



# The HRTN line

## Humidity and temperature transmitters

Room transmitters for measurement of humidity and temperature.

- Output signal 0...10 V DC or 4...20 mA
- Protection class IP30
- Good long term stability
- Snap-on cover
- Option with display
- Resistant to contamination
- Accuracy  $\pm 2\%$  RH (40...60% RH),  $\pm 3\%$  RH (10...90% RH)

The HRTN humidity and temperature transmitters are intended for room mounting in HVAC systems.

### Relative humidity

The 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...10 V or 4...20 mA.

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

HTRTN, HTRTN-D and HTRTN-420 also have a temperature sensor, which gives output signal 0...10 V DC or 4...20 mA via the built-in electronics.

### Supply voltage

For output signal 0...10 V, the transmitter should be supplied with 15...40 V DC or 24 V AC  $\pm 20\%$ . For output signal 4...20 mA, the transmitter should be supplied with 20...28 V DC  $> U_V > 10 + 0.02 \times R_L$  ( $R_L$  is the input load resistance of the connected controller.  $R_L$  must be  $< 500$  Ohm.).

The transmitter has automatic adaptation to the connected voltage.

## Models

Model	Type	Output signal	Display
HRTN	Humidity transmitter	0...10 V	No
HTRTN	Humidity and temperature transmitter	0...10 V	No
HRTN-D	Humidity transmitter	0...10 V	Humidity
HTRTN-D	Humidity and temperature transmitter	0...10 V	Humidity / temperature
HRTN-420	Humidity transmitter	4...20 mA	No
HTRTN-420	Humidity and temperature transmitter	4...20 mA	No

## Technical data

Supply voltage ( $U_V$ )	for 0...10 V for 4...20 mA	15...40 V DC / 24 V AC $\pm 20\%$ 20...28 V DC $> U_V > 10 + 0.02 \times R_L$ ( $R_L$ is the input load resistance of the connected controller. $R_L$ must be $< 500$ Ohm.)
Current consumption	for DC supply for AC supply	typ. 4 mA typ. 15 mA <sub>eff</sub>
Electrical connection	screw terminals max. 1.5 mm <sup>2</sup> (AWG 16)	
Temperature ranges	working temperature storage temperature	0...50°C -25...60°C
Protection class	IP30	
<b>CE</b>	This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1 and EN 61000-6-3.	

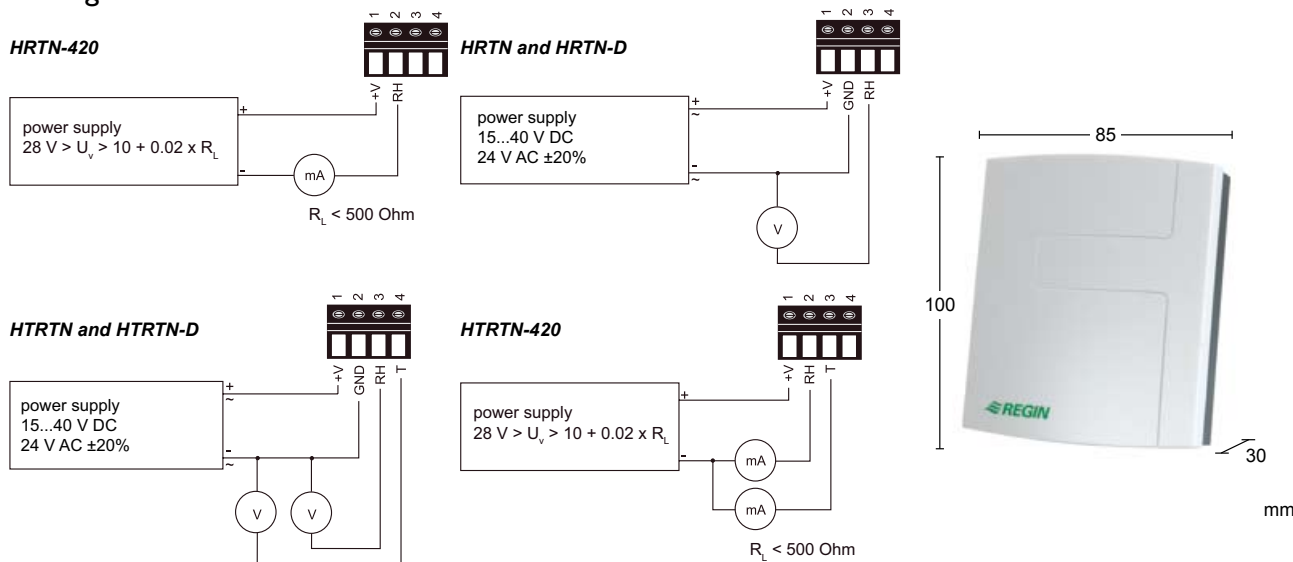
## Relative humidity

Humidity sensor	HC103
Analogue output 0...100 % RH	0...10 V -1 mA $< I_L < 1$ mA, 4...20 mA (two wires), $R_L < (U_V - 10) / 0.02 < 500$ Ohm
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, 4...20 mA (two wires), $R_L < (U_V - 10) / 0.02 < 500$ Ohm
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



## Product documentation

Document	Type
Instruction HRTN	Instruction for the transmitter line

The product documentation is available on [www.regin.se](http://www.regin.se).

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