

Digitron

HLX371

Compact Dew Point Temperature Transmitter / Switch

The exact monitoring of dew point temperature in compressed air systems, dryers for plastic and other industrial processes is becoming increasingly more important. HLX371 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 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% RH. The measurement of these low humidity values is not possible with conventional capacitive measurement methods. For the HLX371 series a special autocalibration procedure is utilized to achieve high accuracy measurements at lowest dew points too.

Outputs

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.

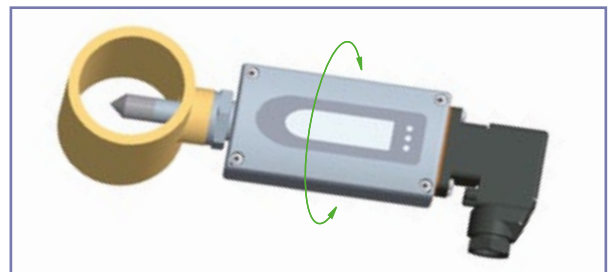
Configuration Software

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 Applications

- monitoring of compressed air systems
- refrigerant type dryer
- absorption dryer
- plastics dryer

Features

- measuring range $-60...60^{\circ}\text{C Td}$ ($-76...140^{\circ}\text{F Td}$)
- accuracy of measurement $\pm 2^{\circ}\text{C Td}$ ($\pm 3.6^{\circ}\text{F Td}$)
- two Td/Tf alarm outputs
- autocalibration
- pressure tight up to 100 bar (1450psi)

Technical Data

Measuring Quantities

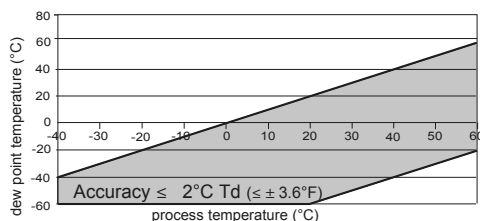
Dew point (Td)

Dew point sensor
Measuring range
Accuracy

HMC01

-60...60°C Td (-76...140°F Td)

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
Accuracy at 20°C (68°F) and 1013mbar

20...200,000ppm
5ppm + 9% of reading

Outputs

HLX371-Tx two freely selectable and scaleable analogue outputs for Td, Tf, Wv

HLX371-Sx Alarm output

0 - 1V / 0 - 5V / 0 - 10V¹⁾ -1mA < I_L < 1mA
4 - 20mA / 0 - 20mA R_L < 500 Ohm¹⁾
2 potential-free relays (NC)
30V DC 0.6A / 35V AC 0.3A (resistive)

General

Supply voltage
Current consumption at 24V DC

10...30V DC
voltage output: typ. 40mA / during autocalibration: 100mA
current output: typ. 80mA / during autocalibration: 140mA

Pressure range
System requirements for software
Serial interface for configuration
Housing / protection class
Electrical connection

0...20bar (0...290psi) / 0...100bar (0...1450psi)
WINDOWS 2000 or later; serial interface RS232C
Al Si 9 Cu 3 / IP65
7-pole industrial plug: DIN VDE 0627 / IEC 61984
cable cross-section: 0.25 - 1 mm²
cable connection: PG 11
stainless steel sintered filter
probe: -40...70°C (-40...158°F)
electronic: -40...60°C (-40...140°F)
with LC display: -20...50°C (-4...122°F)

Sensor protection
Working temperature range

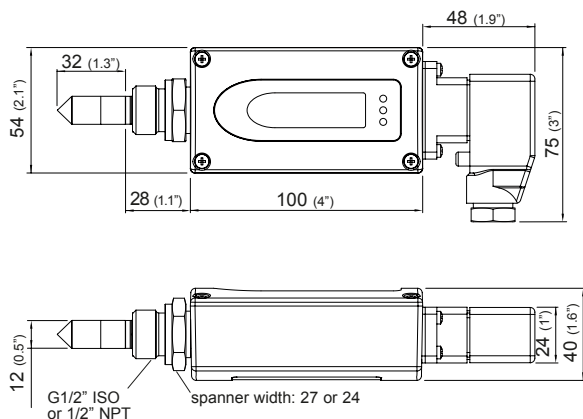
Storage temperature range
Electromagnetic compatibility according to

EN 61326-1 EN61326-2-3 ICES-003 ClassB
Industrial Environment FCC Part15 ClassB



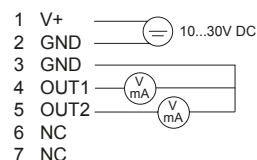
1) minimum supply voltage 15V DC

Dimensions (mm)

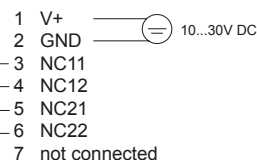


Connection Diagram

analogue output



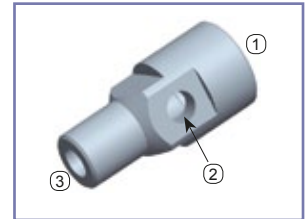
relay output



Basic Sampling Cell

The basic sampling cell offers the possibility to integrate the HLX371 into an existing or self-constructed sampling system.

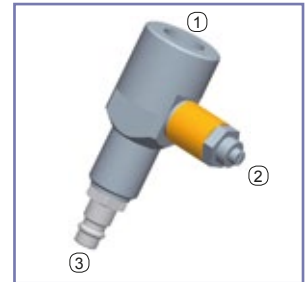
- 1 = G 1/2" ISO
- 2 = G 1/4"
- 3 = G 1/4"



Sampling Cell with Quick Connector up to 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



Ordering Guide

Hardware Configuration		HLX371-		HLX371-			
Model	transmitter switch	T		S			
Pressure range	up to 20bar up to 100bar (1450psi)	E		E			
Pressure tight feedthrough	G1/2" male thread 1/2" NPT thread	I HA03 HA07		HA03 HA07			
Display	without display with display	D08		D08			
Software Configuration							
Physical parameters of the outputs/relays	dew point temperature	Td	[°C/°F]	(C)	output/relay 1	select according to Ordering Guide(C,D,P)	
	frost point temperature	Tf	[°C/°F]	(D)	output/relay 2		select according to Ordering Guide(C,D,P)
	volume concentration	Wv	[ppm]	(P)			
Type of output signals	0-1V	1					
	0-5V	2					
	0-10V	3					
0-20mA	5						
	4-20mA	6					
Measured value units for T / Td / Tf	metric/SI non metric /US	E01		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 Ordering Guide (Tdx / Tfx)		
ppm range Wv	0...100ppm (X01) 0...500ppm (X02) 0...1000ppm (X03)	other measurement 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: -35°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)

Order Example

HLX371-TEHA07D08/CD2-Td/Tf03

Model: transmitter
 Pressure range: up to 20bar (290psi)
 Pressure tight feedthrough: 1/2" NPT thread
 Display: with display

Output 1: Td
 Output 2: Tf
 Output signal: 0-5V
 Measured value unit: metric
 Scaling of output: -10...50°C