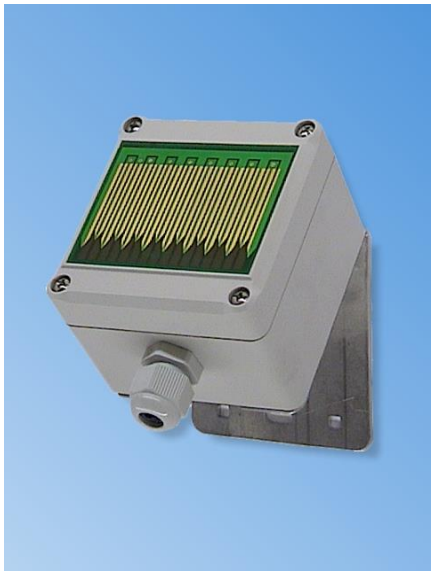
Art. No. 20002

User guide
Rain sensor 12V



Product features

- **Reliable, electrolytic measuring principle**
- **Detects precipitation as rain and snow**
- **Operating voltage 12 V DC/AC**
- **Large, heated sensor surface for quicker drying and winter operation**
- **Potential-free switching output (relay) 30V/4A**
- **Sensitivity and switching behavior adjustable**
- **Universal wall/pole mount as accessory**

1 Introduction

Before you start installing the rain sensor and putting the device into operation, read these Installation and Operating Instructions carefully until the end, especially the section on Safety Instructions

2 Product Description

The large sensor surface reacts to rain or snow. The switching polarity and the sensitivity are adjustable. The switchable heating prevents icing or condensation and accelerates drying. In the most sensitive setting, the device is also suitable for detecting fog. The mast or wall bracket, which is available as an accessory, makes installation easy. Typical applications are in garden centers, in agriculture, in building control systems, but also in homes and gardens.

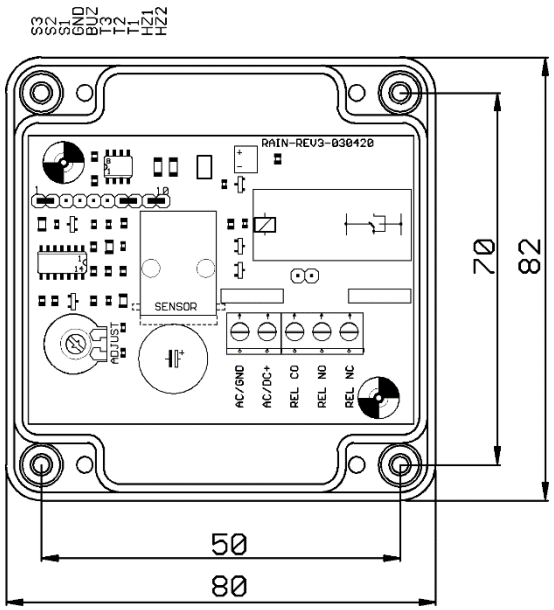
The rain detector is equipped with a relay contact for switching low voltages up to 30V DC/AC in order to be able to act on switching devices such as an awning control unit. The sensitivity is adjustable over a wide range. The device is equipped with a heater for faster drying and snow detection.

3 Settings

Output signal transmitter (optional): A passive piezo signal transmitter can be connected to the connector strip (pin BUZ and GND). The status of the signal (acoustic signal at dry or wet) can be set with jumper S1-S2 or S2-S3. In the default position S2-S3 the signal transmitter is inactive when it rains.

Switching behavior: The switching behavior of the relay (energised or de-energised in rain) can be set with the jumper of T1-T2 or T2-T3. In the factory setting the jumper T1-T2 is plugged in and the relay picks up when the sensor surface becomes wet.

Heating: The sensor surface is heated if the bridge of HZ1-HZ2 is plugged in. To ensure faster drying and for use below freezing, the heater should be switched on. The heater can be switched off to detect fog.



Sensitivity setting: The sensitivity of the humidity signal can be influenced at the potentiometer. A higher sensitivity is achieved by turning the potentiometer axis counterclockwise (right = high sensitivity, left = low sensitivity). The middle position is most suitable for normal rain signaling. Note that there is no function at the end stops!

Loosen the cover screws of the sensor, unlock the plug connector of the sensor cable and put the cover aside first. This will prevent damage to the sensor connection cable during the following steps. Mount the cable gland to the housing.

4 Technical data

Temperature measurement	
Operating voltage	12V DC/AC +10%
Current consumption	60 mA Heating 80-300mA (PTC)
Measurement method	electrolytic AC voltage measurement
Load on contacts	max. 30V DC / 4 A
Connection terminals	0,5mm - 1,5mm2 Clamp with wire protection
Dimensions	80 mm x 82 mm x 58 mm
Distance between mounting holes	Horizontal: 50 mm Vertical: 70 mm, Diameter: 4,3 mm
Cable inlet	M16
Housing	ABS, Protection system IP54
EMC-compatibility Interference emission	89/336/EWG EN 61000-6-3
Interference immunity	EN 61000-6-1
Package contents	Rain detector in housing, PG cable gland / blind cover, cover screws and documentation
optional extras	Wall/pole bracket Best. No. REGME-WAHA
The technical data are subject to change without notice!	

Pin assignment

Terminal block	
REL NC	Switching contact NC contact
REL NO	Switching contact N/O contact
REL CO	Switching contact fixed pole
AC/DC	operating voltage AC or +12V DC +10%
AC/GND	Operating voltage AC or 0V

plug bridges

Configuration		
1	S3	Switching behaviour of signal transmitter (dry)
2	S2	Center contact to S3, S1
3	S1	Switching behaviour of signal transmitter (wet)
4	GND	Ground Signal transmitter
5	BUZ	Output signal transmitter
6	T3	Switching behaviour relay (dry)
7	T2	Center contact to T3, T1
8	T1	Switching behaviour relay (wet)
9	HZ1	Heating
10	HZ2	Heating
Factory setting: S3-S2 T1-T2 HZ1-HZ2		

5 Connection

After unscrewing the sensor cover, the control cable is inserted into the cable gland M16.

The operating voltage is applied to the terminals VCC and GND. The potential-free changeover contact is connected to the NC, COM and NO terminals.

6 Display

In the device there is a green LED for the operating indication and a red LED for the switching position indication (relay contacts switched through).

7 Maintenance

The rain detector is largely maintenance-free. The sensor surface may have to be cleaned occasionally (e.g. once a year, depending on the installation location) with a damp cloth. In the case of a continuous signal, even if it is not raining, heavy soiling is to be assumed.

8 Assembly

The rain detector can be mounted on a wall/pole bracket. If this is not used, a mounting angle of approx. 30° to the horizontal must be observed. The tips of the sensor surface must point downwards. The rain detector should be installed in a place that is freely accessible to rain. Dripping water can delay the switching back considerably or lead to a permanent switching on/off.

9 Disposal instructions

Do not dispose of the device in domestic waste! Electronic devices are to be disposed of according to the Directive on waste electrical and electronic equipment (WEEE) on local authorities and collection points for waste electronic equipment!

10 Safety instructions

When handling products that come into contact with electrical voltage, the applicable VDE regulations must be observed, in particular VDE 0100, VDE 0550/0551, VDE 0700, VDE 0711 and VDE 0860.
The device is only designed for low voltage and must not be operated with mains voltage!
The relay contact is only designed for small signals and must not come into contact with mains voltage!
The degree of protection is only given with an intact, complete housing, the cover screws and the PG screw connection must be tightened firmly, the cover seal must be continuously present in the sensor cover!
The suitability for a certain application must be checked by the user!

- All final or wiring work must be carried out with the power turned off.
- Before opening the device, always unplug or make sure that the unit is disconnected from the mains.
- Components, modules or devices may only be put into service if they are mounted in a contact proof housing. During installation they must not have power applied.
- Tools may only be used on devices, components or assemblies when it is certain that the devices are disconnected from the power supply and electrical charges stored in the components inside the device have been discharged.
- Live cables or wires to which the device or an assembly is connected, must always be tested for insulation faults or breaks.
- If an error is detected in the supply line, the device must be immediately taken out of operation until the faulty cable has been replaced.
- When using components or modules it is absolutely necessary to comply with the requirements set out in the accompanying description specifications for electrical quantities.
- If the available description is not clear to the non-commercial end-user what the applicable electrical characteristics for a part or assembly are, how to connect an external circuit, which external components or additional devices can be connected or which values these external components may have, a qualified electrician must be consulted.
- It must be examined generally before the commissioning of a device, whether this device or module is basically suitable for the application in which it is to be used.
- In case of doubt, consultation with experts or the manufacturer of the components used is absolutely necessary.
- For operational and connection errors outside of our control, we assume no liability of any kind for any resulting damage.
- Kits should be returned without their housing when not functional with an exact error description and the accompanying instructions. Without an error description it is not possible to repair. For time-consuming assembly or disassembly of cases charges will be invoiced.

- During installation and handling of components which later have mains potential on their parts, the relevant VDE regulations must be observed.
- Devices that are to be operated at a voltage greater than 35 VDC / 12mA, may only be connected by a qualified electrician and put into operation.
- Commissioning may only be realized if the circuit is built into a contact proof housing.
- If measurements with an open housing are unavoidable, for safety reasons an isolating transformer must be installed upstream or a suitable power supply can be used.
- After installing the required tests according to DGUV / regulation 3 (German statutory accident insurance, https://en.wikipedia.org/wiki/German_Statutory_Accident_Insurance) must be carried out.

11 Warranty

ESERA GmbH guarantees that the goods sold at the time of transfer of risk to be free from material and workmanship defects and have the contractually assured characteristics. The statutory warranty period of two years begins from date of invoice. The warranty does not extend to the normal operational wear and normal wear and tear. Customer claims for damages, for example, for non-performance, fault in contracting, breach of secondary contractual obligations, consequential damages, damages resulting from unauthorized usage and other legal grounds are excluded. Excepting to this, ESERA GmbH accepts liability for the absence of a guaranteed quality resulting from intent or gross negligence. Claims made under the Product Liability Act are not affected.
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