

EE375 Series

Compact Low Dew Point Temperature Transmitter / Switch for OEM Applications

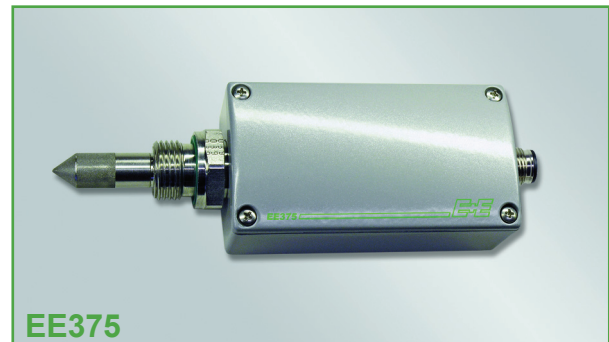
The exact monitoring of dew point temperature in compressed air systems, dryers for plastic and other industrial processes is becoming increasingly more important. The EE375 is designed for measurement of low dew points in OEM applications down to -60°C (-80°C).

The core of the transmitter is the monolithic measurement cell type HMC01 developed by E+E Elektronik 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 transmitter has two analogue or switching outputs for dew point, frost point or ppm volume concentration.

The compact construction in a robust aluminium housing and the numerous options allow easy mounting and many application possibilities.



EE375

Technical Data

Measuring Quantities

Dew point (Td)

Dew point sensor

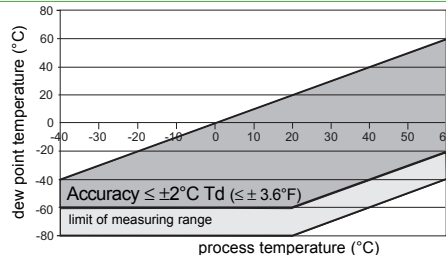
Measuring range

Accuracy

Traceable to intern. standards, administrated by NIST, PTB, BEV...

HMC01

$-80...60^{\circ}\text{C Td}$ ($-112...140^{\circ}\text{F}$)



Response time t_{90}

80 sec. $-20^{\circ}\text{C Td} \rightarrow -40^{\circ}\text{C Td}$ ($-4^{\circ}\text{F} \rightarrow -40^{\circ}\text{F}$)
10 sec. $-40^{\circ}\text{C Td} \rightarrow -20^{\circ}\text{C Td}$ ($-40^{\circ}\text{F} \rightarrow -4^{\circ}\text{F}$)

Volume concentration

Measuring range

20...200 000ppm

Accuracy at 20°C (68°F) and 1013mbar

5ppm + 20% of reading

Outputs

EE375-Tx two freely selectable and scaleable

0 - 10V

$-1\text{mA} < I_L < 1\text{mA}$

analogue outputs for Td, Tf, Xv

4 - 20mA / 0 - 20mA

$R_L < 500 \text{ Ohm}^1$

EE375-Sx

Alarm output

2 potential-free relays (normally open) 30V DC 0.6A / 35V AC 0.3A

Standard setting of alarm outputs

relay 1: -40°C Td (-40°F)

relay 2: -35°C Td (-31°F)

hysteresis: 2°C (3.6°F)

General

Supply voltage

21...28V DC

Current consumption at 24V DC

voltage output: typ. 40mA / during autocalibration: 100mA
current output: typ. 80mA / during autocalibration: 140mA

Pressure range

0...20bar (0...290psi) / 0...100bar (0...1450psi)

System requirements for software

WINDOWS 2000 or later; serial interface

Serial interface for configuration

RS232C

Housing / protection class

Al Si 9 Cu 3 / IP65; NEMA 4

Electrical connection

M12 connector

Sensor protection

stainless steel sintered filter

Working temperature range

probe: $-40...70^{\circ}\text{C}$ ($-40...158^{\circ}\text{F}$)

electronic: $-40...60^{\circ}\text{C}$ ($-40...140^{\circ}\text{F}$)

Storage temperature range

$-40...60^{\circ}\text{C}$ ($-40...140^{\circ}\text{F}$)

Electromagnetic compatibility according to

EN61000-6-3

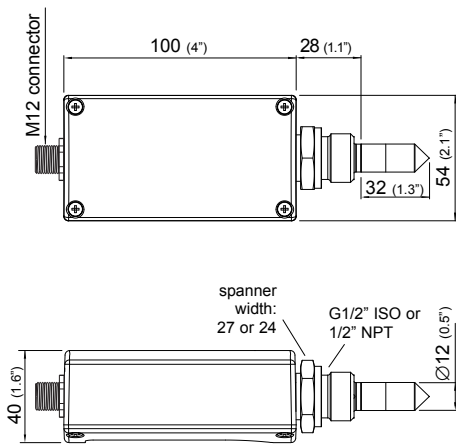
EN61000-6-1

FCC Part15 ClassB

ICES-003 ClassB



Dimensions in mm



Ordering Guide

						EE375-
Hardware Configuration						
Model	transmitter					T
	switch					S
Pressure range	up to 20bar (290psi)					E
	up to 100bar (1450psi)					I
Pressure tight feedthrough	G1/2" male thread					HA03
	1/2" NPT thread					HA07
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	Xv	[ppm]	(P)		
Type of output signals for model T	0-10V					3
	0-20mA					5
	4-20mA					6
Measured value units	metric / SI					
	non metric / US					E01
Scaling of Td/Tf-output (in °C or °F)	-40...60 (Td/Tf02)	-80...20 (Td/Tf63)			Other Td/Tf-scaling refer to page 134	Select according to ordering guide (Tbx or Tfx)
	-10...50 (Td/Tf03)	-60...20 (Td/Tf65)				
ppm range x	0...100ppm (X01)				Output x	select according to Ordering Guide (X01 - X03)
	0...500ppm (X02)					
	0...1000ppm (X03)					

Order Example

EE375-TEHA07/CD3-Td03

Model: transmitter
 Pressure range: up to 20bar (290psi)
 Pressure tight feedthrough: 1/2" NPT thread
 Output/relay 1: Td
 Output/relay 2: Tf
 Output signal: 0-10V
 Measured value unit: metric
 Scaling of output: -10...50°C