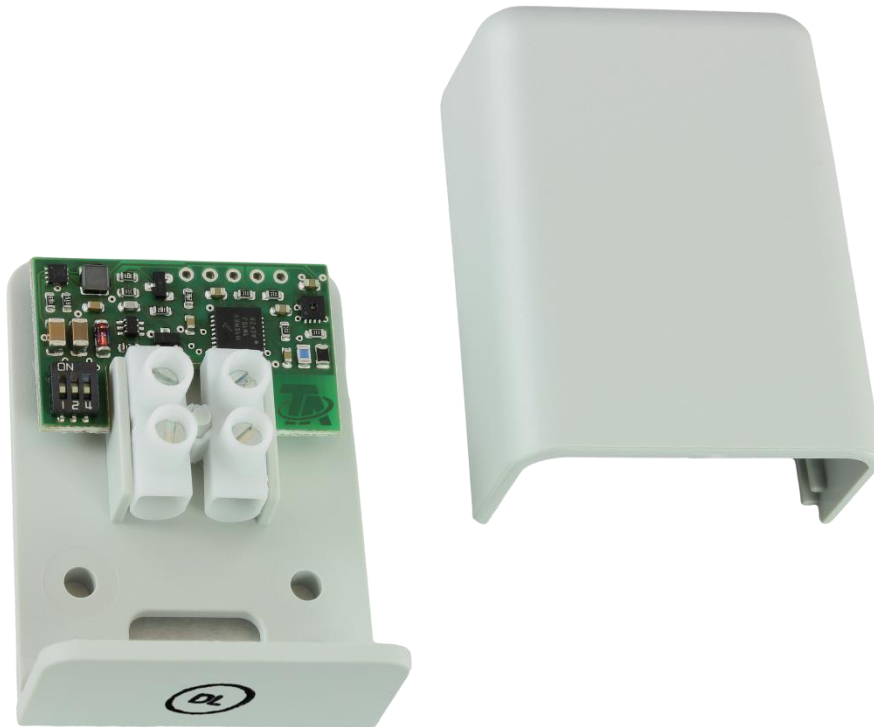
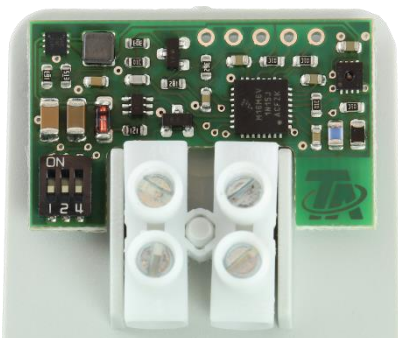




# Humidity sensor



## Assembly and connection



To prevent water ingress, wall mounting with downward cable output is specified.

When installed outside, the RFS-DL must be protected from rain and direct insolation.

The sensor has to be connected to data link (DL-bus) and sensor mass.

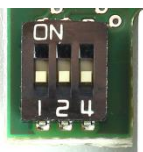
The polarity of the data link is interchangeable.

## Data link (DL-Bus)

Any cable with a cross section of 0.75 mm<sup>2</sup> can be used for the data link (e.g. twin-strand) having a max. length of 30 m. For longer cables, we recommend the use of shielded cable. If screened cables are used, the screen must be connected to the GND.

The sensor takes its power supply from the DL-bus (data link) and returns the corresponding measurement when requested by the controller (**ESR31** and **UVR63** (from version 1.0), **ESR21**, **UVR61-3** and **UVR63H** from version 5.0, **UVR1611** from version A3.00 and serial number 13286, plus controllers that have X2 technology e.g. **UVR16x2**).

The request is made up of the address of the sensor and index of a measurement recorded there.



The **address** is set using the DIP switches. In the delivered condition, the address is set to 1 (factory setting).

Provided no other sensors are connected to the DL-bus, no change of address is required.

The effective address is derived from address 1 (= factory setting) plus the sum of all the values of the selected DIP switch settings.

**Example:** Required address 6 = 1 (from factory setting) + 1 + 4  
 = DIP switches 1 and 4 must be set to **ON**.

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

<i>Index:</i>	<i>Measurement:</i>
1	Relative humidity [0.1%]
2	Temperature [0.1°C]
3	Dewpoint [0.1°C]
4	Absolute humidity [1.0 g/m <sup>3</sup> ]

### Absolute humidity

In devices with **X2 technology**, the measurement can be applied in the correct unit of **g/m<sup>3</sup>**.

In all other controllers, the measurement is given in **°C** and can be further processed as per temperatures in the controller (e.g. 5.0 g/m<sup>3</sup> = 5.0 °C)

**Controllers that have X2 technology:** The measured values are parameterised in the menu "DL bus".

**ESR21, ESR31, UVR61-3, UVR63, UVR63H:** The desired measured values are imported as "External sensors" (setting in the menu "EXT DL"), where address and index are specified.

**Example:**

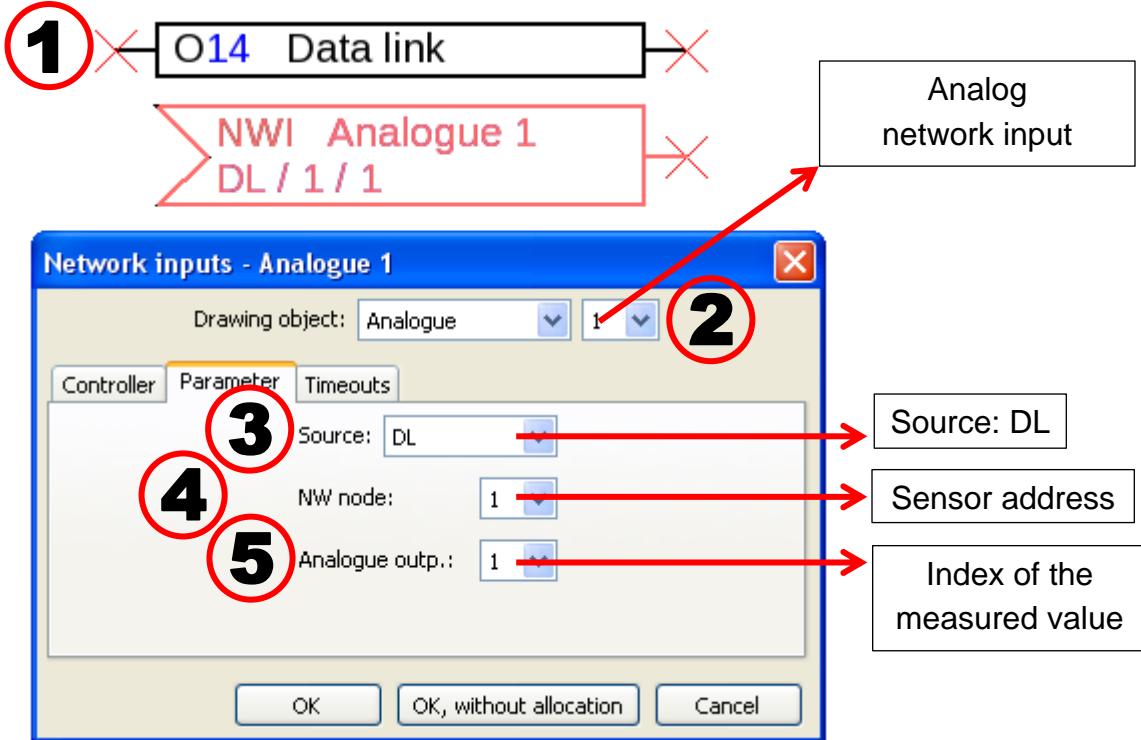


Here the sensor value of **Address 1**, with **Index 3** was allocated to the external sensor **E3**, i.e. the dewpoint of the sensor.

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

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

**TAPPS2 Programming UVR1611:**



A still unused network input variable must be selected for each new value.

**Technical data**

Measurement range	Relative humidity	0 – 90 %
	Temperature	-20 - +50 °C
Accuracy	Relative humidity	typ. ± 2,0 %
	Temperature	± 0,2 °C
	Dewpoint	± 2,5K (20 – 90 % relative humidity)
Permissible ambient temperature		-20 °C - +50°C
Bus load (DL-Bus)		6 %
Dimension (WxHxD)		40 x 54 x 23 mm

