

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.



EE355

Technical Data

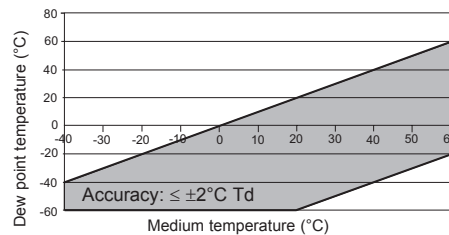
Measuring values

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

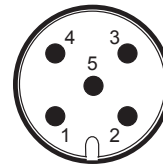
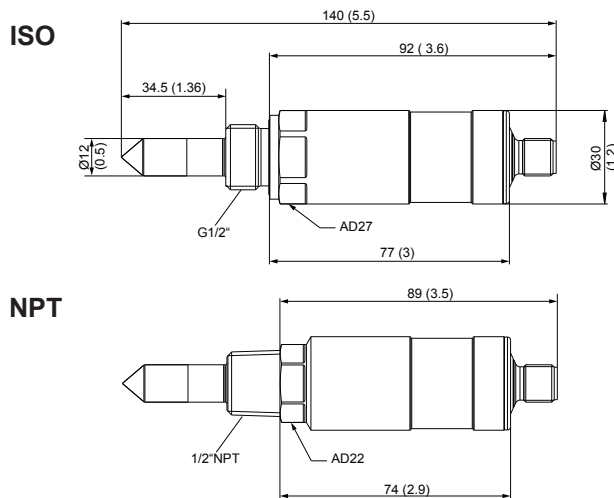


¹⁾ The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2-times standard deviation). The accuracy was calculated in accordance with EA-4/02 and with regard to GUM (Guide to the Expression of Uncertainty in Measurement).

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

Dimensions in mm (inch)

Connection Diagram

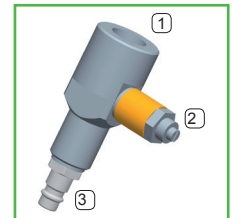


Plug

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

Order example

EE355-PA1SAH20

Pressure-tight screw connection: G1/2" thread
Output: Dew point Td [°C]
Output scaling: 4-20 mA = -60...20 °C Td
Measured value unit: metric [°C]

Accessories

| | | | |
|--|--------------------------|--|--------------------------|
| M12x1 5pin connection cable socket/flying leads 1.5m | HA010819 | sampling cell G 1/2" with quick connector | HA050102 |
| M12x1 5pin connection cable socket/flying leads 5m | HA010820 | sampling cell NPT with bleed screw only | HA050107 |
| M12x1 5pin connection cable socket/flying leads 10m | HA010821 | sampling cell G 1/2" for atmospheric dew point | HA050106 |
| Modbus - USB converter for EE35x | HA011013 | basic sampling cell G 1/2" | HA050103 |
| stainless steel sintered filter | HA010103 | basic sampling cell NPT | HA050105 |