



DMT143L Dewpoint Transmitter

for OEM Applications (DMT242 replacement)



Features

- Ideal choice for industrial dryer applications
- Incorporates advanced Vaisala DRYCAP® Sensor and enhanced auto-calibration software
- Long-term stability in low dew points
- Fast response time
- Two sensor options cover dew point measurement range of -60 ... +60 °C (-76 ... +140 °F) with an accuracy of ± 2 °C (± 3.6 °F)
- Withstands condensation
- Traceable calibration (certificate included)
- Compatible with Vaisala DRYCAP® Hand-Held Dewpoint Meter DM70

Due to its wide measurement range and high long-term stability, DMT143L is an ideal choice for low dew point industrial applications such as compressed air dryers, plastic dryers, and other OEM applications.

Vaisala DRYCAP®

Vaisala DRYCAP® Dewpoint Transmitter DMT143L provides reliable and stable measurements for industrial dryer applications. It is designed for extreme conditions.

DMT143L incorporates Vaisala DRYCAP® thin film polymer sensor and auto-calibration software. The standard sensor choice for dry gases and desiccant dryers is DRYCAP® 180M and for more humid applications such as refrigeration dryers, a DRYCAP® 180S sensor. Both sensors are immune to particulate contamination, water condensation, oil vapor, and most chemicals.

Because the sensor withstands condensation, its performance is suitable for low dew point applications that experience process water spikes, such as pipeline condensation during a system failure or start-up.

The auto-calibration software works on-line while the process is running. If the measurement accuracy is not confirmed, corrections are made automatically. DMT143L adjusts the measurement, corrects dry-end drifts and continues to function. Calibration occurs quickly, and with corrections so minor, it will go unnoticed.

Compact, Rugged and Intelligent

Due to its compact size, DMT143L is quickly and easily installed in tight spaces.

Users can perform a field-check by using Vaisala DRYCAP® Hand-Held Dewpoint Meter DM70. The transmitter can be sent to Vaisala Service for traceable calibration. The recommended calibration interval is every two years.

Technical Data

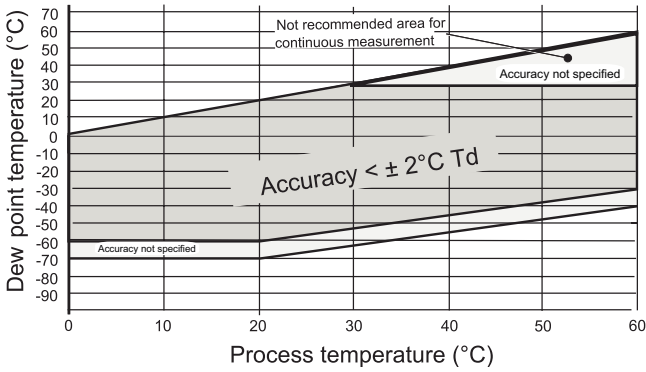
Dew Point Temperature

Measurement range (typical) -60 ... +60 °C (-76 ... +140 °F)

Different analog output scalings available.¹⁾

Accuracy with DRYCAP® 180M ±2 °C (±3.6 °F) (see graph below)

¹⁾ When the dew point is below 0 °C (32 °F), the transmitter outputs frost point.



Dew Point Accuracy vs. Measurement Conditions

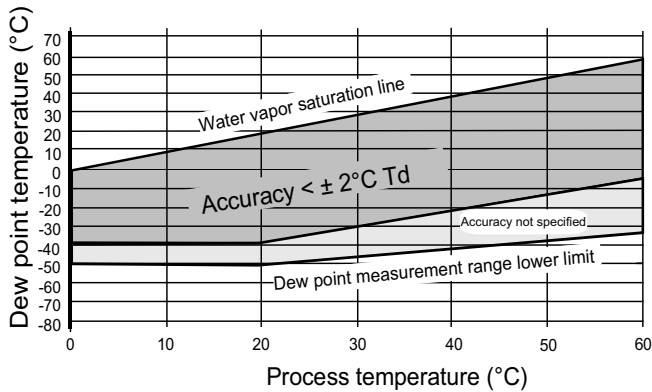
Response time 63 % [90 %] at +20 °C (+68 °F) gas temperature

Flow rate > 1 l/min and 1 bar pressure:

-60 → -20 °C T_d (-76 → -4 °F T_d) 5 s [10 s]

-20 → -60 °C T_d (-4 → -76 °F T_d) 45 s [10 min]

Accuracy with DRYCAP® 180S ±2 °C (±3.6 °F) (see graph below)



Operating Environment

Temperature 0 ... +60 °C (+32 ... +140 °F)

Higher temperature peaks Short-term OK

Relative humidity 0 ... 100 %RH

Pressure 0 ... 20 bara (0 ... 290 psia)

Sample flow rate No effect

Storage temperature -40 ... +60 °C (-40 ... +140 °F)

Inputs and Outputs

Analog output 4 ... 20 mA

Resolution for analog output ±0.002 mA

Accuracy for analog output at +20 °C +/- 0.05 mA

External load for analog output Max. 500 Ω

Typical temperature dependence 0.0008 mA/°C

Serial line for service use RS-485

Operating voltage 18 ... 28 VDC

Power consumption at 24 VDC Max. 220 mA

Mechanical Specifications

Probe material (wetted parts) Stainless steel (AISI 316L)

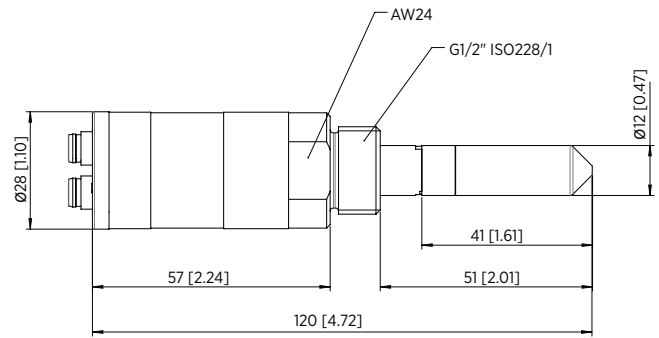
Sensor DRYCAP® 180M

Optimal sensor for refrigeration dryers DRYCAP® 180S

Sensor protection Stainless steel sintered filter (HM47280)

Electronics housing material Stainless steel

Mechanical connection G¹/₂ in ISO228-1 thread with bonded seal ring (U-seal)



Dimensions in mm (inches)

Compliance

IP rating IP66

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



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