

Room Temperature Sensor Pt100 / 4...20mA: HRT-320P



Product Type

RTD (Pt100) & current output temperature sensor.
Range of operation: 0...50 °C
-20...80 °C / <100 % r. h.

Application

Obtaining room and indoor spaces temperature in heating, ventilation and air conditioning plants.

Obtaining room and indoor spaces temperature in building automation systems.

Order number description

Order number	Operating Voltage	Measuring Range	Output Signal	Operating limits	Response time (No Air Move)
HRT-320P	DC 15...30V for 4...20mA	0...50 °C -20...80 °C	Pt100 / 4...20 mA Loop Powered	Body -20...55 °C	~ 1 min

Function

The sensor monitors the surrounding temperature via its sensing element. The passing current of the sensor varies in the range of 4...20mA as a function of the ambient temperature. This current variation through the sensor is used for further handling by a suitable controller.

Also it is possible to wire Pt100 sensor directly to the output of sensor.

Mechanical design

The units have been designed for wall mounting. They are suited for use with internally laid cables or wires (concealed wiring).

The units consist of 2 major sections: Housing and base. Both snap together but can be detached again. The base carries the connection terminals.

Disposal



The devices are considered electronics devices for disposal and may not be disposed of as domestic waste.

Dispose of the device via the channels provided for this purpose.

Comply with all local and currently applicable laws and regulations.

Engineering notes

Due to current output of the sensor there is not limitation like those in resistance type and voltage type signals (only in case of 4...20mA usage). However keep the cable in minimum possible length to reduce noise interference.

Screened and twisted-pair cable is necessary for noisy environments. Cable screen shall be connected to earth from controller side.

Mounting notes

Location: On an inner wall of the space to be heated or air conditioned. Not in recesses, shelves, not behind curtains, not opposite or near heat sources.

The unit must not be exposed to direct solar radiation.

The end of the conduit at the sensor rear must be sealed to prevent false measurements due to drafts through the conduit.

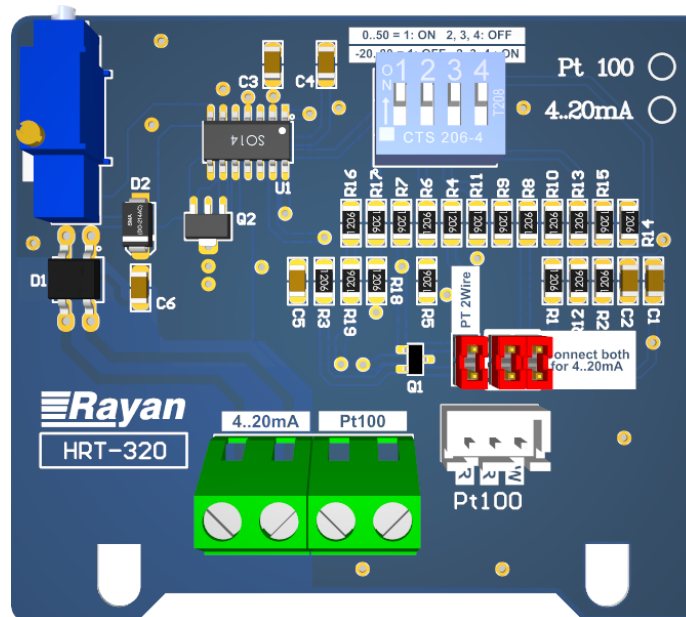
The permissible ambient conditions should be observed.

Technical Data

Power supply	Operating voltage	15...30Vdc for 4...20mA Output
	Power consumption	<1VA
	Polarity	No polarity
Functional data	Range of use	Refer to "Page 1"
	Type of measurement & output	Temperature Pt100 or 4...20mA 2-Wire
	Measuring range	0...50°C -20...80°C
	Temperature sensor	Pt100
Degree of protection	Safety class	Not defined
	Degree of protection for housing	IP20
Electrical connections	Screw terminals	Max. 2x1.5mm ²
	Perm. Cable lengths	Refer to "Engineering notes"
Environmental conditions	Operation condition	Temperature: -20...55°C Humidity: 0...<100% r.h.

DIP switches setting

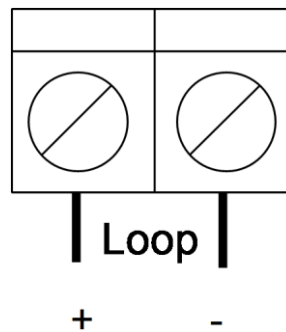
A four-row DIP switch is located on the electronic circuit of the sensor to specify type of output signal range in case of 4...20mA usage.



DIP switches status				Output current
1	2	3	4	
■	--	--	--	Temp. Scale: 0...50°C
--	■	■	■	Temp. Scale: -20...80°C
■ = On		-- = Off		

Select one of scaled outputs in relative to area temperature in case of 4...20mA usage.

Internal diagram



Avoid applying voltages greater than 30VDC.

One of the outputs 4...20mA or Pt100 can be used at the same time.

Dimensions (mm)

