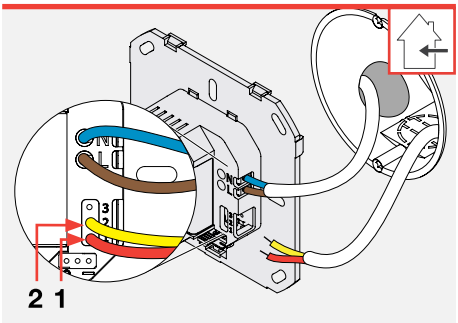
▶ Fix this cable (blue/brown) in the screw terminal on the programming unit's base plate:

- Connect the phase conductor with cable L (brown).
- Connect the neutral conductor with cable N (blue).

▶ Push the mains connection cable into the box.

➡ The mains connection cable is installed.

Connecting the data cable (only if the system devices communicate via cable)



Requirements:

- An RS485 data cable has been laid.
- The mains connection cable is connected.

▶ Strip approx. 8.5 mm of the RS485 data cable with the stripping tool.

▶ Secure the RS485 data cable (red/yellow) into the screw terminal on the programming unit's base plate:

- Signal cable A (red) to "1".
- Signal cable B (yellow) to "2".

Push the RS485 data cable into the box.

➡ The RS485 data cable is installed.

5.12 Pairing of system components

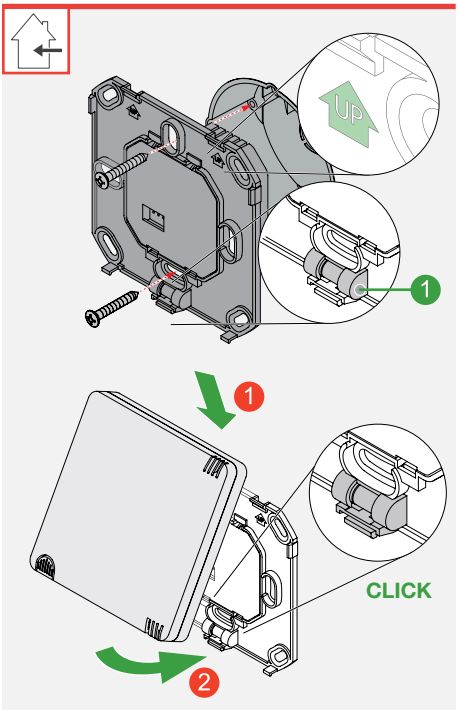
Mounting the base plate and housing

Installing the programming unit

The CO_2 sensor's base plate is installed on a flush-mounted or plasterboard wall box.

The mains connection cable is located in the box. The installed base plate is then hung in using a snap-in connection.

Phillips screwdriver



Requirements:

- The mains connection cable is connected to the base plate.
- Turn the connected base plate by 180°.

▶ Turn the connected base plate by 180°.

▶ Align the base plate horizontally in front of the box using the built-in spirit level (1).

The installation marking, arrow with lettering UP (top), is directed upwards.

▶ Screw the CO_2 sensor's base plate to the box using fixing screws.

➡ The base plate is installed.

▶ Hold the housing at a slight angle and hook the upper hooks of the housing into the eyelets on the base plate (1).

▶ Swivel the housing towards the base plate and then gently press it onto it (2).

➡ The housing clicks audibly into place..

➡ The CO_2 sensor is installed.

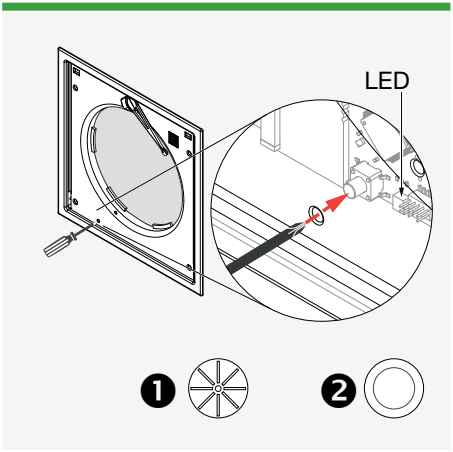
5.12 Pairing of system components

Ending device pairing

The system exits the device pairing state when:

- the maximum number of paired devices is reached (max. 16),
- the time is exceeded,
- or a corresponding key entry is made.

Termination by key entry



Requirements:

- All components relevant to the ventilation system are paired.
- The main unit SmartVent Fresh connect's electronics cover is accessible (closing flap not attached).
- The main unit SmartVent Fresh connect's LED is flashing WHITE
- Optional: The apps "Device overview section" shows the number of paired components.

▶ Push a tool (e.g. a small screwdriver) through the hole as shown to operate the button behind it.

▶ Press the button on the main unit to confirm the paired devices, then release it.

➔ The LED lights up solid WHITE (❷).

The closing flap must be reattached to the SmartVent Fresh connect inner cover at this point.

After all inner covers (ventilation units) and sensors have been paired with the main unit and the pairing of the components has been confirmed, the ventilation systems starts with the factory settings, i.e.:

- all ventilation units and sensors are assigned to ventilation zone 1.
- the predefined ventilation profile for ventilation zone 1 is set (default profile).

In the factory-set default profile, the system operates at 25 % fan speed and in heat recovery mode.

It is possible to define up to four ventilation zones. Different ventilation units, sensors and profiles can be assigned to the individual ventilation zones. For operating the app and deeper set-up refer to the separate "Operating instructions for Connect platform".

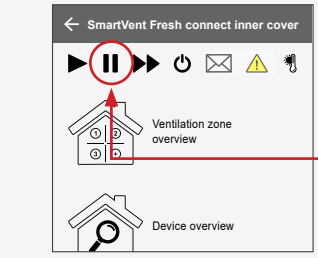
5.12 Pairing of system components

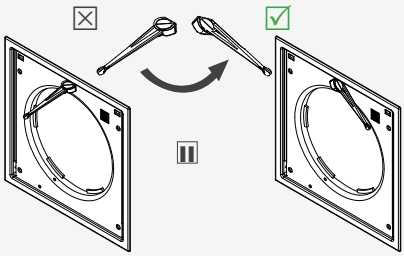
Attaching closing flaps / swivelling the locking arm to the right

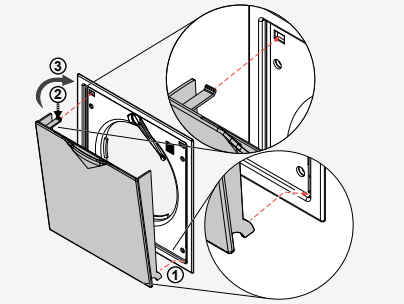
NOTE: Locking arm in wrong position. Breakage of the locking arm.

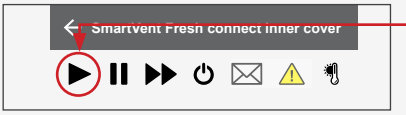
Before the closing flap is refitted, the locking arm must be swivelled to the right. This is done exclusively via App. To do this, **switch all devices to pause**.

- Never swivel the locking arm by hand!









Requirements:

- The SmartVent Fresh connect inner covers (and any other components) are paired with the controller.

Set the ventilation system to pause

▶ Open the app and call up the ventilation unit's starting menu.

▶ Press the Pause symbol on the navigation bar in the app screens upper part.

➔ The ventilation system is globally set to Pause.

➔ The locking arm swivels to the right.

Attaching the closing flap:

▶ Hook the lugs of the closing flap into the electronics cover at the bottom (①).

▶ Press the spring clip at the top slightly downwards (②).

▶ Guide the closing flap to the top of the electronics cover (③), pushing the spring clip, which is slightly pressed down, into the opening provided in the electronics cover.

The spring clip engages and the closing flap is pulled and held by the installed magnets to the electronics cover.

▶ Exit the pause function via app (navigation bar) by clicking the "continue"button.

▶ The closing flap is reattached.

CLEANING AND MAINTENANCE

CAUTION: Cleaning by children and persons with limited abilities.

Injury to body parts (rotating fan) and/or malfunction of the ventilation system!

- Cleaning/maintenance of the ventilation unit must not be carried out by children and/or persons who are not fully capable of doing so due to their physical, sensory or mental capabilities, inexperience or lack of knowledge. Young children should be supervised to ensure that they do not play with the unit.

The SmartVent Fresh ventilation units and the controller are virtually maintenance-free.
Any necessary cleaning or maintenance work can be carried out by the user by following these instructions.

TIP: Before performing cleaning or maintenance tasks, disconnect the controller's power supply and put on gloves.

Detergents

NOTE: The plastic/glass surface of the inner panel is not scratch-resistant and may be damaged.

- Do not use sand, soda, acid or chlorine-based cleaning agents.

A commercially available detergent in warm water can be used for cleaning. The following tools may be used for cleaning:

- lint-free, soft cloth
- soft brush
- Vacuum cleaner

Recommended maintenance

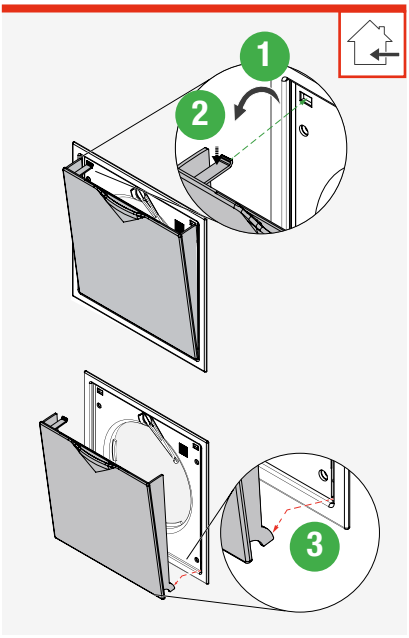
The maintenance tasks and intervals listed here are recommended by SmartVent Fresh GmbH to maintain the functionality and performance of the SmartVent Fresh ventilation system.
Depending on requirements and/or air quality, your personal maintenance plan may deviate from these recommendations.

Interval	Assembly	Maintenance Activity
Cleaning from the interior room		
Monthly	Pollen filter	Replace the contaminated pollen filter.
	Inner cover	Clean the surface of the panel with a damp cloth.
Quarterly	Dust filter	Wash the dust filter with warm water and detergent. **Or** Replace defective dust filters.
Half-yearly	Thermal accumulator	Remove the thermal accumulator and clean it under running warm water.
	Guiding vanes	Remove the guiding vanes from the fan. Clean the guiding vanes using a soft brush or under warm running water.
	Reversible fan	Clean the fan blades with a brush.
	Wall sleeve	Clean the surface of the wall sleeve with a damp cloth.
	Carbon filter	Replace the activated carbon filter.
	Sound protector	Replace the sound protector.
	Sound absorbing insert	Gently pat off the sound absorbing insert.
Yearly	Wind protection insert	Wash the wind protection insert with warm water and detergent.
	Inner cover base plate	Clean the surface of the base plate with a damp cloth.
Cleaning from the exterior		
Yearly	Exterior closure: weather protection hood	Clean the surface of the protective hood with a damp cloth. Clean the protective grid on the upper and bottom air outlet to ensure the fins between the louvres are free.

CLEANING AND MAINTENANCE

6.1 Remove the inner cover panel

To clean and maintain the ventilation unit, first remove the panel of the inner cover.



Requirements: The ventilation unit is switched off.

▶ Step 1: Pull the closing flap forward, away from the electronics cover.

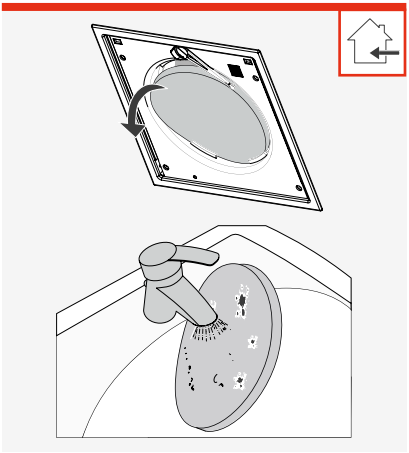
▶ Step 2: Press the spring clip at the top slightly downwards so that it slides out of the opening when the electronics cover is pulled forwards.

▶ Step 3: Lift the lower lugs out of the guide.

⇨ You have removed closing flap on the inner cover.

6.2 Cleaning/replacing dust filters

TIP: SmartVent Fresh dust filters of class G3 are highly durable and can be washed repeatedly.
We recommend cleaning the dust filter regularly.
For specific requirements, pollen filter and activated carbon filter are available as accessories.



▶ Carefully pull the dust filter out of the filter holder on the electronics cover.

⇨ You have removed the dust filter.

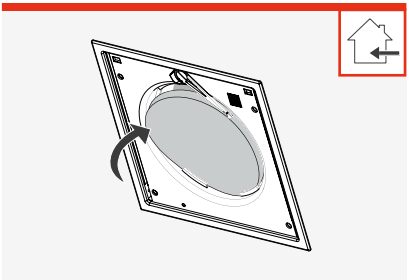
▶ Clean the dust filter under warm running water.

▶ Wait until the dust filter is completely dry.

⇨ You have cleaned the dust filter.

Or:

▶ Discard dust filters if they have defects and replace them with a new filter.

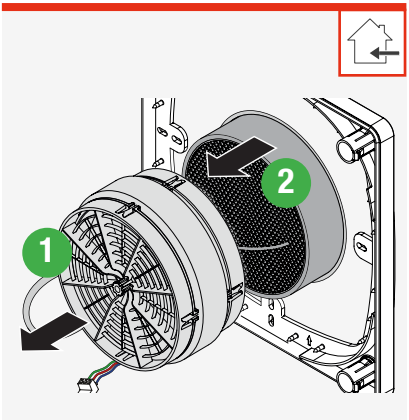


▶ Slide the completely dried or new filter (dust filter as standard, alternatively pollen or active carbon filter) behind the guides provided (filter holder) into the electronics cover.

! Position the filter firmly between the filter holders.

⇨ You have cleaned / changed the dust filter.

6.3 Removing the thermal accumulator insert



Requirements:
The reversible fan is switched off on the controller.
The dust filter has been removed.

▶ Disconnect the plug-in connection.

NOTE: In case of damage to the ceramic thermal accumulator it will no longer function!

- Do not throw the ceramic thermal accumulator.
- Store the thermal accumulator in the standing position outside the wall sleeve.

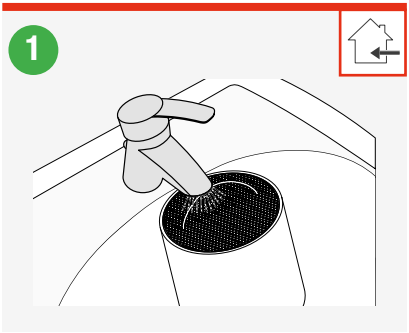
▶ Step 1: Remove SmartVent Fresh fan and core from the wall sleeve by the knob.

▶ Step 2: Remove the thermal accumulator from the wall sleeve by the handle.

⇨ You have removed the thermal accumulator insert.

6.4 Cleaning and reassembling the thermal accumulator insert

Soft brush, lint-free soft cloth and warm water.



Requirements:
The thermal accumulator insert has been removed.

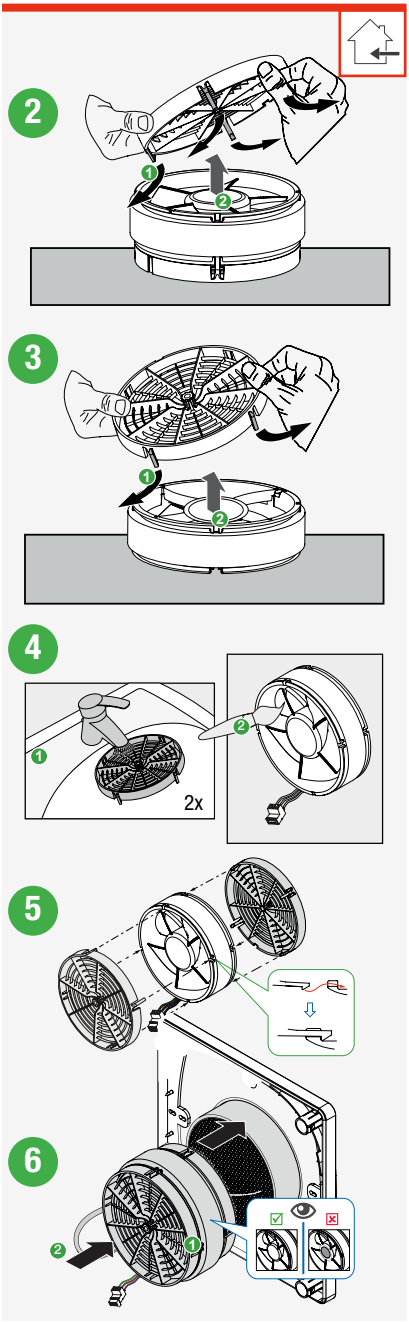
NOTE: Incorrect cleaning of the thermal accumulator will result in damage to the insulation on the thermal accumulator.

- Always clean the thermal accumulator under warm running water. Never clean it in the dishwasher.

▶ Clean the thermal accumulator under warm running water.

▶ Let the thermal accumulator drip dry.

▶ Wait until the thermal accumulator is completely dry.



NOTE: When breaking the attachment strips on the guiding vane, the guiding vane can no longer be attached to the fan!

- Carefully bend the strips away from the guiding vane.
- If you can feel resistance, stop bending the strips outwards.

▶ Place SmartVent Fresh fan and core on an even surface.

▶ Remove the first guiding vane from the fan.

Step 1: Carefully bend the lateral strips on the guiding vane away from the fan one after the other.

Hold the first removed strip in the current position with one hand until the guiding vane is completely removed. The guiding vane is separated from the fan

Step 2: Lift the guiding vane upwards.

▶ Turn the fan, so that the remaining guiding vane is pointing upwards.

▶ Remove the remaining guiding vane from the fan.

⇨ Remove the remaining guiding vane as previously described.

▶ Step 1: Clean both parts of the guiding vane carefully with a soft brush or under warm flowing water.

▶ Let the guiding vane drip dry. Wait until the guiding vane is completely dry.

▶ Step 2: Clean the reversible fan carefully with a soft brush.

▶ Reattach the guiding vanes to the reversible fan.

⇨ You have cleaned the thermal accumulator insert.

▶ Step 1: From the interior, slide the thermal accumulator into the wall sleeve as far as the end-stop. **Make sure** that the handle is facing towards the interior.

▶ Step 2: Insert SmartVent Fresh fan and core into the wall sleeve so that you can reach both cables. **Ensure** that the fan's side **WITHOUT** type plate is directed to the interior room side.

▶ Re-connect the plug-in connection.

▶ Slide SmartVent Fresh fan and core as far as the thermal accumulator.

⇨ Re-attach the filter and the inner cover panel: see operation manual of controller platform "SmartVnet Fresh Connect".

You have cleaned and re-installed the thermal accumulator insert.

SPECIFICATIONS

7.1 General specifications

Feature	Value
Operating range (°C)	–20ºC to 50ºC
Extract air/Outdoor air	Without aggressive gases, dusts and oils
Air flow in reverse operation (push-pull) per unit (m^3/h)	10 - 29 m^3/hr
Extract air flow per unit (m^3/h) (EN 13141-8)	20 - 58 m^3/hr
Sound pressure level, distance 2m (dB (A))	12 - 37dB(A)
Standard sound level difference (dB)	32dB
Heat recovery (η'_w)	0.72
Input voltage (V DC)	6 – 16
Power consumption (W)	1 - 5W
Flow based electrical fan capacity ($W/(m^3/h)$)	0.13
Protection class (EN 61140)	III
Type of protection (EN 60529)	IP20
Filter class (standard filter) (EN 779:2012)	G3
Air flow sensitivity at ± 20 Pa (EN 13141-8)	S3
Frost protection	Automatically due to push-pull operation (bis -20 °C)
Weight (g)	Max. 3.850
Wall thickness (incl. plaster/render) (mm)	≥140mm
Wall opening (mm)	Ø 180
Wall sleeve	Ø 160
Conformity	CISPR 14.1:2020 Electromagnetic Compatibility AS/NZS 61558.2.6:2009 Low Voltage AS/NZS 4268:2017 Wireless

SCOPE OF SUPPLY

8 Scope of supply

To order parts for your ventilation unit or controller, contact your nearest factory outlet or our service staff.

Standard components

All standard components are available as spare parts.

TBC

Component	Order Number
Exterior closure: Weather protection hood incl. sealing tapes	
Protective hood Compact, grey RAL 9006	1508-0094
Protective hood Compact, white RAL 9016	1508-0111
Wall sleeve incl. protective discs and mounting wedges	
Wall sleeve R-D160x230	1506-0051
Wall sleeve R-D160x285	1506-0081
Wall sleeve R-D160x495	1506-0068
Thermal accumulator insert	
Thermal accumulator insert Compact	1507-0016
Inner cover	
See installation manual controller platform “SmartVent Fresh Connect inner cover”	

ACCESSORIES AND SPARE PARTS

9 Accessories

Component	Order Number
Wireless e16 Wall Controller	FAN7391
Outdoor Humidity and Temperature Sensor	FAN7392
Indoor Humidity and Temperature Sensor	FAN7393
Indoor CO_2 Sensor	FAN7394

TROUBLESHOOTING AND DISPOSAL

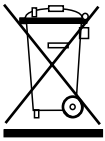
10.1 Troubleshooting

Fault	Possible cause	Remedy
Fan failure	No electrical power.	Check fuse
	Installation error.	Check wiring for correct polarity. Check all connectors for correct fit. Check usage of wire end ferrules.
	Fan defective.	Replace fan.
	Controller/power supply defective.	Replace controller/power supply.
Fan does not switch off.	Faulty controller.	Replace controller.
Low air flow	Inner cover closed.	Open inner cover panel.
	Dust filter heavily soiled.	Clean/replace dust filters.
	Pollen filter/Activated carbon filter inserted/ heavily soiled	Inserted pollen or activated carbon filter reduces the air flow. Only use filters for special requirements during periods of heavy pollution. Replace filter if heavily soiled.
	Fans are not operating in paired mode.	Connect the first fan in extract air and the second fan in supply air direction.
	Fan speed is too low.	Increase the output level.
	Thermal accumulator is soiled.	Clean the thermal accumulator.
Noises	Foreign body in the fan.	Remove foreign body from the fan. Clean the ventilation unit.
	Fan blades contaminated.	Clean fan blades.
	Thermal accumulator is not correctly positioned in the wall sleeve.	Slide the thermal accumulator out of the wall sleeve. Insert it again. Slide the thermal accumulator into the wall sleeve as far as the joint tape.
	Fan speed very high.	Set a lower output level on the controller.
Supply air is cold	Installation error.	Make sure that the type plate on the SmartVent Fresh fan is directed towards the heat accumulator.
		Check the connector plug on the controller. The connector plug must be sitting firmly in the connector housing.
	The controller is operating in continuous ventilation mode.	Select heat recovery mode on the controller.

Disassembly

Disassemble the ventilation unit in the opposite sequence to the assembly sequence. You can subsequently dispose of your old unit. Please note the disposal recommendation outlined below.

10.2 Disposal



Dispose of the product in compliance with the applicable national regulations.

The products described in these installation instructions are largely recyclable due to their low-pollutant processing. Contact an electronic appliance disposal company to arrange environmentally friendly recycling and disposal of your old system.

Ensure that each product's packaging is sorted correctly for disposal.

Recommendations for disposal can be found in the table below.

Product	Material	Disposal
Inner cover Compact protective hood:	Powder-coated stainless steel / Neopor / Anodised aluminium	Scrap metal collection / Recyclable material collection
Reversible fan	PBTP / PA	Drop-off center for electronic equipment
Guiding vanes	PC	Recyclable material collection
Wall sleeve	PPs	Recyclable material collection
Thermal accumulator	Ceramics	Household waste
Dust filter	TPU/PES	Household waste
Pollen filter	PES	Household waste
Activated carbon filter	Polyester non-woven enriched with activated carbon	Household waste

GUARANTEE AND WARRANTY

5 Year Warranty

SmartVent warrants to the purchaser that this product is free from defects in the material and workmanship for a period of five years from the date of the original retail purchase. This warranty is only valid if proof of purchase in the form of a bill of sale, invoice or purchase receipt is presented at the time of request of service and if the warranty registration is completed online at *www.smartvent.co.nz*

The customer shall ensure that the goods are fit and suitable for the purpose for which they are required and the company is under no liability if they are not.

The Warranty is in addition to all other conditions, warranties, guarantees, rights and remedies which may be applied by relevant legislation in New Zealand.

This warranty will not be applicable if the product has not bee n operated and maintained in accordance with the manufacturer's instructions and recommendations contained in the operating & installation instructions provided with the product, or if the product has been used in a manner other than for which it was originally designed, or if the damage, malfunction or failure has resulted from incorrect voltages, alterations, accident, misuse, neglect, abuse, faulty or improper installation or main supply problems.

A condition of the 5 year warranty is the use of genuine SmartVent parts and filters. The warranty on the entire system is void if non-genuine SmartVent parts (including but not limited to; controller, filter, duct, fan(s) and grilles) are used as this may affect performance.

Simx Ltd takes no responsibility if non-genuine parts are supplied or installed by a third party. We recommend that you keep all the original packaging as it provides the best protection should you have to store or transport this unit in the future.

Our Goods come with guarantees that cannot be excluded under Consumer Law.

You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the Goods repaired or replaced if the Goods fail to be of acceptable quality and the failure does not amount to a major failure.

Filter replacement is not included in this warranty.

Further information about the warranty is available at *www.smartvent.co.nz/warranty/*

SERVICE

Customer Service

SmartVent has a dedicated customer service team who can offer advice on a wide range of ventilation systems and options for your home. Call our team to book a free in-home assessment.

In-Home Consultation

A SmartVent accredited installer can visit you to assess your ventilation needs and specify a SmartVent system designed to create a healthy, comfortable and energy efficient home for you and your family.

Consultations are provided free of charge and without obligation.

Planning Services

If you are building or renovating your home then send your house plans for a recommendation on the optimum system layout for your home.

Accredited Installers

SmartVent Accredited Installers are fully qualified electricians. As knowledgeable SmartVent specialists they will install your system to the highest standards, assuring a quality installation.

SmartVent

www.smartvent.co.nz

Distributed by Simx Limited
General enquiries ph: 0800 140 150