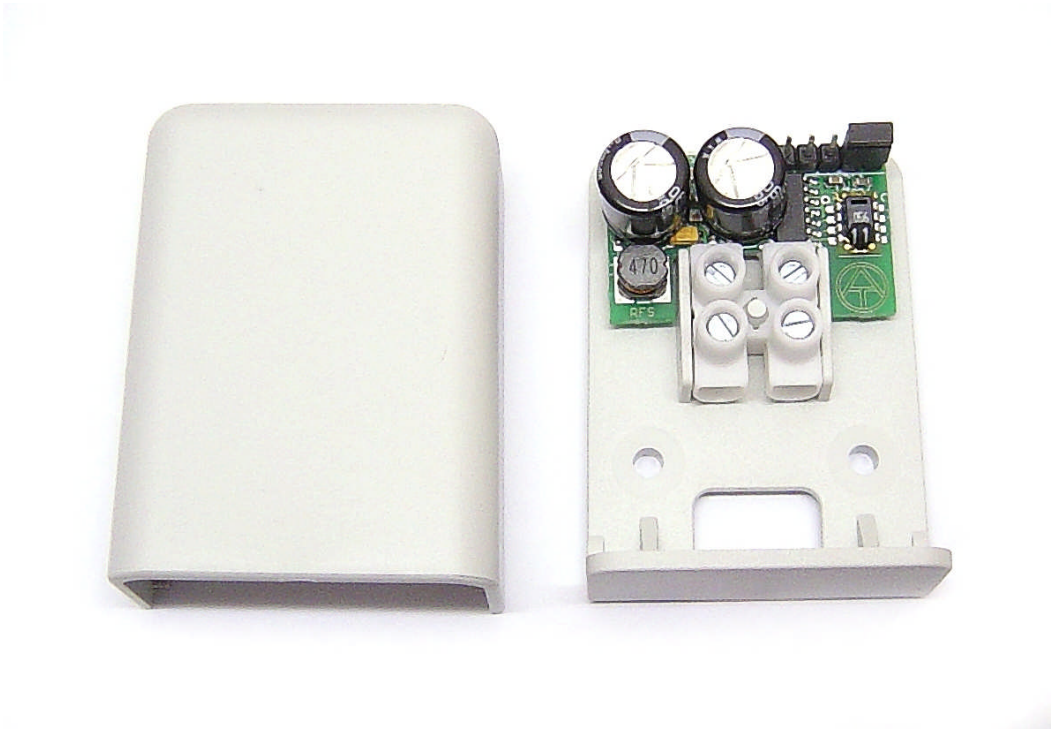
Technische Alternative
elektronische Steuerungsgerätegesellschaft mbH.
A-3872 Amaliendorf, Langestr. 124, Fax 02862 53635 7

CE

RFS/DL
Vers. 1.1EN

HUMIDITY SENSOR



The humidity sensor RFS was developed for use with UVR 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

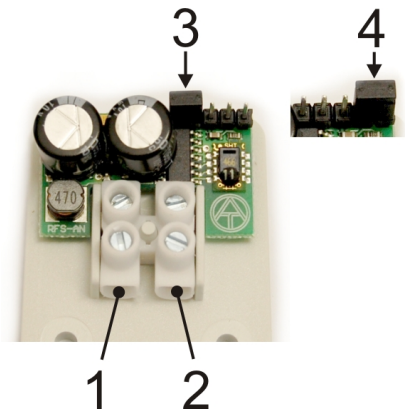
Type RFS-**DL**:

- 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 mm² is adequate.

Type RFS:



Signal selection:

3 Dewpoint

4 Relative humidity

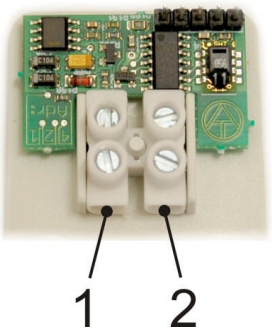
Connections:

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

Type RFS-DL:



The variable to be measured is set using the controller index, hence no jumper alterations are required!

Connections:

1 DL-bus data link

2 DL-bus earth

Type RFS-DL:

The sensor takes its power supply from the DL-bus (data link) and returns the corresponding measurement when requested by the controller (**ESR31** (from version 1.0), **ESR21**, **UVR61-3** and **UVR63H** from version 5.0 and **UVR1611** from version A3.00). The request is made up of the address of the sensor (adapter PCB) and index of a measurement recorded there.

The **address** is specified on the adapter by breaking the conductors which are labelled 1, 2 and 4. These are located on the left at the lower edge board, close to the screw terminal. If none of the conductors are cut, the adapter is assigned address 1 (factory setting). Provided no other sensors are connected to the DL-bus, no change of address is required.

The new address is derived from address 1 (= factory setting) plus the sum of all the disconnected values.

Example: required address 6 = 1 (factory setting) + 1 + 4
= conductors 1 and 4 must be cut.

The **index** of the respective measurements is fixed:

Index:	*Measurement:*
1	Relative humidity [0.1%]
2	Temperature [0.1°C]
3	Dewpoint [0.1°C]

UVR1611: The measurements are parameterised as **analogue** network inputs:

```
network node:              address of the sensor
analog network output:     index of the measurement
source:                    DL
```

Technical data:

Measurement range rel. humidity:	0 to 100%
Accuracy rel. humidity:	± 5% RH from 20 to 80 % RH / ± 7% RH from 0 to 100% RH
Dewpoint measurement range:	-10 to 50°C
Dewpoint measurement accuracy:	± 2.5K (20 - 80°RH)
Signal voltage:[1]	1.2 V to 2.0 V for 0 to 100% or 0 to 100°C
Recommended measurement current:[1]	approx. 1mA over series resistance
Bus load (DL-Bus)	10 %
Dimension (WxHxD):	40 x 54 x 23 mm

[1] valid for type RFS

We reserve the right to make any technical changes

Technische Alternative elektronische Steuerungsgerätegesellschaft mbH. A-3872 Amaliendorf
Langestr. 124, Tel 02862 53635, Fax /7 --- www.ta.co.at ---