

TEMPERATURE & HUMIDITY TRANSMITTER

Technical Characteristics



Mod. : DO 9861T

DO 9861T humidity and temperature transmitters convert the humidity and temperature measured by two sensors into a 4 ÷ 20 mA signal.

An LCD indicator allows the value of the process signal and the various parameters to be displayed.

The accurate design and choice of components make the instruments precise and reliable for a long working life. The instruments have two sensors, a capacitive sensor for measuring relative humidity and a Platinum resistive sensor (Pt100, 100Ω at 100°C) for measuring temperature.

The transmitters measure the Relative Humidity (%RH), the sensor Temperature (TC), and Calculate the Wet Bulb Temperature (WT), the Dew Point Temperature (DP), the Absolute Humidity (gr/m³) and the Mixing Ratio (gr/kg - grams of Water per kg of dry air). The Temperatures are Expressed in Degrees Celsius.

Relative Humidity	Capacity	300 pF
	Transducer energizing	10 kHz
	Cable length	< 10 m multiple screen (about 2 nF) additional error about 0.003 pF/pF
	Accuracy	Instrument : 0.1% of reading ± 1 digit ± 0.01%/°C Sensor : ± 2.5% (5...90%), +3/-2.5% (90...98%)
Working range of sensor	Relative humidity: 5...98% @ 23°C Dew point temperature (DP°C) -60...+100 DP°C (-20 DP°C @ 23 °C) Temperature range : -40...+150 °C	

During use, check that the sensor is compatible with the atmosphere used

Temperature	2/4 wires Pt 100	-50...+199.9°C
	Transducer energizing	0.5 mA dc
	Cable length	< 10m not screened < 50 m screened (about 5 nF)
	Accuracy	0.2°C ± 0.1% of reading ± 0.01 °C/°C
Output current A and B	4,00....20,00 mA	Dry bulb temperature -50.0...+199.9 °C
		Wet bulb temperature -50.0...+199.9 °C
		Relative humidity 0.0...+100.0% RH
		Absolute humidity 0.0....+1999 gr/m ³
		Mixing ratio 0.0... + 1999 gr/Kg of air
	Accuracy	± 2.5% RH 0.5% of reading ± 0.02 mA
R Load	Load resistance	$R_{Lmax} = \frac{V_{dc}-9}{0,022}$ $R_{Lmax} = 636 \text{ W @ } V_{dc} = 24 \text{ Vdc}$
Relay outputs	A and B	Bistable exchange contacts 3 A/230 V ac potential free contact
Feed	Passive	4 ÷ 20 mA, 10...35V dc
	Active	24 or 230 V ac -15/+10%, 1 VA, 48...62 Hz
Response time	Without filter	6 seconds
	With filter	3 minutes
Case	Front panel	122 × 120 mm
	External dimensions	122 × 120 × 56 mm
	Protection class	IP 64

* time required to reach 63% of the final variation.

Order Code :

DO 9861T	: Two outputs 4 ÷ 20 mA to measure relative humidity and temperature.
DO 9861TV/1	: Vertical fixed probe L = 130 mm
DO 9861TO/2	: Horizontal probe L = 330 mm, sliding joint.
DO 9861TC/1-2	: Probe L = 130 mm cable L = 2 meters.
DO 9861TC/2-5	: Probe L = 330 mm, sliding joint, cable L = 5 meters.
DO 9861TC/2-10	: Probe L = 330 mm, sliding joint, cable L = 10 meters.