VAISALA

# DMT143L Dewpoint Transmitter for OEM Applications (DMT242 replacement)


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

## Features/Benefits

- 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 from -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

## Vaisala DRYCAP®

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

DMT143L incorporates the 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 the 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. The 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

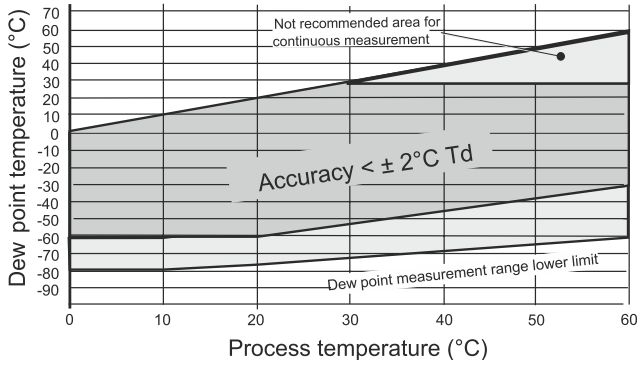
Due to its compact size, DMT143L is quickly and easily installed in tight spaces.

Users can perform a field-check by using the 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

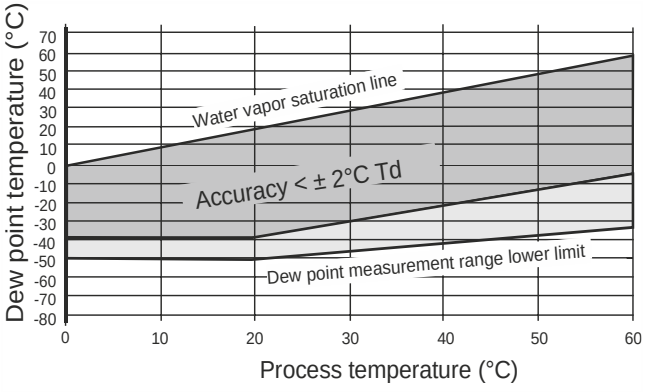
## Dew Point Temperature

| | |
|---|---|
| Measurement range (typical) | -60 ... +60 °C (-76 ... +140 °F) |
| Different analog output scalings available (when the dew point is below 0 °C (32 °F), the transmitter outputs frost point) | |
| Accuracy with DRYCAP® 180M | ±2 °C (±3.6 °F) (see graph below) |




DEW POINT ACCURACY VS. MEASUREMENT CONDITIONS

| | |
|---|---|
| Response time 63 % [90 %] at +20 °C gas temperature | |
| Flow rate >1 l/min and 1 bar pressure | |
| -60 -> -20 °C Td (-76 -> -4 °F Td) | 5 s [10 s] |
| -20 -> -60 °C Td (-4 -> -76 °F Td) | 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 |

## Output

| | |
|---|---|
| Analog output | 4 ...20 mA |
| Resolution for analog output | ±0.002 mA |
| Typical temperature dependence | 0.0008 mA/ °C |
| Serial line for service use | RS485 |

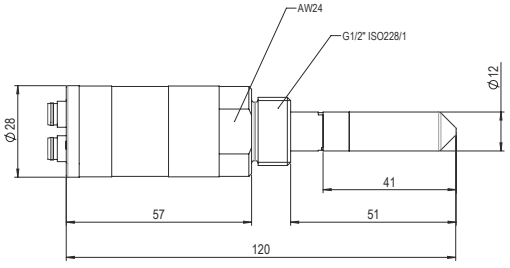
## General

| | |
|---|---|
| Sensor | DRYCAP® 180M |
| Optimal sensor for refrigeration dryers | DRYCAP® 180S |
| Operating voltage | 18 - 28 VDC |
| Power consumption at 24 VDC | max. 220 mA |
| External load for analog output | max. 500 Ω |
| Probe material (wetted parts) | stainless steel (AISI 316L) |
| Sensor protection | stainless steel sintered filter (HM47280) |
| Mechanical connection | G½" ISO228-1 thread with bonded seal ring (U-seal) |
| Electronics housing material | stainless steel |
| Housing classification | IP66 |
| Storage temperature range | -40 ... +60 °C, (-40 ... +140 °F) |

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

## Dimensions

Dimensions in mm (inches)

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