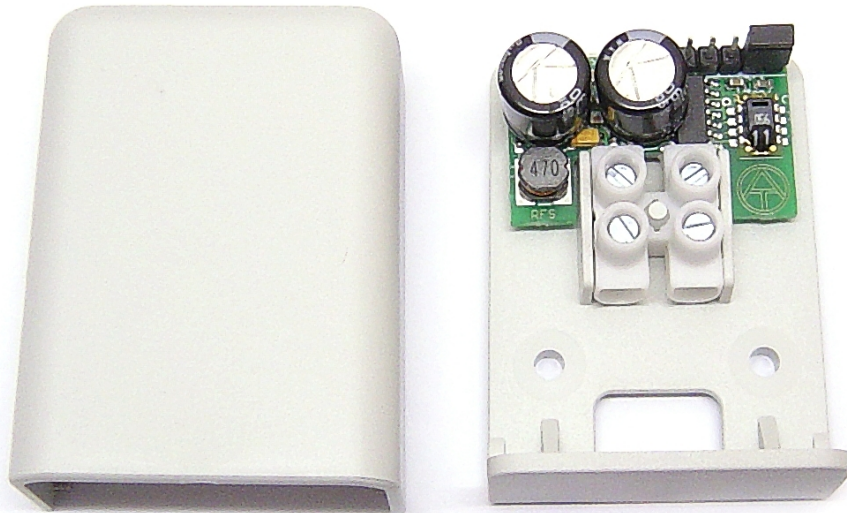




# Humidity sensor



The humidity sensor RFS was developed for use with UVR and ESR controllers in control tasks in the air conditioning sector. The integrated microprocessor simultaneously measures humidity and temperature. Hence the user can choose between output of either humidity or dewpoint. Switching at the controller is similar to that for a temperature sensor. An independent power supply is not necessary.

In the type RFS-DL, a microprocessor converts the analogue measurements into a serial digital signal suitable for the DL-bus (data link).

## The sensor has the following features:

- ◆ Excellent long-term stability
- ◆ The sensor does not require its own power supply

### Type RFS:

- ◆ Select between relative humidity and dewpoint temperature using jumpers
- ◆ Connection to any sensor input of the controller is possible, but correct polarity must be observed
- ◆ The output signal corresponds to that of a KTY temperature sensor

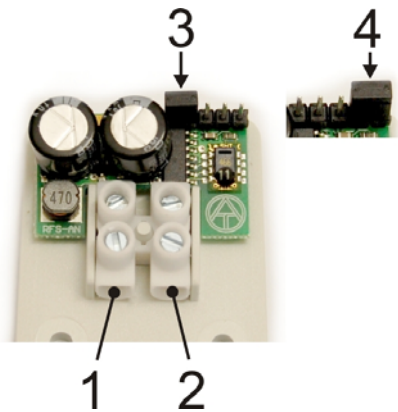
### Type RFS-DL:

- ◆ Output of relative humidity, temperature and dewpoint over DL-bus

## Assembly and connection:

To prevent water ingress, wall mounting with downward cable output is specified. The sensor must be connected with the correct polarity to the controller. Incorrect polarity results solely in an incorrect display - there is no resulting damage. For distances up to 50 m, a cable cross section of 2 x 0.75 mm<sup>2</sup> is adequate.

## Type RFS:



### Signal selection:

- 3 Dewpoint
- 4 Relative humidity

### Connections:

- 1 Signal
- 2 Earth (GND)

All UVR controllers are able to carry out signal adjustment via the sensor menu. Insofar as the menu does not permit a direct selection of type RFS, the factory setting for standard KTY temperature sensors is adequate. Output to the display is then with the incorrect physical unit, °C.

### **Exceptions:**

- For controllers UVR61-3 from version 5.0 and UVR63H from version 5.0, the signal must be evaluated as a radiation sensor (with the incorrect physical units W).
- For CAN I/O modules from version 2.00, to achieve a correct evaluation of the signal the sensor type must be set as "RFS".

The humidity sensor generates a slightly fluctuating signal ( $\pm 0.3$ ). Increasing the averaging period in the corresponding sensor menu leads to a more stable display.



## Technical data:

Measurement range rel. humidity:	0 to 100%
Accuracy rel. humidity:	$\pm 5\%$ RH from 20 to 80 % RH / $\pm 7\%$ RH from 0 to 100% RH
Dewpoint measurement range:	-10 to 50°C
Dewpoint measurement accuracy:	$\pm 2.5\text{K}$ (20 - 80°RH)
Signal voltage: <sup>1</sup>	1.2 V to 2.0 V for 0 to 100% or 0 to 100°C
Recommended measurement current: <sup>1</sup>	approx. 1mA over series resistance
Bus load (DL-Bus): <sup>2</sup>	13 %
Dimension (WxHxD):	40 x 54 x 23 mm

<sup>1</sup> valid for type RFS

<sup>2</sup> valid for type RFS-DL

We reserve the right to make any technical changes

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