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Disclaimer

This documentation is an translation of the original German installation and operating instructions. After completion of the installation it must be given to user (tenant, owner, property management, etc.). The content of this documentation has been checked for compliance with the described hardware and software. Nevertheless deviations may still occur, therefore no guarantee of compliance can be provided. This documentation describes the functionality of the standard scope. The documentation does not purport to cover all details on all types of the product and cannot cover every conceivable scenario for installation, assembly, operation, cleaning and maintenance. The illustrations in this document may differ slightly from the design of the product that you have purchased. The same functionality is ensured despite any design deviations.

This documentation is updated regularly. Necessary corrections and appropriate supplements are always included in subsequent editions. You can find the latest version at www.inventer.eu/downloads

Version 1.3

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1 User and safety instructions

Thank you for purchasing this high quality product from inVENTer! 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 instructions have a uniform structure and are marked with a symbol on the left side of the instruction. The colour of the symbol indicates the hazard level. A signal word above the text also indicates the hazard level. If several hazard levels exist, the highest level safety instruction is always used.



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 indicates: Direct danger of serious injury or death.



CAUTION indicates: Imminent or possible risk of minor/significant injury.



NOTICE indicates: Imminent or possible damage to property due to an adverse event/state.

Other symbols used in this documentation



A TIP symbol indicates practical and useful tips for handling your extractor fan.



A tool symbol before an installation sequence lists the necessary tools for the described work.

- **Action required:** This requires you to perform a specific action.
- ⇒ **Check the results:** This requires you to check the results of the action you have performed.

The illustrations always show the interior wall.

1.2 Safety instructions



These installation and operating instructions are part of the ventilation unit and must be permanently available. When handing the equipment/system to a third party, the installation and operating instructions must be handed over also. Before performing any work on the system, read the installation and operating instructions carefully and observe all information regarding installation, commissioning 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 Pulsar extractor fan is designed to ventilate rooms with external windows, taking into account the specifications and applications described in these instructions, and only in conjunction with components that are recommended by inVENTer GmbH and mentioned in this documentation. Changes or modifications to the equipment/system are not permitted.

Trouble-free and safe operation of the equipment depends on proper transportation, proper storage and installation as well as careful operation and maintenance. Observe all safety instructions that are contained in this documentation. Any kind of use other than the intended use will exclude all liability claims.

Improper use

Do not install the equipment in areas which...

- contain (or may contain) strong oils or lubricants.
- contain (or may contain) flammable gases, liquids or vapours.
- are exposed to ambient temperatures below 5 °C and above 50 °C
- contain (or may contain) obstacles preventing access to the fan or its removal.

Qualified personnel

The equipment may only be set up and operated in conjunction with this documentation. Installation and operation may only be carried out in conjunction with this documentation. Installation and electrical connection of the equipment 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 it into operation and identify equipment, systems and circuits in accordance with established safety procedures.

General safety regulations

- Always observe the relevant standards, regulations and guidelines when working.
- The Pulsar extractor fan is designed for fixed installation with permanent cabling.
- **DANGER:** Observe the installation instructions in accordance with VDE 0100 when establishing connections in damp areas. The Pulsar extractor fan may only be installed outside protection area 0 (☞ 3.1, page 8). The Pulsar extractor fan must not be used in areas in which direct contact with water spray is possible over a prolonged period.
- **DANGER:** When laying the power supply cable, observe the requirements of protection class II.
- **DANGER:** Ensure that the power supply (voltage, frequency and phase) correspond to the specifications on the type plate.
- **CAUTION:** Operation and/or maintenance of the device 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 device.
- Ensure sufficient air supply in the room, for example, via a large gap under the door.
- **CAUTION:** Install a pressure monitor in rooms with open flues. Consult your chimney sweeper and/or building planner!
- The extractor fan may only be commissioned after completion of the construction project.

2 System overview

The Pulsar is an innovative extractor fan with a contemporary design.

It improves the basic ventilation in your rooms and enables continuous ventilation to reduce humidity and odours in wet rooms (WC/bath/shower room/laundry room). Furthermore, the Pulsar can be used as a wall-vent fan.

The Pulsar can be used in conjunction with the aV100 wall installation set or installed in another wall sleeve with a diameter of 100 – 140 mm (in this case a back-draught shutter must be retrofitted on site). Installation is possible in ceilings and exterior walls. If the Pulsar extractor fan is used as a wall-vent fan, it can also be installed in interior walls. The Pulsar can be connected directly to the 230 V mains or via a power supply unit. Note that not all functions are available when connecting to 12 V DC.

In order to ensure that the device does not interfere with other ventilation processes and that its functioning is not affected by them, it must always be installed in its own wall sleeve. This must not contain any obstructions or other objects that interfere with the airflow. In order to prevent the accumulation of condensate (in winter) in wall sleeves, they must be insulated at the places where they run through unheated areas, such as cold attics.

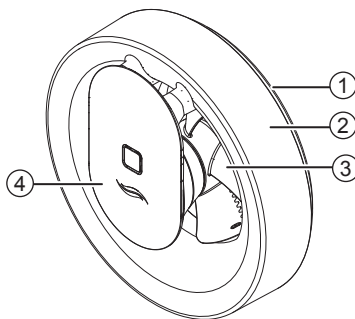


Figure 1: Pulsar extractor fan with cover

- | | |
|----------------------|------------|
| 1 Rubber seal | 3 Fan |
| 2 Fan casing's cover | 4 Fan unit |

Features

- Extractor fan with App control
- Can be installed in protection area 1 bath and shower rooms in accordance with VDE 0100
- Wall or ceiling mounting possible
- 230 V connection (AC) or protective low voltage with 12 V connection (DC) possible
- Ultra-low-noise operation
- Control and set-up using the inVENTer Mobile app via mobile device
- Humidity sensor with adjustable sensitivity
- Light sensor with adjustable sensitivity, run-on control and delayed power-on
- Intelligent pause function, interval mode and boost mode
- Easy cleaning thanks to the easily accessible fan unit

2.1 Function

The Pulsar extractor fan is programmed to suit most installations.

The following factory settings are pre-programmed:

- Control by exposure to light: If the light conditions change, i.e. lights are switched on, the shadows change, or a person enters the room, the fan starts with a flow rate of approx. 60 m³/h and runs for 15 minutes. Afterwards, the Pulsar extractor fan is switched off again.
- Control by humidity sensor: If the humidity increases strongly, for example when the shower is used, the flow rate rises to a maximum of 95 m³/h. When the humidity decreases, the Pulsar extractor fan is switched off again.

When the extractor fan is switched on for the first time, the factory settings are active.

Additional control and configuration of the Pulsar is possible via the inVENTer Mobile app.

If required, the Pulsar extractor fan can also be used as a wall-vent fan for ventilation and heating of adjacent areas, e.g. unheated rooms. The extractor fan turns on when the selected temperature limit is exceeded. It switches off again when the room temperature falls back within the selected range.

The extractor fan is controlled and configured using the inVENTer Mobile app.

You can download the app for free from the Google Play Store (Android) or the App Store (iOS).



Technical requirements:

- Mobile device with Android or iOS operating system
- Bluetooth Smart

The following additional settings and functions can be changed via the inVENTer Mobile app:

- Flow rate
- Sensitivity of the humidity sensor
- Sensitivity of the light sensor
- Run-on time
- Power-on delay
- Boost function
- Intelligent pause function
- Interval mode
- Settings for continuous ventilation
- Temperature settings when used as a wall-vent fan

You can find out more about the possibilities offered by inVENTer Mobile and download the app directly here: www.inventer.de



3 Preparing for installation

3.1 Installation conditions

Electrical protection areas according to VDE 0100



DANGER

Ingress of water into the Pulsar extractor fan or its power source.

Electric shock and overheating due to short circuit (230V, 50Hz)!

- ▶ Install Pulsar outside protection area 0.
- ▶ Install light switch/switch/pushbutton outside protection areas 0 to 2.

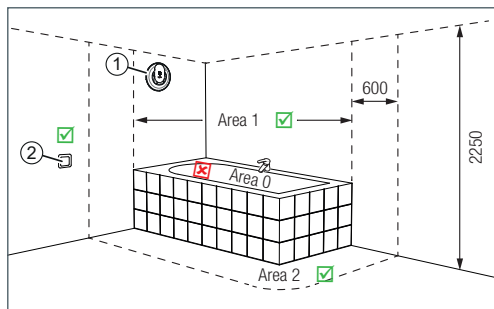


Figure 2: Overview of electrical protection areas in bathrooms

- 1 Pulsar extractor fan
- 2 External operating element (switch/pushbutton)

Positioning in the air flow of the room

Install the Pulsar extractor fan within the air flow of the room. This will ensure optimal humidity extraction and reliable detection of the humidity by the humidity sensor.

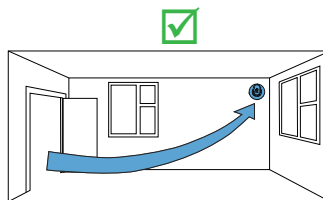


Figure 3: Ideal positioning

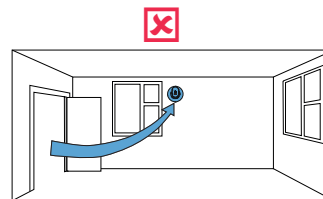


Figure 4: Non-ideal positioning

3.2 Dimensions

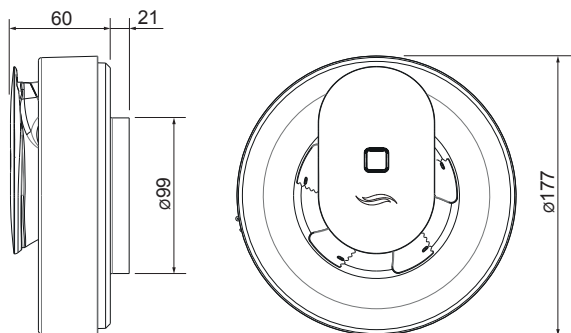


TIP: Ensure a minimum clearance of 250 mm to other components in front of and around the unit.

Designation	Depth/length [mm]	Width [mm]	Height [mm]	[ϕ , L in mm]
Wall opening:				
Borehole for wall sleeve	Wall thickness	–	–	115
Borehole for suspended ceiling	Wall thickness	–	–	105
Borehole for flush-mounted box for PSU	66	–	–	68
Borehole for flush-mounted plaster board box for PSU	61	–	–	68
Installation elements:				
Pulsar extractor fan	81	–	–	177
Wall sleeve DN 100	Wall thickness	–	–	100
Power supply unit (PSU)	–	–	32	54

- Wall sleeves are available in the aV100 wall installation set including weather protection hood, from inVENTer GmbH.
- A power supply unit is required for the 12 V DC connection. PSU and flush-mounted (plasterboard) box are available from inVENTer GmbH.

3.3 Dimension drawing



4 Electrical connection

The Pulsar extractor fan can be connected directly to the 230 V AC mains or can be operated with 12 V DC (SELV). A power supply unit is available as an option.

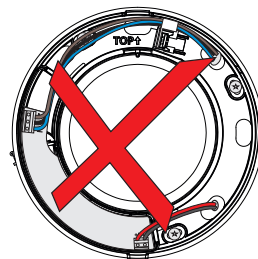


NOTICE

Simultaneous connection of 230 V AC and 12 V DC.

Damage to the Pulsar extractor fan!

- ▶ Never simultaneously connect the Pulsar extractor fan to 230 V AC and 12 V DC.



4.1 Electrical connection AC 100 – 240 V (Alternating current)



DANGER

Exposed electrical components.

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

- ▶ Before working on electrical installations, disconnect all affected equipment from the power supply.
- ▶ Do not lay or connect live cables.
- ▶ The connection must only be performed by qualified and trained personnel.



DANGER

Ingress of water into the Pulsar extractor fan or its components/power source.

Electric shock and overheating due to short circuit (230V, 50Hz)

- ▶ Install Pulsar outside protection area 0.
- ▶ Install Pulsar's power source outside protection area 2.



NOTICE

Insufficient wire cross-section.

Excessive voltage drop and/or contact cannot be guaranteed!

- ▶ For the power cable (mains cable) use a wire cross-section of 1.5 mm².

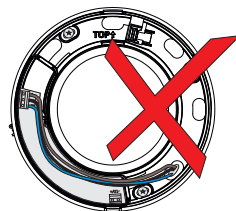


NOTICE

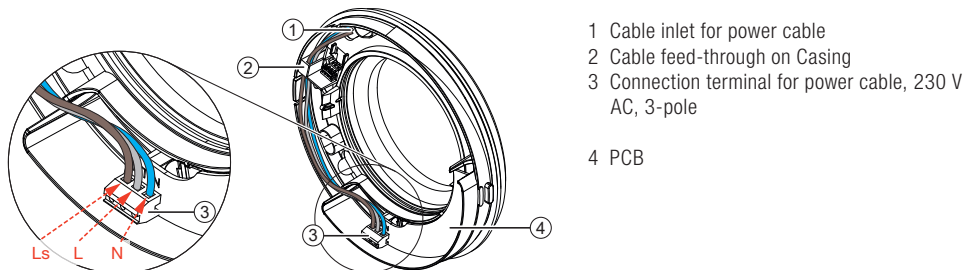
Power cable routed over PCB cover.

Damage to the PCB and no function of the Pulsar extractor fan!

- ▶ Do not route the 100 – 240 V AC power cable over the PCB.



Terminal assignment for power cable



- 1 Cable inlet for power cable
- 2 Cable feed-through on Casing
- 3 Connection terminal for power cable, 230 V AC, 3-pole
- 4 PCB

Figure 5: PCB of Pulsar extractor fan: Terminal assignment for power cable connecting terminal (230 V AC)

Wiring diagrams for 230 V AC connection

The connection of the extractor fan depends on the desired functions. Ensure that you connect the extractor fan correctly and select the correct presets for your desired functions during commissioning.

1 Sensor-controlled, with continuous ventilation:

- This setting must be selected via the inVENTer Mobile app.
- Continuous ventilation with a flow rate of 30 m³/h.
- Increases the fan power with elevated humidity or due to lighting changes.

2 Sensor-controlled, without continuous ventilation:

- Factory setting to ensure ventilation as required.
- The extractor fan is switched on and off automatically when the humidity or lighting changes.

3 Use as a wall-vent fan

- This setting must be selected via the inVENTer Mobile app.
 - Suitable for ventilation of adjacent rooms.
 - The extractor fan is switched on/off based on the temperature, the light and humidity sensors are inactive.
-

4 Switch-controlled, without run-on function:

- This setting must be selected via the inVENTer Mobile app.
 - The extractor fan is switched on and off by means of a manual, external S switch.
 - The sensors are deactivated.
 - When the fan is switched off at the external S switch, the fan switches off immediately.
-

5 Switch-controlled, with run-on function:

- This setting must be selected via the inVENTer Mobile app.
- The extractor fan is switched on and off by means of a manual, external S switch.
- The sensors are deactivated.
- When the fan is switched off at the external S switch, the fan runs for the set run-on time and then switches off automatically.

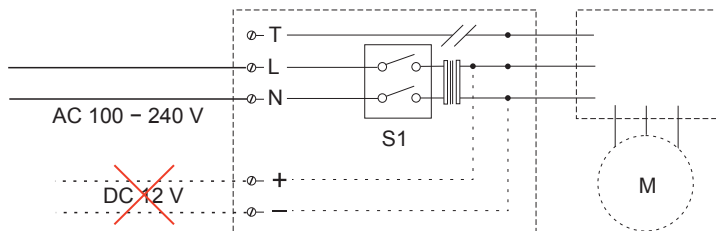


Figure 6: Wiring diagram for Pulsar extractor fan 230 V AC with sensors activated

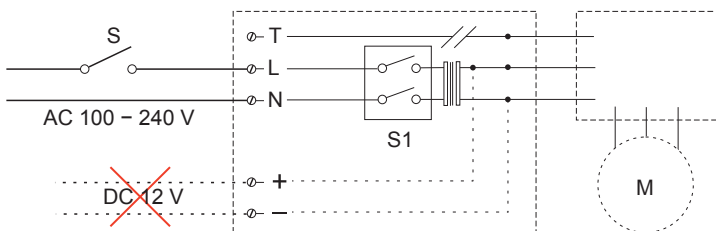


Figure 7: Wiring diagram for Pulsar extractor fan 230 V AC, switch-controlled, without run-on function

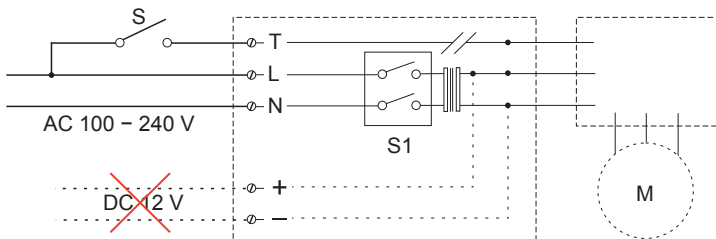


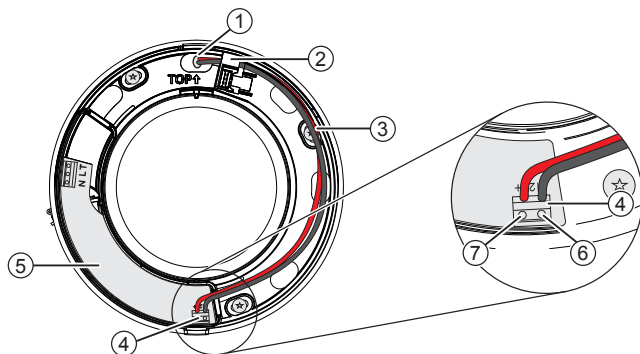
Figure 8: Wiring diagram for Pulsar extractor fan 230 V AC, switch-controlled, with run-on function

4.2 Electrical connection 12 V DC (direct current)



TIP: Have the extractor fan's 12 V DC connection carried out by qualified personnel.

Terminal assignment for operating voltage cable



- 1 Cable inlet for operating voltage cable
- 2 Cable feed-through for operating voltage cable
- 3 Operating voltage cable, 12 V DC, 2-wire
- 4 Connecting terminal for operating voltage cable
- 5 PCB
- 6 Terminal – (black)
- 7 Terminal + (red)

Figure 9: PCB of Pulsar extractor fan: terminal assignment for connecting terminal 12 V DC

Installing the power supply unit (optional)



DANGER

Exposed electrical components.

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

- ▶ Before working on electrical installations, disconnect all affected equipment from the power supply.
- ▶ Do not connect the power supply unit under voltage.
- ▶ The connection must only be performed by qualified and trained personnel.



DANGER

Ingress of water into the power supply unit.

Electric shock and overheating due to short circuit (230V, 50Hz)!

- ▶ Install power supply unit outside protection areas 0 to 2.

Wiring diagrams 12 V DC connection

1 Sensor-controlled, with continuous ventilation:

- This setting must be selected via the inVENTer Mobile app.
- Continuous ventilation with a flow rate of 30 m³/h.
- Increases the fan power with elevated humidity or due to lighting changes.

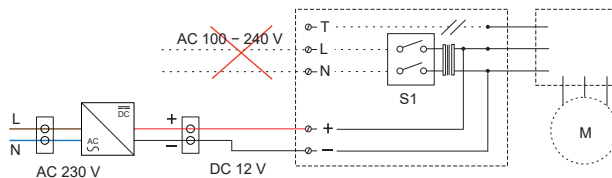


Figure 10: Wiring diagram for flush-mounted PSU NT16 and Pulsar extractor fan 12 V DC Versions 1 to 3 (sensor-controlled and use as wall-vent fan)

2 Sensor-controlled, without continuous ventilation:

- Factory setting to ensure ventilation as required.
- The extractor fan is switched on and off automatically when the humidity or lighting changes.

3 Use as a wall-vent fan

- This setting must be selected via the inVENTer Mobile app.
- Suitable for ventilation of adjacent rooms.
- The extractor fan is switched on/off based on the temperature, the light and humidity sensors are inactive.

4 Switch-controlled, without run-on function:

- This setting must be selected via the inVENTer Mobile app.
- The extractor fan is switched on and off by means of a manual, external S switch.
- The sensors are deactivated.

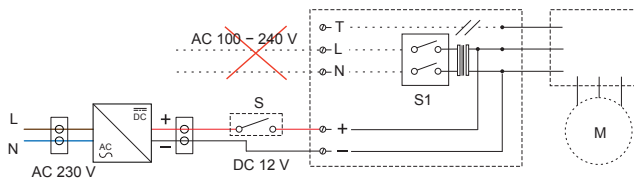


Figure 11: Wiring diagram for flush-mounted PSU NT16 and Pulsar extractor fan 12 V DC Version 4 (switch-controlled)



TIP: The S1 switch integrated into the Pulsar extractor fan does not work with a 12 V DC connection.

5 Installation

5.1 Creating the wall opening and installing the wall sleeve



DANGER

Ingress of water into the Pulsar extractor fan.

Electric shock and overheating due to short circuit (230V, 50Hz)!

- ▶ Create wall opening for Pulsar extractor fan outside protection area 0.



CAUTION

Falling masonry when creating the wall opening.

Injury to persons and/or damage to property!

- ▶ Use adequate protection against falling masonry. Remove objects from the immediate vicinity.



Milling drill with \varnothing 115 mm, wall sleeve (e.g. from aV100 wall installation set)

Requirements:

The masonry must be dry and in a load-bearing condition.

There must be no load-bearing elements at the location of the planned borehole/plaster or wall slot.



NOTICE

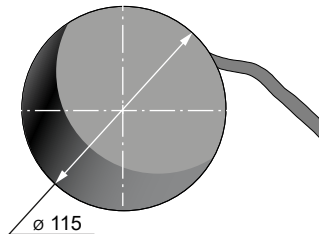
Accumulation of condensate in the wall sleeve.

Damage to the exterior wall and masonry!

- ▶ Create the wall opening with a slope of $1 - 2^\circ$ to the exterior wall.


- ▶ Drill a wall opening, \varnothing 115 mm, with a slope of $1 - 2^\circ$ to the exterior wall.
- ▶ Create the plaster/masonry slot between the power source/switch and the wall opening.

For positioning options, refer to  5, page 22.



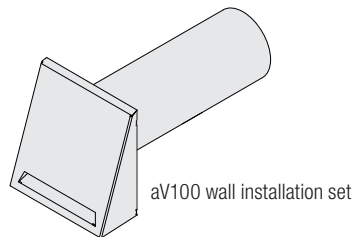


TIP: The aV100 wall installation set (wall sleeve including back-draught shutter and exterior closure), into which the Pulsar extractor fan can be inserted, is available as an option from inVENTer GmbH.

- ▶ Install the aV100 wall installation set
( instructions for aV100 wall installation set).

OR

- ▶ Install another wall sleeve DN 100.
Ensure that the (new or existing) wall sleeve does not end flush to the interior wall. It is installed with an inner distance of 5 mm (inside the wall).
Ensure that an appropriate back-draught shutter is provided and installed on site.



DANGER

Exposed electrical components.

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

- ▶ Before working on electrical installations, disconnect all affected equipment from the power supply.
- ▶ Installation of the mains power cable must only be performed by qualified and trained personnel.

- ▶ Lay the power cable, 3-wire, to the wall opening for the wall sleeve.
Ensure that the cable end protrudes approximately 300 mm into the interior space.

or

- ▶ Lay the power cable, 3-wire, between the external switch/pushbutton and the wall opening for the wall sleeve.
Ensure that the cable end protrudes approximately 300 mm into the interior space.

or

- ▶ Install the power supply unit.

⇒ The wall opening has been created and the wall sleeve is installed.

5.2 Installing the power supply unit (optional)



DANGER

Exposed electrical components.

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

- ▶ Before working on electrical installations, disconnect all affected equipment from the power supply.
- ▶ Do not connect the power supply unit under voltage.
- ▶ The connection must only be performed by qualified and trained personnel.



DANGER

Ingress of water into the Pulsar extractor fan.

Electric shock and overheating due to short circuit (230V, 50Hz)!

- ▶ Create the wall opening for the power supply unit outside protection area 2.



TIP: The additional power supply unit can only be installed with a 12 V DC electrical connection. A power supply unit as well as a flush-mounted (plasterboard) box can be ordered as optional accessories.

The installation process described below uses the example of a flush-mounted box. Installation in a flush-mounted plasterboard box follows the same principle.



Milling drill with \varnothing 68 mm, insulating terminal, filler for plastering in the box

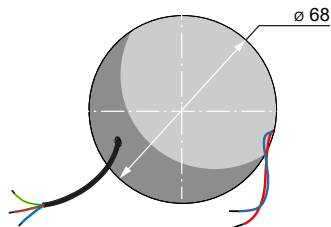
Requirements:

The masonry must be dry and in a load-bearing condition.

There must be no load-bearing elements/electrical wires at the location of the planned borehole/plaster or wall slot.

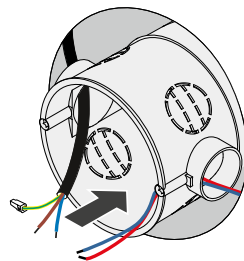
- ▶ Drill a wall opening, \varnothing 68 mm, for the flush-mounted box.
- ▶ Lay the power cable, 230 V AC, to the wall opening for the flush-mounted box.
- ▶ Lay the operating voltage cable, 12 V DC, between the opening for the flush-mounted box and the opening for the Pulsar extractor fan.

Ensure that the cable end protrudes approximately 300 mm from both wall openings.

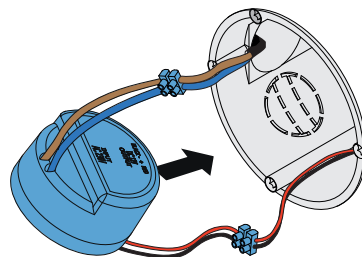


- ▶ Insert the power cable, 230 V AC, through an opening into the flush-mounted box.
- ▶ Insulate the protective contact wire with a terminal.
- ▶ Insert the operating voltage cable, 12 V DC, through a different opening into the flush-mounted box.

- ▶ Insert the flush-mounted box into the wall opening.
- ▶ Fill the space between the interior wall and the flush-mounted box with a suitable filler.
 - ⇒ The flush-mounted box for the power supply unit has been fitted.



- ▶ Connect the power cable, 230 V AC, to the PSU's input terminals (blue/brown) using one of the enclosed lustre terminals.
- ▶ Connect the fan operating voltage cable, 12 V DC, to the output cable (red, + / black, -) of the PSU using the second enclosed lustre terminal.
- ▶ Slide the connected PSU into the flush-mounted box.



- ⇒ The power supply unit is installed.

5.3 Inserting and connecting the Pulsar extractor fan



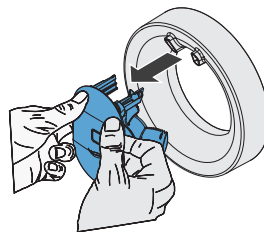
Screw driver, drilling machine, rawl plugs, screws, spirit level, wire stripping tool

Requirements:

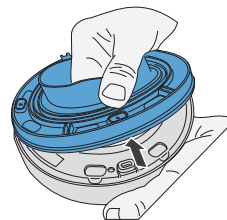
The wall sleeve is mounted and any protective discs have been removed.

The power/operating voltage cable (230 V, 50 Hz / DC 12 V) is laid

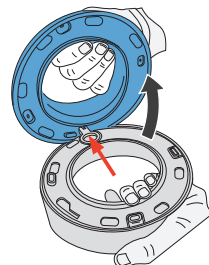
- ▶ Grip the fan unit from behind with both hands.
- ▶ Pull the fan unit out of the fan casing from the front.
Ensure that you hold the fan unit firmly so that it does not fall to the ground when released.



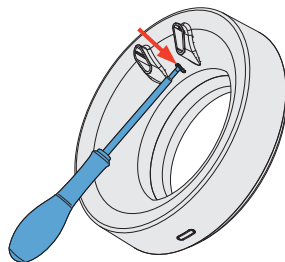
- ▶ Carefully remove the rubber seal from the back of the fan casing.
Ensure that you pull off the rubber seal, beginning on the opposite side of the integrated switch.



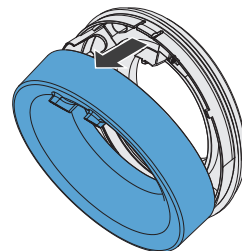
- ▶ Remove the rubber seal completely from the fan casing.
Take care not to damage the integrated switch (red arrow).



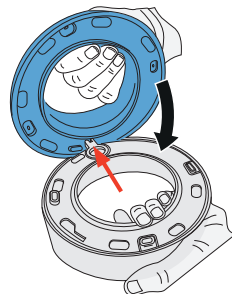
- ▶ Use a screw driver to press in the lock button (red arrow) on the fan casing.
- ▶ Loosen the cover of the fan casing.



- ▶ Lift the cover of the fan casing forwards from the top.

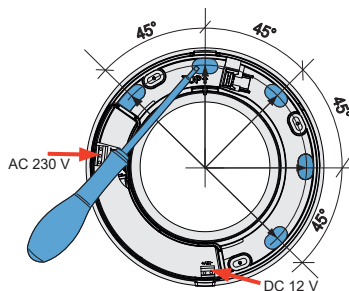


- ▶ Reattach the rubber seal to the back of the fan casing. **Ensure that** you first place the switch (red arrow) carefully into the opening provided. Then press the rubber seal firmly into the fan casing's base plate.



- ▶ Create an entry for the voltage cable in one of the five cable entries in the rubber seal. Use a screw driver or other suitable tool.

Ensure that you create the cable entry near the respective terminal (red arrows).



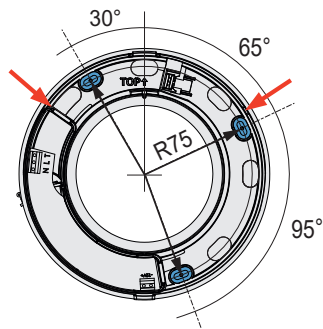
DANGER

Exposed electrical components.

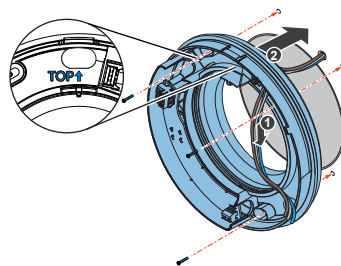
Electric shock and injury due to live components (230 V, 50 Hz)!

- ▶ Before working on electrical installations, disconnect all affected equipment from the power supply.
- ▶ Do not lay or connect live cables.

- ▶ Insert the fan casing into the wall sleeve from the interior.
- ▶ **Make sure** that the word TOP is pointing upwards.
- ▶ Level the fan casing using a spirit level. To do this, place the spirit level against the support points on the fan casing (red arrows).
- ▶ Mark the 3 mounting holes (blue areas).
- ▶ Remove the casing from the wall sleeve and drill the holes.



- ▶ Guide the voltage cable, 230 V, 50 Hz! or 12 V DC through the newly created cable entry.
 - ▶ Insert the fan casing's base plate, including the rubber seal, into the wall sleeve so that it covers the mounting holes.
- Make sure** that the word TOP is pointing upwards.
- ▶ Screw the fan casing's base plate to the interior wall. Ensure that the rubber seal completely seals the extractor fan to the interior wall.



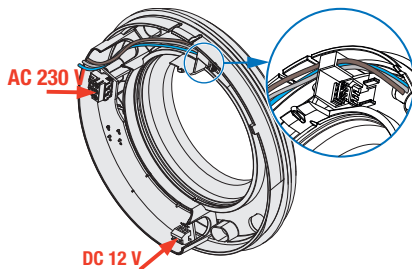
NOTICE

Over-shortened cable.

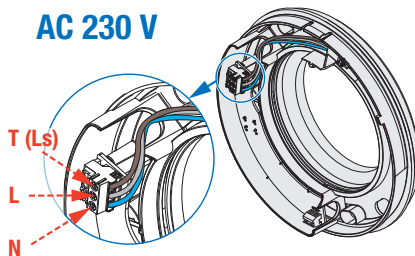
Cable cannot be reconnected after disassembly for maintenance work!

- ▶ Do not excessively shorten the cable.

- ▶ Shorten the voltage cable so that it reaches the respective connection terminal (red arrows). 230 V AC 3-pole connection terminal 12 V DC 2-pole connection terminal
- Take care** not to lay the voltage cable over the PCB.
- Ensure that** the voltage cable is laid through the cable entry. This ensures that the cables do not interfere with the installation of the fan unit and prevents malfunctions of the extractor fan.

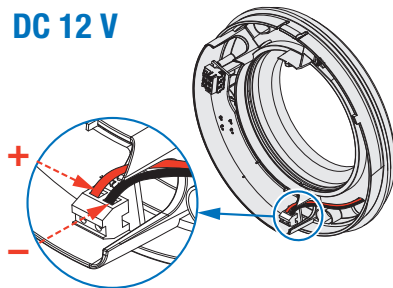


AC 230 V



- ▶ Connect the shortened voltage cable (in accordance with the wiring diagram) to the terminal block.

DC 12 V



- ⇒ The Pulsar extractor fan is inserted and the voltage cable is connected.

5.4 Installing the fan casing's cover and fan unit

Requirements:

The fan casing's base plate is installed.

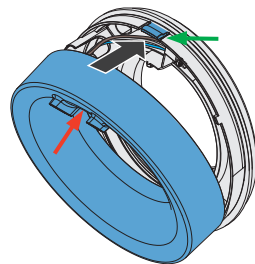
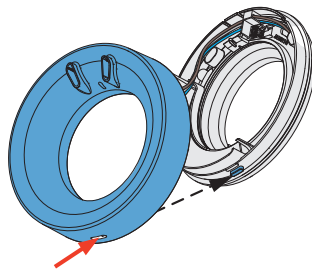
The extractor fan is connected to the power circuit.

- ▶ Snap the hook on the bottom of the fan casing's base plate into the hole (red arrow) on the lower side of the fan casing's cover.

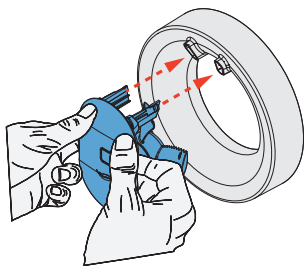
Make sure that the guides for the fan unit are pointing upwards.

- ▶ Press the upper part of the fan casing's cover onto the bracket (red arrow) on the fan casing's base plate.

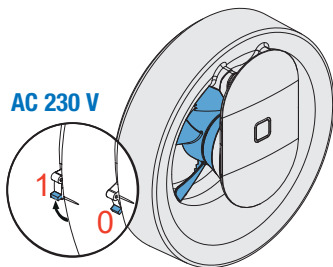
Ensure that the lock button (red arrow) clicks into place between the guides for the fan unit.



- ▶ Carefully insert the fan unit into the two guides (red arrows) on the fan casing.
Ensure that the fan unit is not tilted during installation. This ensures that the feet and the fan are not damaged.
⇒ A clearly audible click confirms that the fan unit is installed correctly.



- ▶ Ensure that the fan can rotate freely before switching it on.
- ▶ Connect the Pulsar extractor fan to the power supply.
- ▶ Switch on the device:
230 V AC: The switch is located on the left side of the fan casing. Push it up into position 1.
12 V DC: The fan runs when connected to the power supply (if switch-controlled, the external switch is used to turn the extractor fan on and off).



- ⇒ The cover of the fan casing and the fan unit are installed.

6 Commissioning

Commissioning is essentially just a matter of downloading, activating and configuring the app.



NOTICE: Connect the fan exclusively via inVENTer Mobile app to your mobile device. Direct pairing with Bluetooth Smart leads to installation errors and the Pulsar must be de-installed (Before reset, deactivate the Auto pairing function in Bluetooth Smart!).

Different functions and settings are available within the app depending on the electrical connection of the Pulsar extractor fan.

Requirements for app functionality:

- Mobile device with Android or iOS operating system
- Bluetooth Smart (Advice: Disable the automatic pairing function before setting up your Pulsar.)

The operating systems and corresponding app versions are continually updated. Additional information is available on our website: www.inventer.com and directly from the App Store (iOS) or Play Store (Android).

Activating the inVENTer Mobile app

Step 1:

Download the app free of charge from the Google Play Store (Android) or the App Store (iOS) onto your mobile device.



Step 4:

Follow the instructions in the set-up menu.

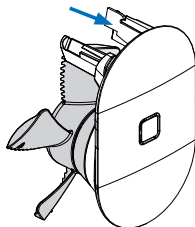
⇒ You have activated the app and can now configure your Pulsar.

Step 2:

Open the inVENTer Mobile app and press **START**.

Step 3:

A PIN code is required to activate the app. You will find your specific PIN code on the back of these instructions, as well as on the right foot of the fan unit (blue arrow). Enter the PIN code, or scan it with your mobile device.



TIP: Touch the "+" (blue arrow) in the start menu to register additional inVENTer devices with the app.



7 Operation

7.1 Functional scope

Pulsar is operated and controlled via the inVENTer Mobile app. Without app control, only the factory settings are available.

The app provides the following additional functions for your Pulsar:

Configuration of:

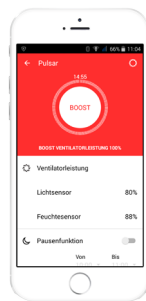
- Fan speed (depending on sensor) optionally in per cent, rpm or litres per second
- Sensitivity of the humidity sensor with three levels: Low – Medium – High Setpoint
- Sensitivity of the light sensor with three levels: Low – Medium – High Setpoint
- Run-on time between 5 and 60 minutes
- Power-on delay between 5 and 10 minutes
- Boost function
- Intelligent pause function: Once per day, for a freely selectable period of time you can set your Pulsar to OFF (only if no continuous ventilation is set) or to run with minimum power (continuous ventilation)
- Interval mode: When interval mode is activated, your Pulsar runs once every 12 hours for 30, 60 or 90 minutes at maximum speed.
- Continuous ventilation
- Temperature settings in a range from 15 to 35 °C when used as a wall-vent fan

A pulsar can be configured via multiple mobile devices.

This is subject to the following requirements:

- The Pulsar must be within range of the mobile device (max. 10 m distance).
- The Bluetooth Smart connection must be enabled.
- The pulsar must be displayed as active on the mobile device.
- At any given time, the Pulsar can only be operated from one mobile device. Simultaneous control of the same Pulsar from multiple mobile devices is not possible. In this case, only the first device to establish a connection is able to control the Pulsar.

You can find out more about the possibilities offered by inVENTer Mobile and download the app directly here: www.inventer.de



7.2 Status LED

An LED is located on the fan unit. It indicates the status of the extractor fan.

The LED only lights up in the following cases:

Blue LED illuminated:

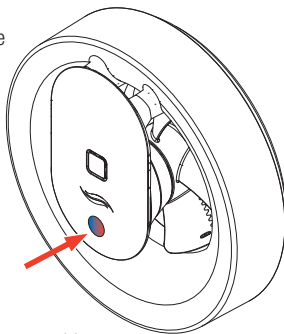
A blue LED on the fan unit of the Pulsar extractor fan indicates that an active Bluetooth Smart connection to a mobile device has been established.

Please note, that the blue LED must be illuminated before you can operate or configure the Pulsar extractor fan.

Red LED illuminated:

The red LED is a fault indicator. A red LED on the fan unit of the Pulsar extractor fan indicates a power failure when the intelligent pause function is configured.

A reset is possible by synchronising the app with the Pulsar extractor fan.



8 Cleaning and maintenance



DANGER

Exposed electrical components and rotating parts on the fan.

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

- ▶ Before working on electrical installations, disconnect all affected equipment from the power supply.



CAUTION

Cleaning by children and persons with limited abilities.

Injury to persons and/or incorrect functioning of the ventilation system!

- ▶ Cleaning and/or maintenance of the device 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.

The Pulsar extractor fan is virtually maintenance-free. Any necessary cleaning or maintenance work can be carried out by the user by following these instructions.

The maintenance tasks and intervals listed here are recommended by inVENTer GmbH to maintain the functionality and performance of the Pulsar extractor fan.

Depending on requirements and/or air quality, your personal maintenance plan may deviate from these recommendations.

Detergents

The Pulsar extractor fan has a scratch-resistant plastic casing. Do not use sand, soda, acid or chlorine-based cleaning agents.

A commercially available detergent in warm water can be used for cleaning.

The fan must not be immersed in water or sprayed with water.

Interval	Assembly	Maintenance activity
Monthly	Fan casing	Clean the surface with a damp cloth.
Half-yearly	Fan unit	Remove the fan unit from the fan casing and clean with a damp cloth.

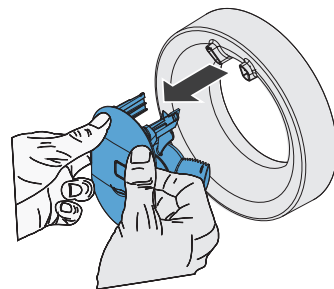
Requirements:

The power supply is disconnected.

230 V AC: Disconnect the switch on the Pulsar extractor fan. The switch is located on the left side of the fan casing. Push it down into position 0.

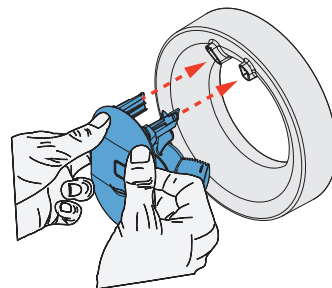
12 V DC: Disconnect the power supply at the mains fuse or the external switch.

- ▶ Grip the fan unit from behind with both hands.
- ▶ Pull the fan unit out of the fan casing from the front.
- ▶ Remove the fan unit from the fan casing.
Ensure that you hold the fan unit firmly so that it does not fall to the ground when released.



- ▶ Clean the wall sleeve, fan casing and fan unit with a damp cloth.
Make sure that the fan is cleaned directly in the fan unit; it must not be removed.

- ▶ Carefully insert the fan unit, with the feet first, into the two guides (red arrows) on the fan casing.
Ensure that the fan unit is not tilted during installation. This ensures that the feet and the fan are not damaged.
 ⇒ A clearly audible click confirms that the fan unit is installed correctly.



⇒ The Pulsar extractor fan has been cleaned.

9 Specifications

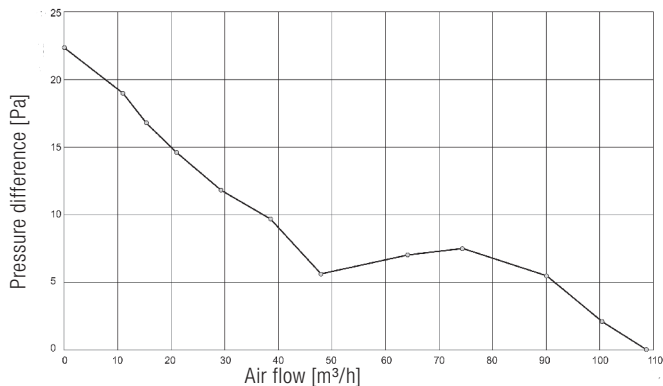
Pulsar extractor fan

Feature	Value
Protection class	II
Type of protection	IP44
Input voltage	100 – 240 V AC or 12 V DC
Extract air flow rate (free blowing) [m ³ /h]	110
Power consumption [W]	4
Noise emission (rated) [dB(A)]	17 – 20
Ambient temperature [°C]	5 – 50
Supply air	Free from aggressive gases, dust and oils
Diameter x depth [mm]	177 x 81
Weight [g]	400

Flush-mounted switching PSU NT16

Feature	Value
Protection class	II
Type of protection	IP20
Input voltage [V AC, Hz]	230, 50
Output voltage [V DC]	12
Power output [W]	12
Operating temperature [°C]	5 – 50
Diameter x height [mm]	54 x 32
Weight [g]	47

Air flow characteristic of Pulsar extractor fan



10 Scope of supply

Component	Order number
Pulsar	3002-0270

11 Accessories

Component	Order number
aV100 wall installation set	1001-0159
Flush-mounted switching PSU NT16	1003-0094
Flush-mounted box 60x66	3002-0244
Flush mounted plasterboard box 61x68	1003-0084

12 Guarantee and warranty

Warranty

Outside Germany, the national warranty provisions of the country in which the system is sold apply. Please contact the distributor for your country.

The warranty refers to the defect-free condition of the product at the time of purchase and covers all defects that were present at the time of purchase. Failure to observe the intended use will invalidate all warranty claims.

Manufacturer guarantee

InVENTer GmbH provides a five-year guarantee for the Pulsar extractor fan. This covers premature product wear.

Further information about the warranty is available at www.inventer.eu/guarantee.

Warranty and guarantee claims

In the case of a warranty or guarantee claim, contact your local distributor or factory representative.

In all cases, return the complete device to the manufacturer. The guarantee is an additional offer by the manufacturer and in no way affects the applicable law.

13 Service

Claims

Check the delivery for completeness and transport damage upon receipt using the delivery note. Report missing items immediately, and at the latest within 14 days to your supplier, distributor or factory representative.

Accessories and spare parts

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

Technical customer service

For technical support contact our service staff.

Telephone:	+49 (0) 36427 211-0
Fax:	+49 (0) 36427 211-113
Email:	info@inventer.de
Internet:	www.inventer.eu

Disposal

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



The products described in these installation and operating 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.

COMPANY DETAILS

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inVENTer

PIN code / serial number

Important! To activate the inVENTer Mobile app, enter the PIN code or scan it with your phone. You can also find your specific PIN code on the right foot of the fan unit.

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