

Compact Dew Point Temperature Transmitter / Switch

Application:

The exact monitoring of dew point temperature in compressed air systems, dryers for plastic and other industrial processes is becoming increasingly more important. OM371 series with a measuring range $-60...60^{\circ}\text{C Td}$ ($-112...140^{\circ}\text{F Td}$) is the ideal solution for such applications. The core of the transmitter is the monolithic measurement cell type HMC01, developed by Omicron Sensing in thin film technology. An autocalibration procedure which is integrated in the device and years of experience in low humidity adjustment make an accuracy of $<2^{\circ}\text{C Td}$ ($\pm 3.6^{\circ}\text{F Td}$) possible. The compact construction in a robust aluminium housing and the numerous options allow easy mounting and many application possibilities.



Autocalibration:

Dew point temperatures in the range of $-60...-20^{\circ}\text{C}$ ($-76...-4^{\circ}\text{F}$) at room temperature correspond to relative humidity values of $0.08...5.37\% \text{ RH}$. The measurement of these low humidity values is not possible with conventional capacitive measurement methods. For the OM371 series a special autocalibration procedure is utilized to achieve high accuracy measurements at lowest dew points too.

Output:

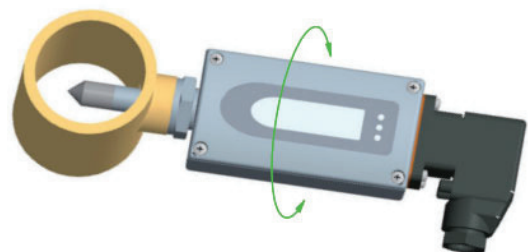
- Model T : The transmitter has two freely selectable and scaleable outputs for dew point, frost point or ppm volume concentration.
- Model S : The switch with two relay outputs is designed for control and alarm purposes. The status for early warning and main alarm is indicated by LED's. Adjustment of the Td/Tf set point and hysteresis can be achieved with the optional configuration software.

Configuration Software:

The optional configuration software allows flexible and easy adjustment of the analogue resp. relay outputs to the respective requirements. The adjustment / calibration of the transmitters can easily be performed.

Screw Connection for Mounting -360° positionable:

The construction of this screw connection enables any position / rotation of the mounted transmitter. So an optimal position of the display resp. the cable outlet is guaranteed.



Typical Application:

Monitoring of compressed air systems	:	measuring range $-60...60^{\circ}\text{C Td}$ ($-76...140^{\circ}\text{F Td}$)
Refrigerant type dryer	:	accuracy of measurement $\pm 2^{\circ}\text{C Td}$ ($\pm 3.6^{\circ}\text{F Td}$)
Absorption dryer	:	two Td/Tf alarm outputs
Plastics dryer	:	autocalibration
		pressure tight up to 100 bar (1450psi)



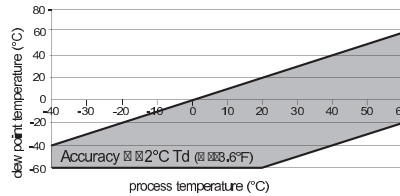
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Technical Data:

Measuring Quantities

Dew Point (Td)

Dew Point Sensor	:	HMC01
Measuring Range	:	25°C to + 65°C
Accuracy	:	Traceable to intern. standards, administrated by NIST, PTB, BEV...



Response Time t_{90}	:	80 sec.	-20°C Td → -40°C Td	(-4°F Td → -40°F Td)
		10 sec	-40°C Td → -20°C Td	(-40°F Td → -4°F Td)

Volume concentration

Measuring range	:	20...200 000ppm
Accuracy at 20°C (68°F) and 1013mbar	:	5ppm + 20% of reading

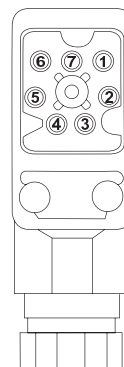
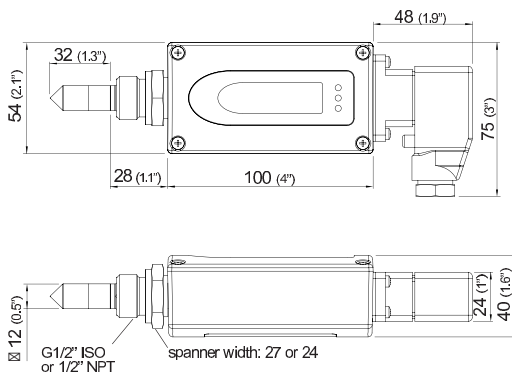
Outputs

Selectable and scalable analogue output for Td, Tf, Wv	:	0 - 10V	-1mA < I, < 1mA
	:	4 - 20mA	R < 500 Ohm

General

Supply Voltage	:	21...28V DC
Current Consumption at 24V DC	:	voltage output: typ. 40mA / during autocalibration: 100mA current output: typ. 80mA / during autocalibration: 100mA
Pressure Range	:	0...20bar (0...290psi)
Housing / protection class	:	Al Si Cu ₃ / IP65
Electrical connection	:	M12 connector
Sensor protection	:	stainless steel sintered filter
Working temperature range	:	probe: -40...70°C (-40...158°F) electronic: -40...60°C (-40...140°F)
Storage temperature range	:	-40...60°C (-40...140°F)
Electromagnetic compatibility according to	:	EN 61326-1 EN61326-2-3 Industrial Environment
		ICES-003 ClassB FCC Part15 ClassB

Dimensions (mm)



analogue output

1 V+	10...30V DC
2 GND	
3 GND	
4 OUT1	V mA
5 OUT2	V mA
6 NC	
7 NC	

relay output

1 V+	10...30V DC
2 GND	
3 NC11	
4 NC12	
5 NC21	
6 NC22	
7 not connected	

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Basic Sampling Cell:

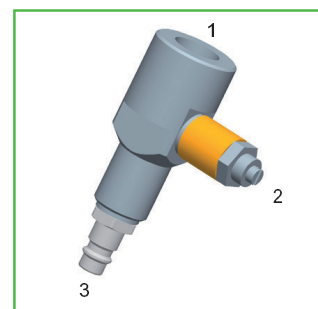
The basic sampling cell offers the possibility to integrate the OM371 into an existing or self-constructed sampling system

- 1 = G 1/2" ISO
- 2 = G 1/4"
- 3 = G 1/4"

Sampling Cell with Quick Connector upto 10 bar (145psi):

The sampling cell is specially developed for use in compressed air lines and has a quick-connector suitable for standard compressed air connections. It allows for the cell to be fitted and removed without interrupting the process. The flow of gas can be adjusted using a bleed screw.

- 1 = G 1/2" ISO
- 2 = Bleed screw
- 3 = Quick connector



HOW TO ORDER

Hardware Configuration:

OM371

Model	transmitter switch	T S
Pressure range	up to 20bar (290psi)	E
Pressure tight	G1/2" male thread	HAO3
feedthrough	1/2" NPT thread	HAO7
Display	: without display with display	D08

Software Configuration :

Physical parameters of the output	:	dew point temperature Td (°C/° F)	frost point temperature Tf (°C/° F)	volume concentration Wv (ppm)	output/relay 1	output/relay 2	select according to Ordering Guide (C,D,P)
Type of output signal	:	0-1V	0-5V	0-10y	0-20mA	4-20mA	1 2 3 5 6

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⚙️ Software Configuration :

Measured value units for T /Td /Tf	:	metric / SI non metric / US			E01
Scaling of Td/Tf-output: (in °C or °F)	:	-40...60 (Td/Tf02) 10...50 (Td/Tf03)	-60...20 (Td/Tf65) "	Other Td/Tf-scaling refer to data sheet T-Scalings"	Select according to order guide (Tdx or Tfx)
ppm range Wv	:	0...100ppm (X01) 0...500ppm (X02) 0...1000ppm (X03)		other measuring range:	select according to Ordering Guide
Setting of alarm output	:	standard for configuration CC other set points:	R1: -40°C (-40°F) H1: -2°C (35.6°F) relay 1: _____ hysteresis 1: _____	R2: -30°C (-31°F) H2: 2°C (35.6°F) relay 2: _____ hysteresis 2: _____	SP

⚙️ Accessories:

Sampling cell with quick connector	:	(HA050102)
basic sampling cell	:	(HA050103)
configuration software + interface cable	:	(HA010604)
stainless steel sintered filter	:	(HA010103)
display	:	(D08)

Ordering Example:
OM371-TEHA07D08/CD2-Td03