Duct Temperature Sensor
4...20mA: HDT-324P

Product Type

Active output temperature sensor.
Range of operation: 0…60 °C
-20…90 °C / <100 % r. h.

Application

Obtaining air duct and air vane temperature in heating, ventilation and air conditioning plants.

Type

Order number	Operating Voltage	Measuring Range	Output Signal	Operating limits	Response time (No Air Move)
HDT-324P	DC 15…30V	0...60 °C -20...90 °C	4…20 mA Loop Powered	Sensing tube -40...120 °C Body -20...70 °C	~ 3 min

Function

The sensor monitors the air duct / air channel 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.

Mechanical design

The unit has been designed for air duct or air vane mounting.

The units consist of a base, electronic circuit and cover. The base carries the PCB and connection terminals. The body material is flame-retardant.

Cable entry is via a PG-9 gland. Be careful of tightening cable gland sufficiently in order to assure housing IP55 protection.

Disposal

These devices are considered electronics devices for disposal in terms of European Directive 2012/19/EU 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.
Plastic and metal sections are better to recycle separately.

Engineering notes

Due to current output of the sensor there is not limitation like those in resistance type and voltage type signals. 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 and consider gland size while assembling sensor.

Mounting notes

Sensor tube inside air duct shall be exposed to air flow and not dead or circular air. Hereby prevent around duct bends installation.

The unit must not be exposed to direct solar radiation.

The permissible ambient conditions should be observed.

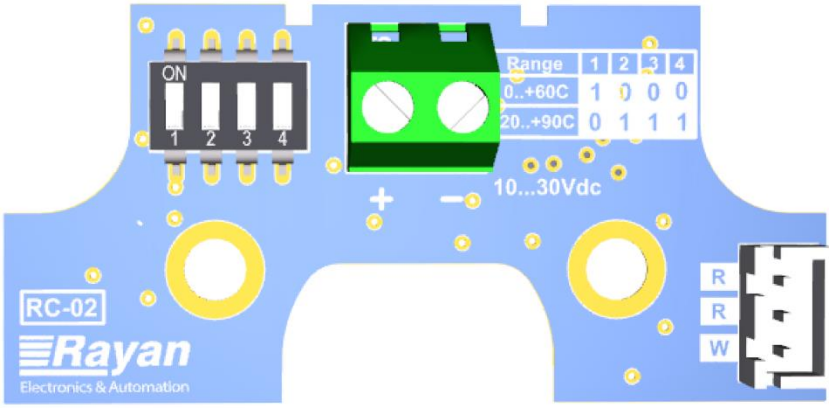
Do not tighten holding brackets screw extremely because it may unshapen the steel tube.

Technical Data

Power supply	Operating voltage	15…30Vdc
	Power consumption	<1VA
	Polarity	No polarity
Functional data	Range of use	Refer to “Page 1”
	Type of measurement & output	Temperature 4…20mA 2-Wire
	Measuring range	0...60°C -20...90°C
	Probe length	30cm
	Temperature sensor	Pt100
Degree of protection	Safety class	Not defined
	Degree of protection for housing	IP55
Electrical connections	Screw terminals	Max. 2x1.5mm^2
	Perm. Cable lengths	Refer to “Engineering notes”
Environmental conditions	Operation condition	Temperature: -20…70°C Humidity: 0…<100% r.h.

DIP switches setting

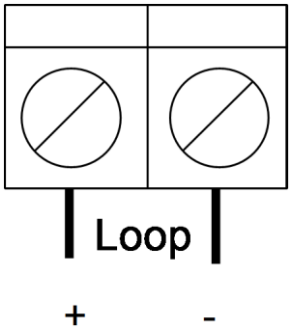
A four-row DIP switch is located on the electronic circuit of the sensor to specify type of output signal.



DIP switches status				Output current
1	2	3	4	
▌	--	--	--	Temp. Scale: 0…60°C
--	▌	▌	▌	Temp. Scale: -20…90°C
▌ = On		-- = Off		

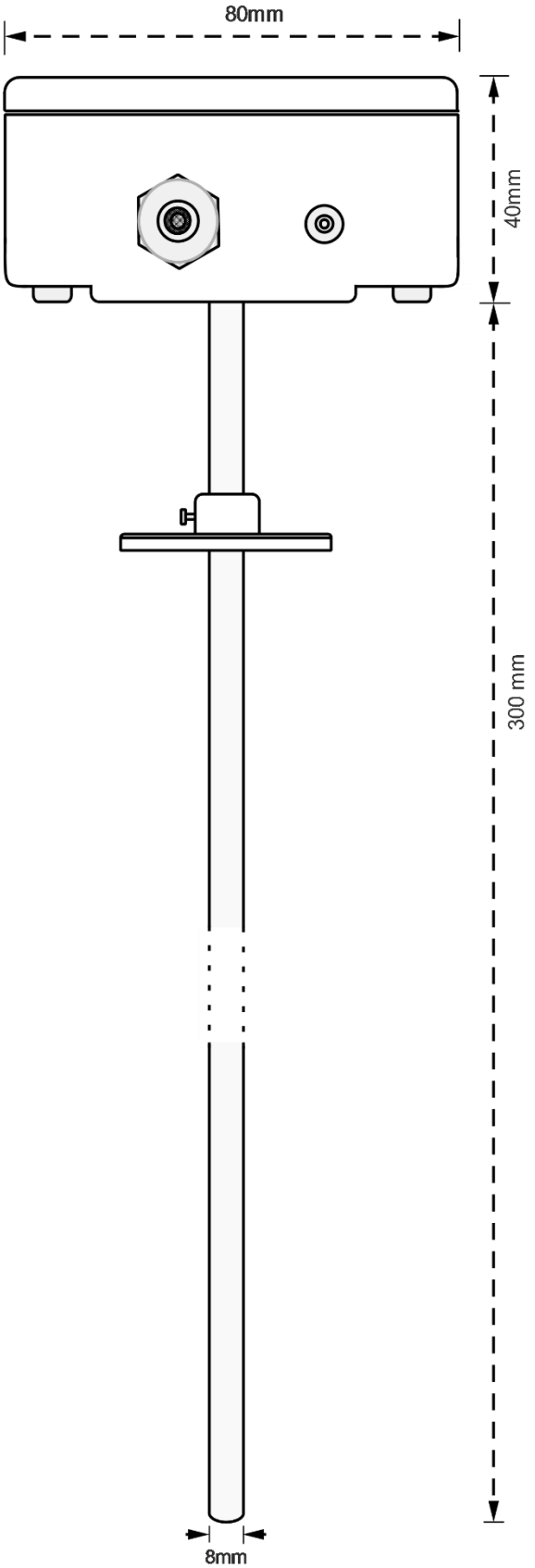
Select one of scaled outputs in relative to area temperature.

Internal diagram

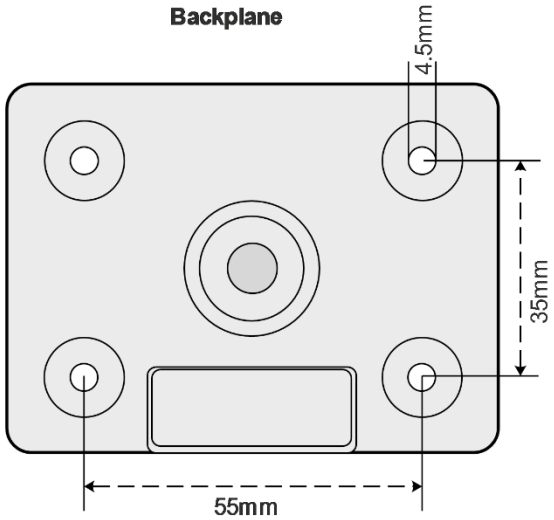
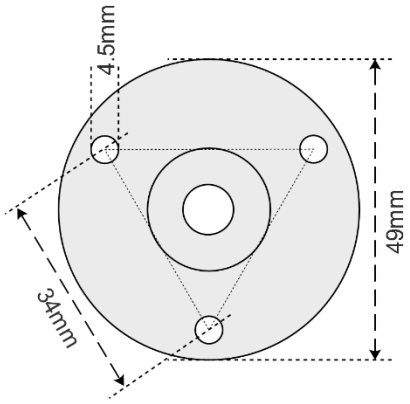


Avoid applying voltages greater than 30VDC.

Dimensions (mm)



Backplane



Mounting Bracket