

# OPERATION MANUAL

## Humidity regulator for sanitary rooms FREG-BAD

### Description



### Features

- Automatic humidity regulation for bathrooms, sanitary rooms and kitchens
- Direct control of ventilator/fan
- Automatic control of room climate
- High quality, long term stable humidity probe
- Start/ Switch in delay switch off delay
- Input relay for the main light switch
- ON/ OFF switch for humidity control

### Typical areas of application

- Humidity control in spa, swimming and washing areas
- WC, showers, bathrooms and other sanitary rooms
- Kitchens and cooking chambers

### Technical data

Humidity regulation	
Measuring principle	Capacitive Humidity sensor
Switching point	70% RH or strong Humidity increase
Cable length	3m to Humidity Probe
General	
ON delay	40 sec.
OFF delay	300 sec
Humidity application range	0..100% relative Humidity
Temperature application range	0...40 °C
Operating voltage	230 V AC/ 3VA
Switch output	Triac with No voltage switch, 230V/1A
Switch output "Light"	230V AC/ approx. 1 mA
Switch output "Humidity Off"	230V AC/ approx. 1 mA
Over voltage protection	Varistor at mains input and switch output
CE-conformance	2014/30/EU
EMV-noise emission	EN 61000-6-3:2011
EMV-noise withstanding	EN 61000-6-1:2007
Ordering No.	FREG-BAD
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### Description

This innovative product presents an ideal solution to avoid fungus growth on the walls in humid rooms such as showers, bathrooms, and other sanitary rooms, thus preventing damages to buildings...

In modern buildings, bathrooms and/ or kitchens are often disposed centrally in the house, and therefore lack of windows. Thus, to ensure a minimum air circulation (aeration), a technically forced ventilation becomes necessary.

In conventional ventilation concepts, the fan was either switched on through a switch or by an automatic timer. The first solution is not comfortable and it performs wrongly by all means. The second solution which is achieved by means of time control is functionally not sufficient. Without regulation, such a ventilation cannot operate in a power and demand optimised manner and results in problems like fungus growth and/or high energy costs.

All these disadvantages are ruled out by using our humidity linked fan controller. Then the fan runs only when necessary, and it switches off automatically after some time when a normal humidity level has been reached or if, in consequence of unfavourable outer climatic conditions, no air humidity improvement can be realised.

The device operates automatically, requires no maintenance or additional services and offers optimum protection from humidity and fungal damage together with energy cost savings. The acquisition costs gets amortised within a short time.

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### Functional description

The switching device is meant for triggering of a bathroom fan, in order to ensure both the basic ventilation and also to maintain the humidity within a limiting value. As in the case for conventional devices, there is an integrated timer and the fan is switched ON after the bathroom is occupied for at least 40 seconds (ON delay). Thereafter, the fan runs with a time control for at least 5 minutes, in order to ensure the basic ventilation after use of WC or the shower.

In addition, the control device also has an integrated humidity controller which switches ON the ventilator, if a fast humidity increase is registered (for example during use of shower) or if the humidity value rises to over 70% RH. With this, the fungus growth in walls and room corners is prevented, even if there is an unreasonable utilisation of the room (e.g. drying or washing) where high amounts of water evaporation are involved. In the process, the fan is switched on only as long as it takes for the ventilation to improve the humidity to a normal value. This contributes highly in heating costs saving during winter. Moreover, the device also has a protective mechanism to prevent unnecessary running of the fan, if for example, with unfavorable external climatic conditions, no further drying level can be achieved.

With a switch input, a timer controlled operation with ON delay and OFF delay is also possible.

With a second switch input, the humidity regulation can be switched OFF on demand. In this case, the ventilators are again put to operation by triggering through „Light“ based switch input.

### Accessories (optional, not in scope of supply)

**PIR-Sensor (Movement detection unit)** the optional sensor is for the purpose of presence recognition. If a movement is detected for more than 40 seconds in the area, then the timer controlled fan is switched ON.

**Light sensor:** Alternatively, the presence detection can also be done with an optional light sensor. This is possible, since bathrooms on the inner areas do not have windows, and hence, while entering normally the light is switched on.

By the application of PIR-Sensor or light-sensor, the wiring expenses are reduced, since no switched phase of the light switch is to be wired.

**Dew formation sensor:** In addition to humidity sensor, an optional dew formation sensor can be used at cooling junctions to detect the onsetting condensation. This results in an enhanced system safety against fungus formation in critical zones (e.g. outside walls or room corners).

### Safety instructions



The product should be installed and used only according to the intended application. The regulation device works on mains voltage. Contact with live voltage parts leads to fatal dangers. Therefore, fitment and maintenance of the device shall be carried out by only trained personnel. The device must be assembled inside a switchgear cabinet or in a fully closed plastic housing. Mounting and servicing operations should be carried out only after switching off the voltage.

Touching the electronic components in switched off condition should also be avoided. Electronic components can get damaged due to electrostatic discharge process.

The product is not meant for controlling electrical systems which perform safety related functions. In normal operation also, there is always a danger of malfunctioning due to any fault or disturbance in the output stage. The user has to ensure that there are no consequential damages due to malfunctioning or undefined switching status.

Due to wrong tightening of screws of the connection terminals or by use of inappropriate tool, the terminals can get damaged because of which the insulation or the contact can get disturbed. Badly connected leads can come out during operation and cause a serious risk to safety. Due to contact resistance at terminal connections, there can be increased heat generation which can cause fire. Wrongly wired connections can destroy electric components and cause other damages.

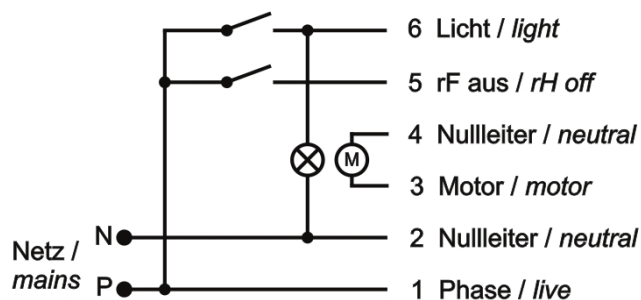
While mounting the fans, legal guidelines and standards are to be followed. Fire protection measures shall be duly taken care of!

### Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.

### Connection diagram



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### Dimensions

