

# EE375 Series

## Compact Dew Point Temperature Transmitter for OEM Applications

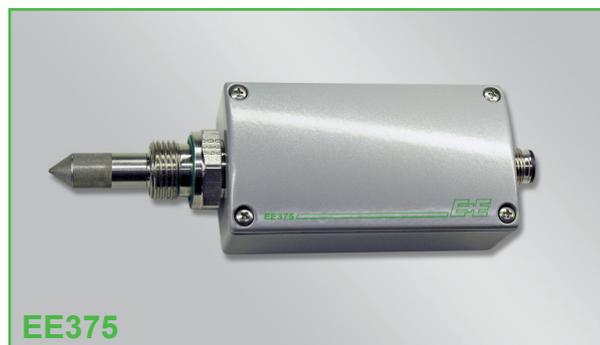
The exact monitoring of dew point temperature in compressed air systems, dryers for plastic and other industrial processes is becoming increasingly more important.

The EE375 is designed for measurement of low dew points in OEM applications down to  $-60^{\circ}\text{C}$  ( $-80^{\circ}\text{C}$ ).

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 one analogue output for dew point, frost point or ppm volume concentration.



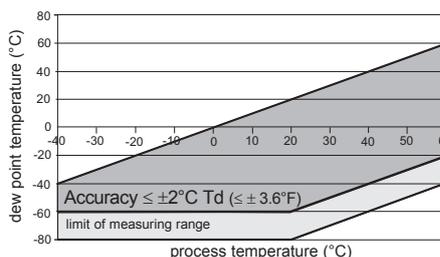
EE375

### Technical Data

#### Measuring Quantities

##### Dew point (Td)

Dew point sensor	HMC01
Measuring range	$-80 \dots 60^{\circ}\text{C Td}$ ( $-112 \dots 140^{\circ}\text{F Td}$ )
Accuracy	$\leq \pm 2^{\circ}\text{C Td}$ ( $\leq \pm 3.6^{\circ}\text{F}$ )
Traceable to intern. standards, administrated by NIST, PTB, BEV...	



Response time $t_{90}$	80 sec.	$-20^{\circ}\text{C Td} \rightarrow -40^{\circ}\text{C Td}$	$(-4^{\circ}\text{F Td} \rightarrow -40^{\circ}\text{F Td})$
	10 sec.	$-40^{\circ}\text{C Td} \rightarrow -20^{\circ}\text{C Td}$	$(-40^{\circ}\text{F Td} \rightarrow -4^{\circ}\text{F Td})$

##### Volume concentration

Measuring range	$20 \dots 200\,000\text{ppm}$
Accuracy at $20^{\circ}\text{C}$ ( $68^{\circ}\text{F}$ ) and 1013mbar	$5\text{ppm} + 20\%$ of reading

#### Outputs

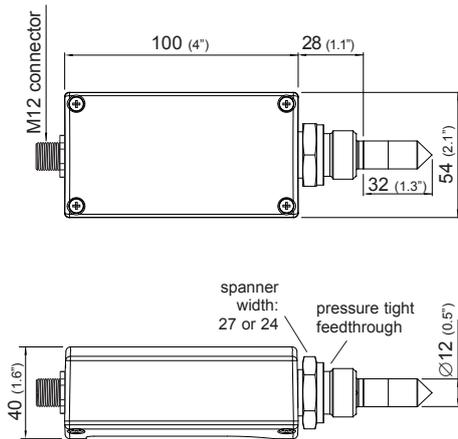
Selectable and scaleable analogue output for Td, Tf, Wv	0 - 10V	$-1\text{mA} < I_L < 1\text{mA}$
	4 - 20mA	$R_L < 500\ \Omega$

#### General

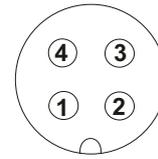
Supply voltage	$21 \dots 28\text{V DC}$
Current consumption at 24V DC	voltage output: typ. 40mA / during autocalibration: 100mA current output: typ. 80mA / during autocalibration: 140mA
Pressure range	$0 \dots 20\text{bar}$ ( $0 \dots 290\text{psi}$ )
System requirements for software	WINDOWS 2000 or later; serial interface
Serial interface for configuration	RS232C
Housing / protection class	Al Si 9 Cu 3 / IP65
Electrical connection	M12 connector
Sensor protection	stainless steel sintered filter
Working temperature range	probe: $-40 \dots 70^{\circ}\text{C}$ ( $-40 \dots 158^{\circ}\text{F}$ ) electronic: $-40 \dots 60^{\circ}\text{C}$ ( $-40 \dots 140^{\circ}\text{F}$ )
Storage temperature range	$-40 \dots 60^{\circ}\text{C}$ ( $-40 \dots 140^{\circ}\text{F}$ )
Electromagnetic compatibility according to	EN 61326-1    EN61326-2-3    ICES-003 ClassB Industrial Environment    FCC Part15 ClassB



## Dimensions in mm



## Connection Diagram



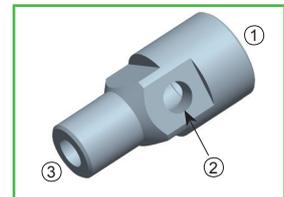
Male connector

- 1...V+
- 2...output 1
- 3...GND

## Basic Sampling Cell

The basic sampling cell offers the possibility to integrate the EE375 into an existing or self-constructed sampling system.

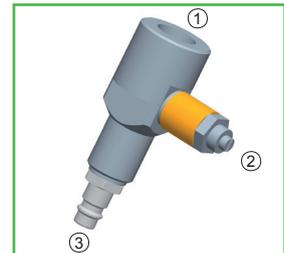
- 1 = G 1/2" ISO
- 2 = G 1/4"
- 3 = G 1/4"



## 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

				<b>EE375-</b>	
<b>Hardware Configuration</b>					
<b>Model</b>	transmitter				<b>T</b>
<b>Pressure range</b>	up to 20bar (290psi)				<b>E</b>
<b>Pressure tight feedthrough</b>	G1/2" male thread				<b>HA03</b>
	1/2" NPT thread				<b>HA07</b>
	5/8"-18 UNF				<b>HA08</b>
<b>Software Configuration</b>					
<b>Physical parameters of the output</b>	dew point temperature	Td	[°C/°F]	output	<b>C</b>
	frost point temperature	Tf	[°C/°F]		<b>D</b>
	volume concentration	Wv	[ppm]		<b>P</b>
<b>Type of output signal</b>	0-10V				<b>3</b>
	4-20mA				<b>6</b>
<b>Measured value units</b>	metric / SI				<b>E01</b>
	non metric / US				<b>E01</b>
<b>Scaling of Td/Tf-output</b>	-40...60 (Td/Tf02)	-80...20 (Td/Tf63)		<b>Other Td/Tf-scaling refer to page 146</b>	<b>Select according to order guide (Tdx or Tfx)</b>
(in °C or °F)	-10...50 (Td/Tf03)	-60...20 (Td/Tf65)			<b>select according to Ordering Guide</b>
<b>ppm range Wv</b>	0...100ppm (X01)				<b>select according to Ordering Guide</b>
	0...500ppm (X02)				<b>select according to Ordering Guide</b>
	0...1000ppm (X03)		other measuring range: _____		<b>select according to Ordering Guide</b>

## Order Example

### EE375-TEHA07/C3-Td03

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

Output signal: 0-10V  
 Measured value unit: metric  
 Scaling of output: -10...50°C