

EN Assembly instructions

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1 Overview



- 1 Speed switch
- 2 Indicator light
- 3 Terminal cover

2-stage, three-phase switch, type 30351

2 Brief description

The 2-stage, three-phase switch with PTC thermistor monitor is suitable for the control of explosion-proof ventilation units.

3 General

3.1 About these instructions

These instructions ensure the safe and efficient handling of this equipment. These instructions form an integral part of the equipment and have to be kept in the direct vicinity of the equipment and available to personnel at all times.

All personnel must have carefully read through these instructions prior to commencing all work on the equipment. A fundamental prerequisite for safe working is compliance with all the stated safety instructions and other instructions contained in this manual.

In addition all local occupational health and safety at work regulations apply, as do general safety provisions governing the use of the equipment.

Illustrations in this guide are intended to provide a basic understanding and may differ from the actual model.

Ongoing tests and further developments may result in small variations between the unit supplied and the instructions.

3.2 Explanation of Symbols



WARNING!

This combination of symbol and signal word indicates a possible hazardous situation.



IMPORTANT NOTE!

It represents a potentially hazardous situation, which could lead to damage to property or for a measure to optimise workflows.



IMPORTANT NOTE!

This symbol highlights useful hints, recommendations and information for efficient and trouble-free operation.

2-Stufen-Drehstromschalter Typ 30351
Assembly instructions

4 Safety

This section provides an overview of all important safety aspects to ensure optimum protection of personnel as well as safe and trouble-free operation. In addition to the safety instructions in these operating instructions, the valid safety, accident prevention and environmental protection regulations must be observed for the area of use of the unit. It is the duty of the operator to ensure that instructions relating to maintenance (e.g. relating to hygiene) are complied with.

4.1 Correct use

Intended use of the unit also includes adherence to these instructions.
Any use beyond or other than the stated intended use is considered as misuse.
Any change to the unit or use of non-original spare parts will cause the expiry of the warranty and the manufacturer's liability.

4.2 Risk from electrocution!

DANGER!
Risk of fatal injury from electrocution!
Contact with live parts will lead to fatal injury from electrocution. Damage to the insulation or individual components can lead to a fatal injury.
Only permit qualified electricians to work on the electrical system.
Immediately disconnect the system from the power supply and repair it in the event of damage to the insulation.
Keep live parts away from moisture. This can cause a short circuit.
Properly earth the unit.

4.3 Securing against reconnection

DANGER!
Risk of death by unauthorised or uncontrolled restart!
Unauthorised or uncontrolled restarting of the equipment can result in serious injury or death.
Before restarting, ensure that all safety devices are fitted and working properly and that there is no hazard to humans.

Always follow the procedure described below to prevent accidental restart:

- 1. de-energise.
- 2. Prevent accidental re-connection.
- 3. Check that the equipment is de-energised.
- 4. Cover and cordon off adjacent live parts.

4.4 Personnel requirements - Qualifications

Expertise
The installation of this product requires specialist knowledge of heating, cooling, ventilation, installation and electrical engineering.
Damage caused by improper installation is the responsibility of the operator or installer. The installer of these units should have adequate knowledge of the following gained from specialist professional training
Safety and accident prevention regulations
Country-specific guidelines and recognised technical regulations, i.e. Association of German Electricians (VDE) regulations, DIN and EN standards.

4.5 Personal Protective Equipment

Personal protective equipment is used to protect people from impaired safety and health when working with the unit. The applicable accident prevention regulations at the place of use apply in all cases.
Personnel have to wear personal protective equipment during maintenance and troubleshooting on and with the unit.

5 Technical data

Table with 3 columns: Description, Unit, Values. Rows include Nominal voltage, Mains frequency, Max. motor nominal current, Switching power, Leakage current, Minimum control voltage, Maximum control voltage, Permitted RCD, Fuse, IP protection, Protection class, Permitted wire diameter of connecting terminals, and Dimensions W x H x D.

6 Installation and wiring

6.1 Installation



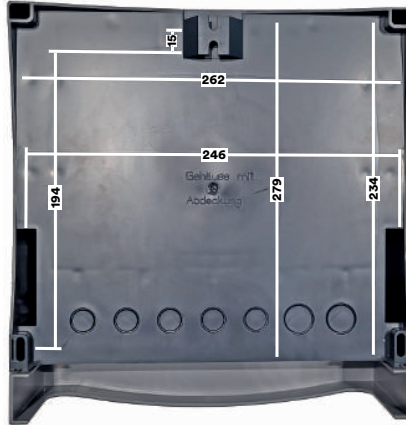
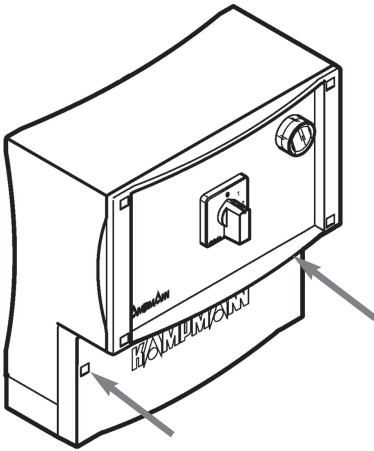
CAUTION!

Risk of injury from sharp metal housing!

The inner metal of the casing can have sharp edges.

Wear suitable protective gloves.

Caution: Only install the 2-stage, three-phase switch outside of the area at risk of explosion.

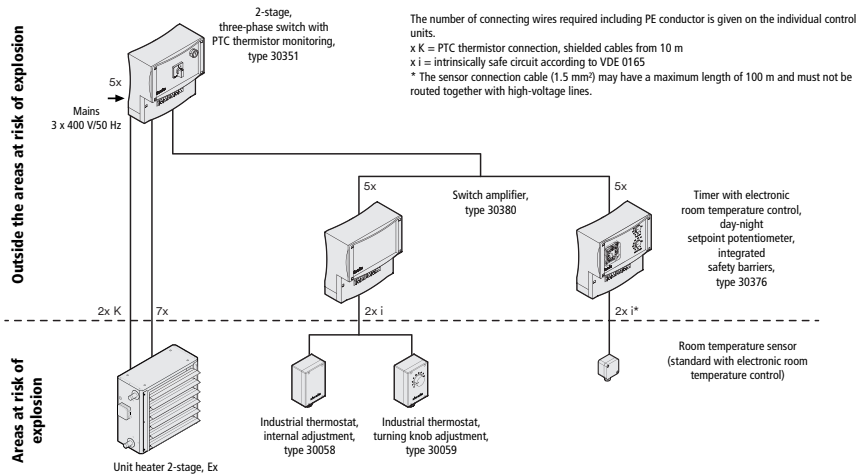


Take into consideration the IP class of the controller (see "Technical data") when selecting the position of the unit.

Remove the screws from the terminal cover and remove the terminal cover.

Screw the unit to the wall (drill hole distances on the back of the unit).

7 Electrical connection







Recirculating air switches and controllers for explosion-proof motors

Parallel operation

A maximum of 2 unit heaters may be connected to the 2-stage three-phase switch, type 30351.

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| Image detail of connection terminals | Description |
|---|--|
|  | Supply voltage connection 400 V AC / 50 Hz |
|  | Fan connection |
|  | PTC thermistor connection Connect the PTC thermistor from the first motor to the two left PTC thermistor terminals labelled "KL". If a second motor is connected, connect its PTC thermistor to the two right PTC thermistor terminals, also labelled "KL". If there is no second motor, then insert a jumper at the two right PTC thermistor terminals "KL". |
|  | Connection point for the timer, type 30376 or isolation amplifier, type 30380. Connect the respective terminals labelled "RT" directly to the "RT" terminals of the timer or the isolation amplifier. L3 is connected to terminals 5 and 7 with a 4 A fuse. |

8 Pre-commissioning checks

Before initial commissioning, check whether all the necessary conditions have been met so that the unit can operate safely and properly.

| Electrical tests |
|---|
| ► Check whether all lines have been properly laid. |
| ► Check whether all lines have the necessary cross-section. |
| ► Are all wires connected in accordance with the electric wiring diagrams? |
| ► Is the earth wire connected and wired throughout? |
| ► Check all external electrical connections and terminal connections are fixed in place and tighten if necessary. |
| ► Check whether all fan motor PTC thermistors are connected correctly. |

9 Operation

Commissioning

Only start up the system after all the system components have been properly installed and all connections have been checked.

Switch on the supply voltage.

Use the fan selector switch to switch on stage 1 and 2 and check that the unit is operating properly.



2-stage, three-phase switch

| | | | |
|---|------------------|---|--------------------|
| 1 | Fan speed switch | 2 | Indicator light on |
|---|------------------|---|--------------------|

fan speed switch ①

0: System switched off: indicator light ② switched off.

1: Operation at fan stage 1: indicator light ② switched on, unit runs trouble-free.*

2: Operation at fan stage 2: indicator light ② switched on, unit runs trouble-free.*

* The thermal output depends on the size of unit.

Indicator light OFF and switch position 1 or 2:

- No mains voltage or
- PTC thermistor tripped or
- frost protection device tripped

Fault resetting (PTC thermistor or frost protection)

Reset the fault by turning to zero. The switch cannot be reset if the fault still exists. The indicator light remains off.

10 Faults

The following chapter describes possible causes of faults and the work needed to rectify them. Should faults occur frequently, shorten the maintenance intervals in line with the actual loading on the unit.

Contact the manufacturer with any faults that cannot be rectified using the following information.

Behaviour in the event of faults

The following applies:

1. Immediately switch off the unit with faults that pose an immediate danger to persons or property!
2. Determine the cause of the fault!
3. Switch off the unit and prevent it from being reconnected if rectifying the fault requires work in the hazard area. Immediately advise a supervisor on site about the fault.
4. Either rectify the fault yourself or have it repaired by authorised personnel, depending on the nature of the fault.

The Fault table [► 5] provides information on who is authorised to rectify and remedy faults.

10.1 Fault table

| Fault | Possible cause | Remedy |
|--|----------------------------------|---|
| Indicator light OFF and switch position 1 or 2 | No mains voltage. | Check the voltage. |
| | PTC thermistor tripped. | Reset the fault by turning the selector switch to 0. The switch cannot be reset if the fault still exists. The indicator light remains OFF. |
| | Frost protection device tripped. | |

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