

EE355

OEM Dew Point Transmitter down to -60 °C Td

The compact EE355 Dew Point Transmitter with a measuring range down to -60 °C Td is ideal for applications in compressed air systems, plastic dryers and industrial drying processes. An integrated auto-calibration procedure permits a measurement accuracy of <2 °C Td.

The measured values for dew point, frost point or ppm volume concentration are available on an analog 4-20 mA and a digital Modbus RTU output. Integration into the measurement task is simplified by the compact design and the exceptionally robust stainless steel housing.

With an optional Modbus to USB converter and the free EE-PCS configuration software the user can adjust the transmitter, set the Modbus parameters, and change the scaling of the analog output.



Technical Data

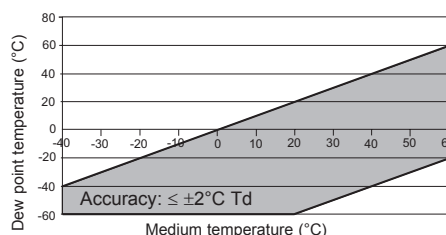
Measuring values

Dew point (Td)

Measurement range

-60...60 °C Td (-76...140 °F Td)

Accuracy ¹⁾



Response time t_{90}

< 5 min -20 °C Td (-4 °F Td) → -60 °C Td (-76 °F Td)
 < 15 sec -60 °C Td (-76 °F Td) → -20 °C Td (-4 °F Td)

Volume concentration (ppm)

Measurement range

20...200,000 ppm

Accuracy at 20 °C (68 °F) and 1013mbar

±(5 ppm + 9 % from measured value)

Output

Analog output (scalable)

4 - 20 mA (3-wire technology) RL < 500 Ohm

Maximum adjustable scaling

-100...80 °C Td (-148...176 °F Td)

Resolution of analog output

2 µA

Digital interface

MODBUS RTU (max. 32 units in one bus)

Temperature dependence

±5ppm of the measuring span / °C (Deviating from 20 °C)

General

Supply voltage

18...28 V DC

Current consumption at 24V DC

<20 mA + load current /
 with autocalibration: 100 mA + load current

Pressure range of use

0...80 bar

Housing / protection class

Stainless steel 1.4404 (AISI 316L) / IP65

Electrical connection ²⁾

M12x1 5-pin plug

Sensor protection

Stainless steel sintered filter

Temperature / humidity operating range

-40...70 °C (-40...158 °F) / 0...100 % RH

Storage temperature range

-40...60 °C (-40...140 °F)

Electromagnetic compatibility

EN61326-1 EN61326-2-3 Industrial environment
 FCC Part 15 ICES-003 ClassB

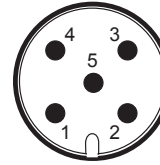
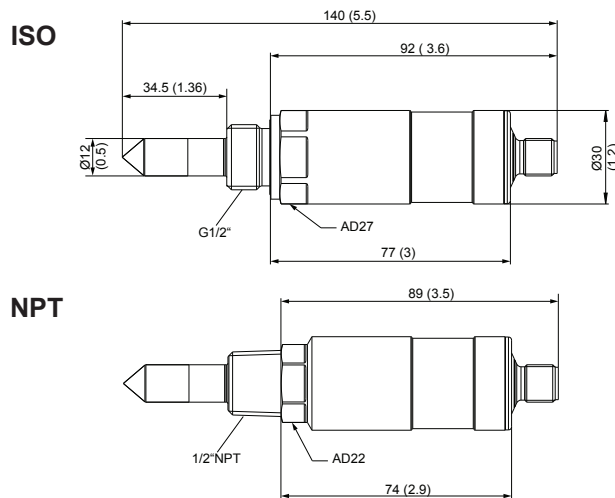


¹⁾ The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2-times standard deviation). The accuracy was calculated in accordance with EA-4/02 and with regard to GUM (Guide to the Expression of Uncertainty in Measurement).

²⁾ Field-attachable mating connector is included in the scope of supply.

Dimensions in mm (inch)

Connection Diagram



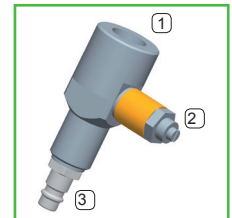
Plug

- 1...V+
- 2...Analog output 4-20mA
- 3...GND
- 4...RS485 A (=D+)
- 5...RS485 B (=D-)

Sampling Cell with Quick Connector

The sampling cell is specially developed for use in compressed air lines and has a quick-connector suitable for standard compressed air connections (DN7.2). 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. Pressure range: 0...10 bar (0...145 psi).

- 1 = G 1/2" or NPT
- 2 = Bleed screw
- 3 = Quick connector (only with G 1/2")



Ordering Information

					EE355-
Process connection	G1/2" thread 1/2" NPT thread				PA1 PA2
Software configuration					
Physical parameter for analog output	Dew point temperature	Td	[°C]	for Td < 0 °C output is Tf for Td < 32 °F output is Tf	no code
	Frost point temperature	Tf	[°C]		MA65
	Dew point temperature	Td	[°F]		MA53
	Frost point temperature	Tf	[°F]		MA66
	volume fraction of water vapor	Wv	[ppm]		MA75
Scaling of analog output	scaling low	-60			no code
		value			SALvalue
	scaling high	60			no code
		value			SAHvalue
Measured value unit for Modbus RTU	metric [°C]				no code
	non metric [°F]				U2

Scope of Supply

- EE355 Transmitter according to Ordering Guide
- Mating plug M12x1 field attachable
- Operation Manual - Quick guide
- Inspection certificate according to DIN EN10204 - 3.1

Pressure-tight screw connection:
Output:
Output scaling:
Measured value unit:

Order example

EE355-PA1SAH20

G1/2" thread
Dew point Td [°C]
4-20 mA = -60...20 °C Td
metric [°C]

Accessories

M12x1 5pin connection cable socket/flying leads 1.5m
M12x1 5pin connection cable socket/flying leads 5m
M12x1 5pin connection cable socket/flying leads 10m
Modbus - USB converter for EE35x
stainless steel sintered filter

HA010819
HA010820
HA010821
HA011013
HA010103

sampling cell G 1/2" with quick connector
sampling cell NPT with bleed screw only
sampling cell G 1/2" for atmospheric dew point
basic sampling cell G 1/2"
basic sampling cell NPT

HA050102
HA050107
HA050106
HA050103
HA050105