



Room transmitters for measurement of humidity and temperature.



The HRT and TRT room transmitters for use with our Demand Control Ventilation systems are for measuring humidity or temperature in a room.

- Output signal 0...10 V DC
- Protection class IP30
- Good long term stability
- Snap-on cover

- Resistant contamination
- Accuracy $\pm 2\%$ RH (40...60% RH),
 $\pm 3\%$ RH (10...90% RH)

The HRT / TRT humidity and temperature transmitters are intended for room mounting in HVAC systems.

Relative humidity

149-DCV-HRT transmitters have a capacitive thin-film element which gives a signal that is proportional to the relative humidity. The measuring signal is converted by the built-in electronics to output signal 0...10V

The sensor element has rapid response to changes in humidity and excellent long-term stability. The element also has good durability in contaminated environments.

Temperature

149-DCV-TRT also have a temperature sensor, which gives output signal 0...10V DC via the built-in electronics.

Supply voltage

For output signal 0...10 V, the transmitter should be supplied with 15...40V DC or 24 V AC $\pm 20\%$.

The transmitter has automatic adaptation to the connected voltage.

Model	Type	Output signal	Display
149-DCV-HRT	Humidity transmitter	0...10 V	No
149-DCV-TRT	Humidity and temperature transmitter	0...10 V	No

Technical data

Supply voltage (U_V)	for 0...10 V	15...40 V DC / 24 V AC $\pm 20\%$
Current consumption	for DC supply	typ. 4 mA
	for AC supply	typ. 15 mA _{eff}
Electrical connection	screw terminals max. 1.5 mm ² (AWG 16)	
Temperature ranges	working temperature	0...50°C
	storage temperature	-25...60°C
Protection class	IP30	

Installation

The transmitter should be mounted in a location with good air circulation where it can be expected to give a representative reading. It may be mounted on a wall-box or directly on the wall.

To remove the front cover, depress the locking tongue in the lower part of the casing using a 3 mm flat-blade screwdriver (see arrow in the figure below). Press and twist the screwdriver and at the same time pull the bottom part of the casing, slide the cover towards the top of the casing to free the hooks holding the upper edge of the front cover.



This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1 and EN 61000-6-3.

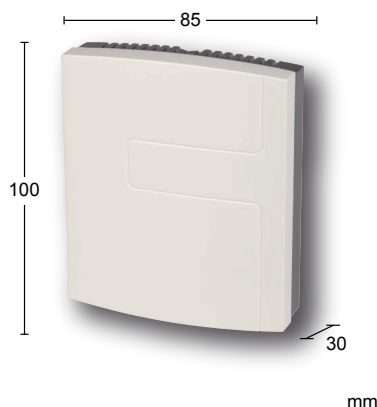
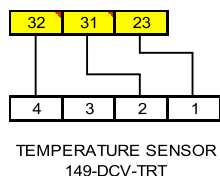
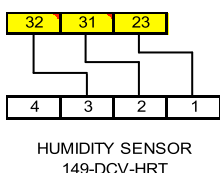
Relative humidity

Humidity sensor	HC103	
Analogue output 0...100 % RH	0...10 V -1 mA < I_L < 1 mA	
Working range	0...95 % RH	
Accuracy at 20°C and $U_V=24$ V DC	$\pm 2\%$ RH (40...60% RH), $\pm 3\%$ RH (10...90% RH)	
Temperature influence at 60% RH	typ. 0.06% RH/°C	

Temperature

Analogue output 0...50°C	0...10 V -1 mA < I_L < 1 mA	
Accuracy at 20°C and $U_V=24$ V DC	HTRTN and HTRTN-D	$\pm 0.25^\circ\text{C}$
	HTRTN-420	$\pm 0.4^\circ\text{C}$

Wiring and Dimensions



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