FIEDLER

ELECTRONICS FOR ECOLOGY

RK5 & RK7

Radiation covers for temperature and humidity sensors

- ***UV resistant plastic lamellas with low thermal conductivity and high reflectivity***
- ***Minimum airflow resistance***
- ***Easy and fast clamping of the sensor into a plastic collet in the middle of the RK***
- ***Included is a stainless steel holder for attaching the radiation cover to the mast***
- ***Extensive range of suitable sensors for measuring temperature and RH air***
- ***The basic design of the radiation cover contains 5 (RK5) and 7 (RK7) lamellae***

Basic description

Radiation covers RK5 and RK7 are designed to protect temperature and relative humidity sensors from the effects of radiant heat radiation and rain. The use of a radiation shield minimizes the temperature measurement error that would otherwise occur on a sunlit temperature sensor.

The delivery of the radiation cover also includes a stainless steel universal holder, which can be attached both to a vertical surface and to a pole with a diameter of 1.5" to 2.5". A stainless steel clamp of suitable size can be ordered together with the delivery of the radiation cover.

The compact design and large space inside the housing allow these covers to be used for many other applications.

Technical parameters

Dimensions: diameter 146 mm, height 130 / 170 mm

Sensor space: diameter 32mm, height 110mm /130mm

Number of slats: 5 (RK5) / 7 (Rk7)

Material: UV resistant, highly reflective white thermo-plastic, thickness 3mm

Construction: stainless steel posts hidden in shielding spacers

Sensor mounting: plastic collet with an inner diameter of 17 mm

Weight including holder: RK5: 550 g, RK7: 660 g

Suitable column diameter for mounting: 30 to 63 mm

Optional accessories: 1.5 ", 2" and 2.5 "stainless steel mounting bracket

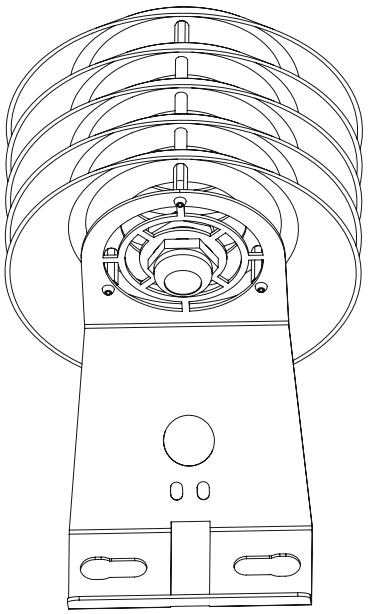
Working temperature: -50 C to +80 C

Mechanical design

Radiation shields are made of special plastic with high reflectivity for incident radiation, have low thermal conductivity and are long-term resistant to both rain and wind and UV radiation.

The shape of the radiation shield and their arrangement prevents the impact of direct thermal radiation on the sensor and minimizes the effect of reflected radiation. The passage of air to the sensor, on the other hand, is almost unlimited.

The RK7 radiation cover, unlike the RK5 cover, contains a double integral lamella on the top of the cover for better protection of the sensor against radiant radiation. This cover also has a higher internal space for the sensor given by another lamella located in the body of the cover.



Enviromonitoring
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FIEDLER AMS s.r.o.
Lipová 1789/9, 370 05 Ceske Budejovice, Czech Republic
Tel.: +420 386 358 274, e-mail: prodej@fiedler.company

Full range of products, demo access to the data server and complete price list on
www.fiedler.company

RK5, RK7, RK9
RADIATION COVERS FOR TEMPERATURE SENSORS AND REL. HUMIDITY

Recommended sensor types

Pt100-XM: air temperature (± 0.3 °C)
Encapsulated Pt100-A sensor without electronics, four-wire connection to the measuring unit with PUR cable

TEP01: air temperature (±0.3 °C)
Precision sensor with Pt100-A sensor, RS485 output (FINET and Modbus RTU), connection via M12/4 connector or PUR cable

RVT80: relative humidity (± 1.8%) and temperature (± 1 °C)
Sensor with SHT85 sensor, RS485 output (FINET and Modbus RTU), connection via M12/4 connector

RVT81: relative humidity (±1.8%) and temperat. (±0.3 °C)
Relative humidity sensor with SHT85 sensor, temperature measurement with Pt100-A sensor, RS485 output (FINET and Modbus RTU), connection via M12/4 connector

RVT12: relative humidity (±0.8%) and temperat. (±0.1 °C)
High-precision relative humidity and air temperature sensor with combined ROTRONIC sensor, output 2x 0 to 1 V DC, connection via M12/4 connector

RVT13: relative humidity (±0.8%) and temperat. (±0.1 °C)
High-precision relative humidity and air temperature sensor with combined ROTRONIC sensor, RS485 output (FINET and Modus RTU), connection via M12/4 connector

ATM01: atmospheric air pressure (±1 mbar)
Atmospheric air pressure sensor, RS485 output (FINET and Modus RTU), connection via M12/4 connector

ATM11: atmospheric pres. (±1mbar) and temp. (±0.3°C)
Atmospheric pressure and air temperature sensor, RS485 output (FINET and Modus RTU), connection via M12/4 connector

Sensor mounting bracket

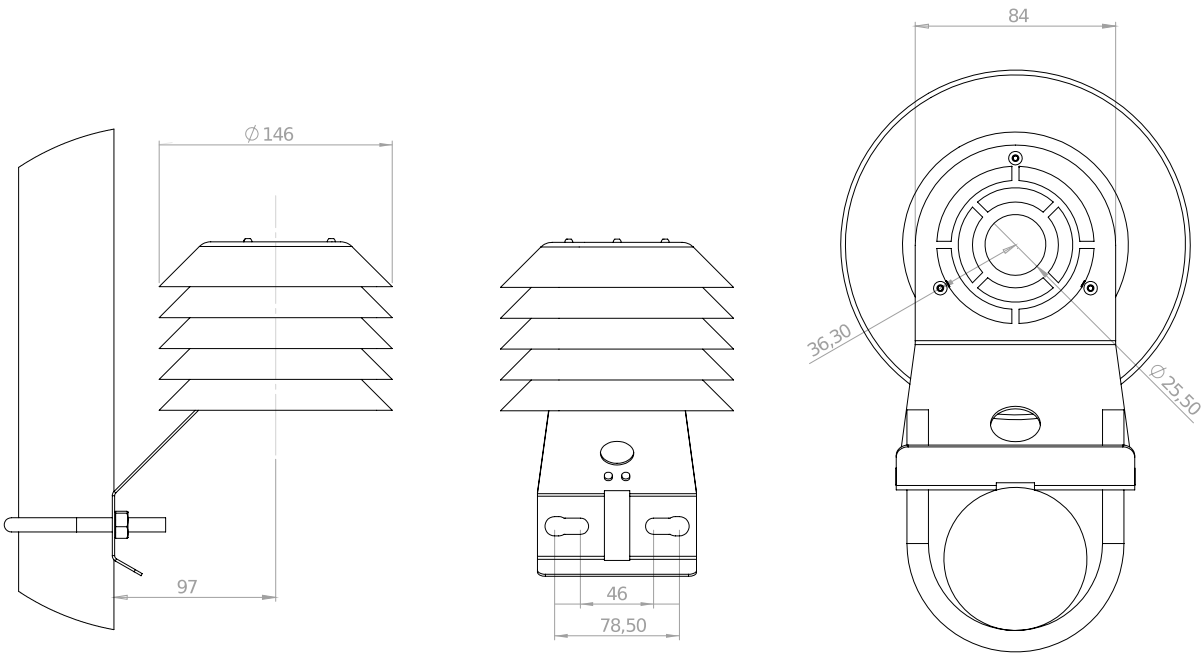
The temperature, relative humidity or other combined sensor is attached to the radiation cover RK5 (RK7) by means of a screw lamella clamp, which is attached in the middle of the stainless steel sensor holder and is freely accessible to the user from the bottom of the holder. This way of mounting the sensor allows its easy and quick replacement in case of damage.

The maximum diameter of the inserted sensor is 20 mm in the standard version of the holder. On request, brackets can be supplied with a larger hole for more robust sensors. It is also possible to increase the number of lamellae, if required by the length of the considered sensor.

Recommendations for the location RK

Radiation covers RK5 and RK7 are designed for their permanent placement in the outdoor environment. In order for the cover to perform its function well, follow the following recommendations when installing it:

- Install the cover in places with good airflow. This will increase the accuracy of the measured air temperature.
- Avoid placing the cover over large dark areas and massive structures (solar panels, asphalt surfaces, sheet metal roofs, etc.)
- Keep a sufficient distance from water sprayers, fountains and other sources of splashing water
- Do not place radiation shields near air conditioners and vents
- Reliable and accurate measurements will be difficult to perform near sources of electromagnetic interference (electrical power lines, power motors).



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