



R 24 V

Rain Sensor

Technical specifications and installation instructions

Item number 30158



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1. Description

The **R 24 V rain sensor** signals precipitation (rain, snow) via a 24 V DC output.

Functions:

- Heated **precipitation sensor** (1.2 watts): No error measurement with dew or mist, fast drying after the rain ends
- **Outlet for rain signal** (24 V DC)
- Holding time for rain signal adjustable (potentiometer in the device, 10...300 s)

1.1. Technical specification

| | |
|---------------------|--|
| Housing | Plastic |
| Colour | White / Translucent |
| Assembly | Surface mount |
| Protection category | IP 44 |
| Dimensions | approx. 96 × 77 × 118 (W × H × D, mm) |
| Ambient temperature | Operation -30...+50°C, storage -30...+70°C |
| Operating voltage | 24 V DC |
| Cable cross-section | Solid conductor up to 0.8 mm ² |
| Power consumption | 60 mA |
| Rain sensor heater | approx. 1.2 W |
| "Rain" output | 24 V DC |
| Relay capacity | 5 A |

The product conforms with the provisions of EU directives.

2. Installation and commissioning

2.1. Installation notes



Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.



CAUTION! **Live voltage!**

There are unprotected live components inside the device.

- National legal regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.

- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Location

Select an assembly location at the building where precipitation may be collected by the sensor unobstructedly. Do not assemble any construction components above the sensor from where water may drop on to the rain sensor after it has stopped raining or snowing.

At least 60 cm of clearance must be left all round the device. Concurrently, the prevents spray (raindrops hitting the device) or snow (snow penetration) from impairing the measurement. It also does not allow birds to bite it.

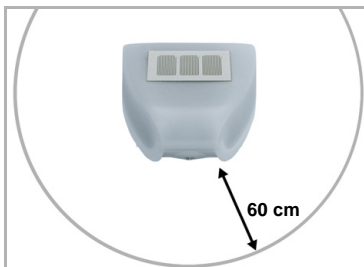


Fig. 1

There must be at least 60 cm of space below, to the sides and in front of the rain sensor left from other elements (structures, construction parts, etc.).

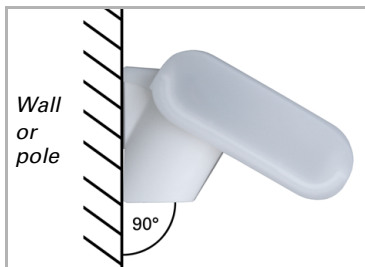


Fig. 2
The rain sensor must be mounted onto a vertical wall (or pole).



Fig. 3
The rain sensor must be mounted horizontally in the lateral direction.

2.3. Sensor assembly

2.3.1. Attaching the mount

The sensor comes with a combination wall/pole mount. The mount comes adhered by adhesive strips to the rear side of the housing. Fasten the mount vertically onto the wall or pole.

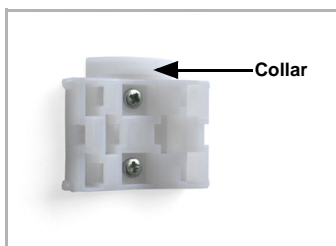


Fig. 4
When wall mounting: flat side on wall, crescent-shaped collar upward.

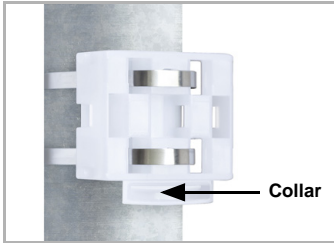


Fig. 5
When pole mounting: curved side on pole, collar downward.



Fig. 6
Different mounting arms are available from Elsner Elektronik as additional, optional accessories for flexible installation of the weather station on a wall, pole or beam (pictures of sensors exemplary).

Example of the use of a mounting arm: Due to flexible ball joints, the sensor can be brought into ideal position.



Fig. 7
Example use of the hinge arm mounting: With the hinge arm mounting, the weather station projects from beneath the roof overhang. Sun, wind and precipitation can act upon the sensors without hindrance.

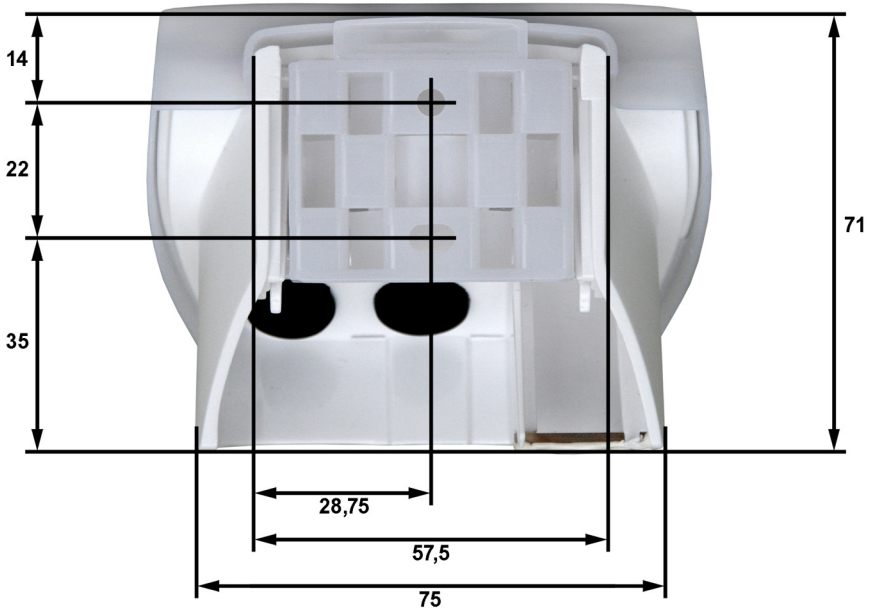
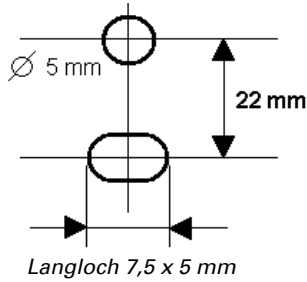


Fig. 8
Example use of the hinge arm mounting: Fitting to a pole with worm drive hose clips

2.3.2. View of rear side and drill hole plan

Fig. 9 a+b
Drill hole plan

Dimensions of rear side of housing with bracket. Subject to change for technical enhancement.



2.3.3. Preparing the sensor

Unclip the lid and
take it off from the top

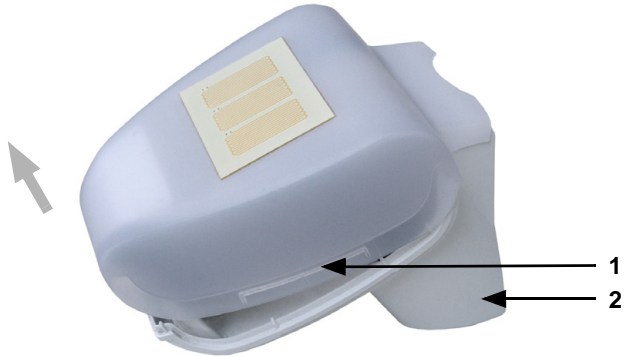


Fig. 10

1 Lid notches

2 Bottom of housing

The lid of the **R 24 V** with the rain sensor latches into place on the lower edge to the right and left (see Fig.). Remove the lid. Proceed carefully to avoid tearing off the **cable connection** between the circuit board in the lower section and the rain sensor in the lid (cable with plug).

Guide the lead through the rubber seal on the underside of the housing and connect the supply voltage and the output to the terminals provided for this purpose.

The lead must be plugged in between the lid and circuit board.

2.3.4. Layout of the circuit board

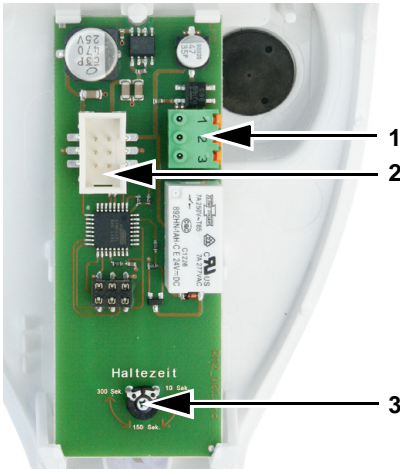


Fig. 11: Overview of the circuit board

1 Contact for operating voltage (24 V DC) and rain signal

1: +24 V

2: GND

3: Rain +24 V DC
Connecting plug suitable for solid conductors up to 0.8 mm².

2 Socket connection to the housing cover with rain sensor

3 Potentiometer hold time rain signal (10-300 seconds)

2.3.5. Mounting the sensor

Close the housing by putting the cover back over the bottom part. The cover must snap in on the left and right with a definite "click".



Fig. 12
Make sure the cover and bottom part are properly snapped together! This picture is looking at the closed sensor from underneath.



Fig. 13
Push the housing from above into the fastened mount. The bumps on the mount must snap into the rails in the housing.

To remove it, the sensor can be simply pulled upwards out of the mount, against the resistance of the fastening.

2.4. Notes on mounting and commissioning

Do not open the device if water (rain) might ingress: even some drops might damage the electronic system.

Observe the correct connections. Incorrect connections may destroy the sensor or connected electronic devices.

After mounting, remove all transport protection labels.

2.5. Setting the holding time

The holding time defines how long the rain signal is maintained after no precipitation has been detected (switch delay).

The holding time is set using a potentiometer on the inside of the housing. Turning anti-clockwise reduces the holding time (minimum value 10 seconds). Turning clockwise increases the holding time (maximum value 300 seconds).

3. Maintenance

**WARNING!****Risk of injury caused by components moved automatically!**

The automatic control can start system components and place people in danger (e.g. moving windows/awnings if a rain/wind alarm has been triggered while cleaning).

- Always isolate the device from the mains for servicing and cleaning.

The device must regularly be checked for dirt twice a year and cleaned if necessary. In case of severe dirt, the sensor may not work properly anymore.

**ATTENTION**

The device can be damaged if water penetrates the housing.

- Do not clean with high pressure cleaners or steam jets.
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