

# Rain Sensor (Model 12 V AC/DC)

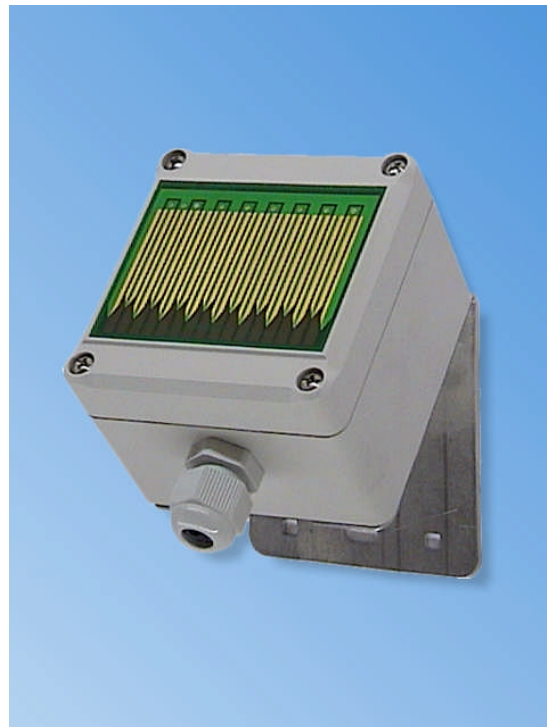
Model : EMT-RES1101

## Characteristic features

- ▶ Safe operation, electrolytic measurement principle
- ▶ Deposition can be detected as rain or snow
- ▶ Operating voltage 12 V DC/AC
- ▶ Large, heated sensor area for fast drying and operation in winter season
- ▶ Potential free contact output (Relay) 30V/4A
- ▶ Sensitivity and switching mode adjustable
- ▶ Universal wall/mast mounting bracket as accessories

## Typical areas of application

- ▶ Nurseries, Agriculture
- ▶ Control of Ventilation panels
- ▶ Automatic switch for Blinds and Rolling windows
- ▶ Building instrumentation, Weather stations



## Functional description

The large sensor area reacts to rain or snow. The switch polarity and sensitivity are adjustable. The optionally switched heater prevents freezing or dew formation and accelerates drying. In the maximum sensitivity setting, the device is also suitable for recognizing fog. Accessories are available for mast and wall mounting which enables simple assembly. Typical application areas are nurseries, agriculture, building instrumentation and also at home and gardens.

## Application

The rain guard is fitted with a relay contact for switching low voltages up to 30 V DC/AC which can be used to operate any switching device e.g. a marking control device. Sensitivity can be adjusted within a wide range. The device is provided with a heater for faster drying and snow recognition.

## Mounting

Installation of the Rain Sensor unit should be carried out by only **Authorised personnel**. The applicable safety regulations should be followed ! The Rain Sensor can be installed on a wall/mast mounting bracket. If such accessories are not used, care should be taken that the mounting angle is approximately 30° from horizontal. The points of sensor area must be on the down side. Mounting of the Rain Sensor should be done at a place which is freely accessible for rain. Dripping water can adversely delay switching back or can lead to a permanent ON/OFF of the contacts.

## Connection

After removing the sensor cover, the control cable is to be inserted in the cable gland M16.

Supply voltage is to be connected to the terminals VCC and GND. Terminals NC, COM, NO are the potential free changeover contacts for switching.

## Maintenance

The Rain Sensor unit is almost maintenance free. The sensor surface must be occasionally cleaned with a moist cloth ( e.g. once annually, depending on the place of installation). In case of persistent condition, even if it does not rain, it triggers due to strong contamination.

## Precautionary measures

- The device is suitable only for low voltages and should not be operated on mains supply !
- The relay contact is only suitable for low value signals and should not come in contact with mains supply !
- The protection type is valid only with an intact, complete casing, cover screws and cable gland properly tightened, and the cover gasket should always be available on the sensor cover !
- The suitability for certain applications is to be checked by the user !

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## Technical Data

| Temperaturmessung  |  |
|--|--|
| Operating voltage  | 12VDC/AC ±10%  |
| Input current  | 60 mA over all max.<br>Heater 80 - 300 mA (PTC)                                      |
| Measurement method   | electrolytic AC measurement  |
| Contact Rating   | 30V DC / 4 A max   |
| Connection clamps  | 0.5mm – 1.5mm2<br>Clamps with protection   |
| Dimensions   | 80 mm x 82 mm x 58 mm  |
| Clerances  | Horizontal: 50 mm Vertical: 70 mm  |
| Mounting diameter  | Diameter: 4.3 mm   |
| Cable gland  | M16  |
| Housing  | ABS, Protection type IP54  |
| EMV-Compatibility<br>Noise emission<br>Noise withstanding: | 89/336/EWG<br>EN 61000-6-3<br>EN 61000-6-1   |
| Scope of supply  | Rain alarm unit in housing, PG-connector/Blind cover, cover screws and documentation |
| Special accessories  | Combined Wall/Mast mounting bracket<br>Catalogue No. REGME-WAHA                      |
| Rights reserved for changes in technical data !            |  |

## Settings

**Signal generator output (optional):** At the connection terminals (Pin BUZ and GND) a passive Piezo signal generator can be connected. The condition of signal (acoustic signal for dry or wet) can be selected with the plug links S1-S2 or S2-S3. In the default-position S2-S3, the signal generator is inactive for rain.

**Switching mode:** The switching mode of the relay (pickup or dropout with rain) can be selected with the plug links T1-T2 or T2-T3. In the factory settings, link T1-T2 is connected and the relay closes if the sensor surface gets wet.

**Heating:** The sensor surface is heated, if the link of HZ1-HZ2 is connected. To ensure faster drying and for operation below freezing point, the heater should be switched on. For sensing fog, the heater can be switched off.

**Sensitivity setting:** The sensitivity to moisture signal can be adjusted through the potentiometer. Rotating the potentiometer knob in the anti clockwise direction gives higher sensitivity ( left = high sensitivity, right = low sensitivity). For normal rain signal, the middle position is most suitable. Please note that no function takes place in the end position!

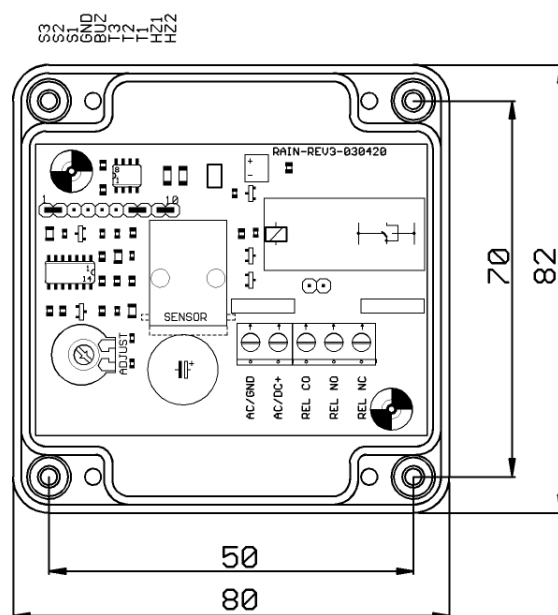
**Indicators:** There is a green LED on the device to indicate the operation status and a red LED to indicate the switch position (means relay contact closed).

## Connection Layout

| Klemmenblock |                                      |
|--------------|--------------------------------------|
| REL NC       | Opening switch contact               |
| REL NO       | Closing Switch contact               |
| REL CO       | Common switch contact                |
| AC/DC        | Operating voltage AC or +12V DC +10% |
| AC/GND       | Operating voltage AC or 0V           |

## Plug Links

| Configuration                         |     |                                    |
|---------------------------------------|-----|------------------------------------|
| 1                                     | S3  | Switch mode Signal generator (Dry) |
| 2                                     | S2  | Common contact to S3, S1           |
| 3                                     | S1  | Switch mode Signal generator (wet) |
| 4                                     | GND | Signal generator Ground            |
| 5                                     | BUZ | Signal generator output            |
| 6                                     | T3  | Switch mode Relay (Dry)            |
| 7                                     | T2  | Common contact to T3, T1           |
| 8                                     | T1  | Switch mode Relay (Wet)            |
| 9                                     | HZ1 | Heating                            |
| 10                                    | HZ2 | Heating                            |
| Factory settings: S3-S2 T1-T2 HZ1-HZ2 |     |                                    |



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