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DMT152 Dewpoint Transmitter for Low Dew Point Measurement in OEM Applications

The small and powerful DMT152 measures dew point down to -80 °C.

Features/Benefits

- Compact
- Accurate
- Vaisala DRYCAP® technology with a polymer sensor
- Measures dew point down to -80 °C (-112 °F)
- Reduced maintenance costs due to long calibration interval
- Fast response time
- Withstands condensation
- NIST traceable
- Applications: compressed air, plastics drying, dry chambers, pure gases, and high-voltage circuit breakers

The Vaisala DRYCAP® Dewpoint Transmitter DMT152 is designed for measuring low dew point in OEM applications, even down to -80°C . The excellent long-term stability and reliability of its performance is based on the latest DRYCAP® polymer sensor technology.

Low Maintenance

The DMT152 mechanics have been designed for harsh environments requiring protection against dust, dirt, and splashed water.

The DRYCAP® technology has a low maintenance need due to its excellent long-term stability and durability against condensation.

Applications

The DMT152 is an ideal choice for industrial applications where it is necessary to control very low humidity. Most typical areas of use are air and plastics dryers, dry chambers, pure gases, and highvoltage circuit breakers.

The DMT152 measures accurately and reliably also in the challenging combination of low humidity and hot air, which is typical in plastics drying.

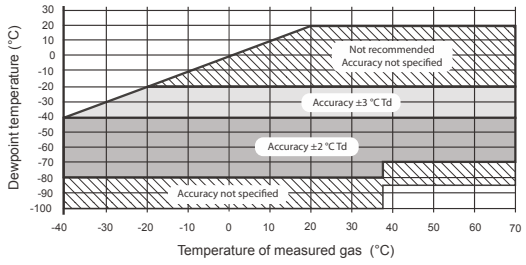
Technical Data

Measured Variables

DEW POINT TEMPERATURE

Measurement range	-80 ... -10 °C (-112 ... +14 °F)T_d
Accuracy	
-80 ... -40 °C (-112 ... -40 °F)	±2 °C (3.6 °F) T_d
-40 ... -20 °C (-40 ... -4 °F)	±3 °C (5.4 °F) T_d
Non-calibrated range	-100 ... -80 °C, -10 ... +20 °C T_d (-148 ... -112 °F, +14 ... +68 °F T_d)
Analog output scalings	
option 1	-80 ... +20 °C (-112 ... +68 °F) T_d
option 2	-100 ... 0 °C (-148 ... +32 °F) T_d
option 3	user-specified output scaling
when dew point is below 0 °C (32 °F) the transmitter outputs frost point	

Accuracy over temperature range



Response time 63 % [90 %] at a gas temperature of +20 °C (+68 °F) and pressure of 1 bar	
-10 ... -80 °CTd	0.5 min [7.5 min]
-80 ... -10 °CTd	2 s [5 s]
Typical long-term stability	better than 2 °C (3.6 °F) /year

PPM VOLUME CONCENTRATION

Measurement range (typical)	0 ... 500 ppm
Accuracy at +20 °C (+68 °F), 1013 mbar	±(0.2 ppm + 20 % of reading)

Operating Environment

Temperature	-40 ... +70 °C (-40 ... +158 °F)
Relative humidity	0 ... 100 %RH (up to + 20 °C/68 °F)
Pressure	0 ... 50 bar (725 psia)
Measured gases	non-corrosive gases
Sample flow rate	no effect on measurement accuracy

Outputs

Two analog outputs (scalable)	4 ... 20 mA, 0 ... 20 mA (3 wire) 0 ... 5 V, 0 ... 10 V
Accuracy of analog outputs	± 0.01 V / ±0.01 mA
Digital output	RS485 (2-wire)
Alarm-level indication by analog signal	user selectable
Purge information	5 V, 10 V, 20 mA or LED

General

Sensor	Vaisala DRYCAP® 180U Thin-film capacitive polymer sensor
Recommended calibration interval	2 years
Operating voltage with	
RS485 output	11* ... 28 VDC
voltage output	15* ... 28 VDC
current output	21 ... 28 VDC

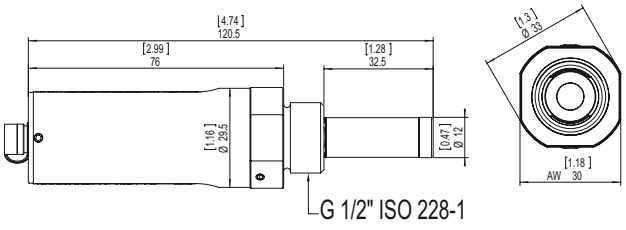
*For extended temp. down to -40 °C (-40 °F) or pressure up to 50 bar (725 psia), the supply voltage is 21 ... 28 VDC.

Supply current	
normal measurement	20 mA + load current
during self-diagnostics	max. 220 mA pulsed
Supply voltage fluctuation	max. 0.3 V
External load for	
voltage output	min. 10 kOhm
current output	max. 500 Ohm
Housing material (wetted parts)	AISI316L
Stainless steel mesh filter	Filter body AISI303, mesh AISI316L, grade 18 µm
Mechanical connections	ISO G½", NPT ½", UNF 3/4"- 16"
Housing classification	IP66
Storage temperature range	-40 ... +80 °C (-40 ... +176 °F)
Weight (ISO G½")	190 g (6.70 oz)

Complies with EMC standard EN61326-1, Electrical equipment for measurement control and laboratory use - EMC requirements; Industrial environment

Accessories

Connection cable for MI70 hand-held indicator	219980
USB cable for pc connection	219690
Sampling cells (available for ISO G½")	
basic sampling cell	DMT242SC
with Swagelok 1/4" male connectors	DMT242SC2
with a quick connector and leak screw	DSC74
two-pressure sampling cell	DSC74B
NW40 flange	225220SP



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