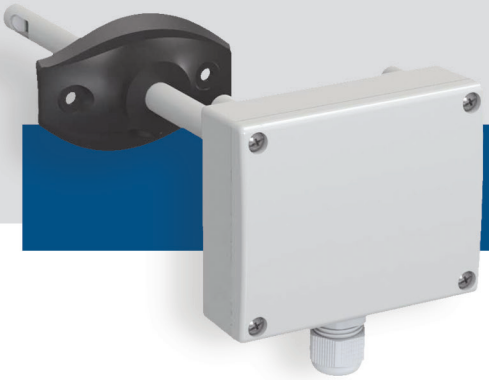


SENTERA CONTROLS

DUTSN

Duct temperature sensor

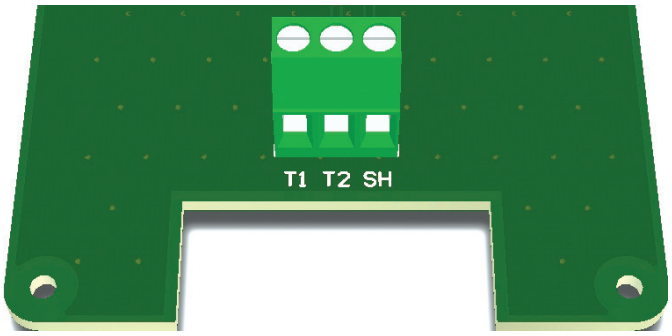
The DUTSN series are passive duct temperature sensors which are based on the advanced thin film technology of the platinum sensitive element. They provide temperature measurements with high stability and accuracy. An integrated shield connection makes these sensors suitable for applications where grounded shielded cables are required.

Key features

- Outstanding stability of temperature characteristic
- Short reaction time
- Connection for shielded cables
- Long-term stability and accuracy

Technical specifications

Long term stability		< ±0,04 %
Insulation resistance		> 10 MΩ
Measurement current (DC)		0,1 mA—1,0 mA (PT100) 0,1 mA—0,40 mA (PT500) 0,1 mA—0,25 mA (PT1000)
Self-heating		< 0,8 K / mW
Protection standard		IP54 (according to EN 60529:1991 + A2:2013)
Ambient conditions	Temperature	-30—70 °C
	Rel. humidity	< 95 % rH (non-condensing)



Article codes

	Temperature sensor element
DUTSN-P100	PT100
DUTSN-P500	PT500
DUTSN-P1K0	PT1000

Area of use

- Temperature control in duct HVAC applications where shielded cables are required

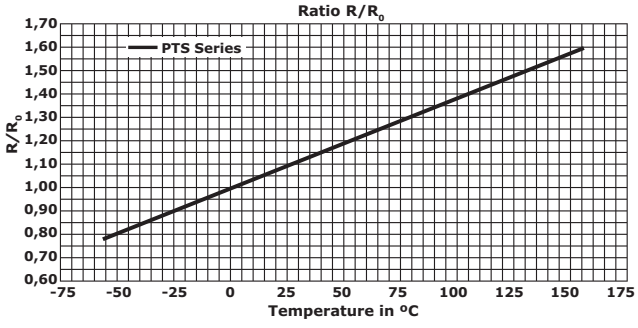
Wiring and connections

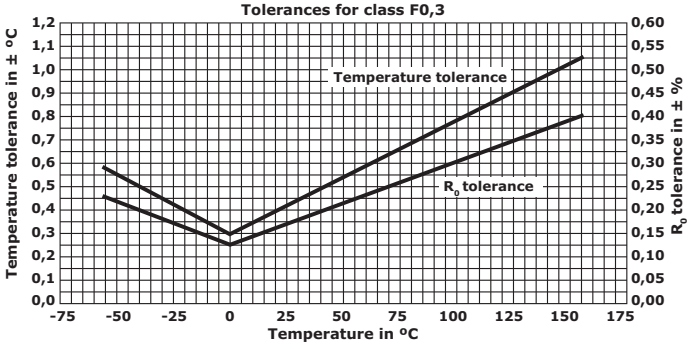
T1	Temperature sensor connection
T2	Temperature sensor connection
SH	Shield connection for shielded cables
Connections	Cable cross section: max. 1,5 mm² Cable gland clamping range: 5—10 mm

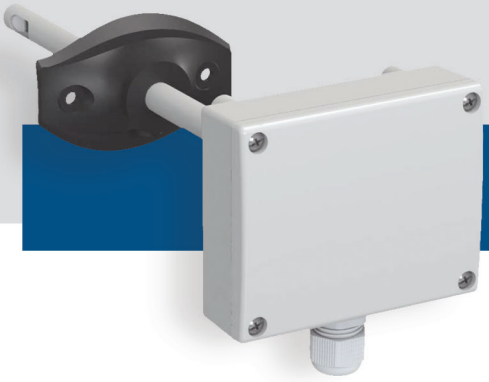
Functional performance

Temperature resistance relationships of the platinum sensors	
• For the temperature range: -30 °C - 0 °C	$R_T = R_0 \times (1 + A \times T + B \times T^2 + C \times (T - 100\,°C) \times T^3)$
• For the temperature range: 0 °C - 70 °C	$R_T = R_0 \times (1 + A \times T + B \times T^2)$
• Where	R_T: Resistance as a function of temperature R_0: Nominal resistance value at 0 °C T: Temperature in °C
• Coefficients according to EN 60751	$A = 3{,}9083 \times 10^{-3}\ °C^{-1}$ $B = -5{,}775 \times 10^{-7}\ °C^{-2}$ $C = -4{,}183 \times 10^{-12}\ °C^{-4}$
Sensor tolerance values equation (according to EN 60751)	
• Class F0.3	$\Delta T_{F0.3} = \pm (0{,}30 + 0{,}005 \times \lvert T \rvert)$

Operational diagram(s)







SENTERA CONTROLS

DUTSN

Duct temperature sensor

Nominal resistance values

Temperature, [°C]	R0, 100 Ω	R0, 500 Ω	R0, 1000 Ω
-30	88,22	441,11	882,22
-25	90,19	450,96	901,92
-20	92,16	460,80	921,60
-15	94,12	470,62	941,24
-10	96,09	480,43	960,86
-5	98,04	490,22	980,44
0	100,00	500,00	1.000,00
5	101,95	509,76	1.019,53
10	103,90	519,51	1.039,03
15	105,85	529,25	1.058,49
20	107,79	538,97	1.077,94
25	109,73	548,67	1.097,35
30	111,67	558,36	1.116,73
35	113,61	568,04	1.136,08
40	115,54	577,70	1.155,41
45	117,47	587,35	1.174,70
50	119,40	596,99	1.193,97
55	121,32	606,60	1.213,21
60	123,24	616,21	1.232,42
65	125,16	625,80	1.251,60
70	127,08	635,38	1.270,75

Standards

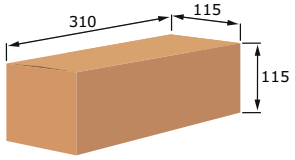
- Low Voltage Directive 2006/95/EC
- DIN / IEC 60751
- WEEE Directive 2012/19/EU
- RoHs Directive 2011/65/EU

Combine with

Logic controllers, switches, timers, potentiometers, converters & relay modules	• STEC series
Electronic fan speed control	• MFC series • EVS(S) series • MVS(S) series • TVSS5 series • CO1S (SE-S series) • CO2S (SE-S series)
Heater controllers	• EH2C series • EH3C series • AH2C series

For more detailed information about the product series features visit:
http://www.sentera.eu/english/download-catalogue.html

Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
DUTSN-P100	Unit (1 pc.)	310	115	115	0,16 kg	0,28 kg
	Box (20 pcs.)	590	380	505	3,20 kg	6,85 kg
DUTSN-P500	Unit (1 pc.)	310	115	115	0,16 kg	0,28 kg
	Box (20 pcs.)	590	380	505	3,20 kg	6,85 kg
DUTSN-1K0	Unit (1 pc.)	310	115	115	0,16 kg	0,28 kg
	Box (20 pcs.)	590	380	505	3,20 kg	6,85 kg

Fixing and dimensions