DMT143 Dew Point Transmitter
For OEM applications

Due to its wide measurement range and excellent long-term stability, Vaisala DRYCAP® Dew Point Transmitter DMT143 is an ideal choice for small compressed air dryers, plastic dryers, and other OEM applications.

Vaisala DRYCAP® technology
Vaisala DRYCAP® Dew Point Transmitter DMT143 is a miniature dew point measurement instrument. The transmitter can be installed directly into pressurized systems at 50 bar (725 psia) maximum pressure. The long-term high performance is achieved with Vaisala DRYCAP® technology. The sensor fully withstands getting wet, and therefore, the transmitter performs exceptionally well in applications that occasionally experience process water spikes, such as pipeline condensation during a system failure or start-up. The sensor is also highly resistant to particulate contamination, oil vapor, and most chemicals, and is insensitive to the flow rate.

Long calibration interval
The calibration interval of DMT143 is 2 years. Additionally, Vaisala DRYCAP® Handheld Dew Point Meter DM70 can be used to confirm the performance of DMT143 without disconnecting the transmitter. For any adjustment needs, the transmitter can be sent to Vaisala Service.

The unique autocalibration function, developed by Vaisala, detects possible measurement inaccuracies and automatically corrects dry-end drift in the calibration curve. This ensures accurate measurements and long calibration intervals.

Easy installation
DMT143 has a variety of features to choose from, including different output and installation options, and alarm LED.

Due to its small size and light weight, DMT143 is quickly and easily installed in tight spaces or in small-size pipelines. The alarm LED indicates too high dew point in the process. The trigger point is preset at the factory. It can be later adjusted with Vaisala DRYCAP® Handheld Dew Point Meter DM70, or the convenient Vaisala Insight PC software for Windows®. Insight PC software can also be used for other configuration options (see www.vaisala.com/insight).

Features
• Vaisala DRYCAP® technology with a unique autocalibration function
• Calibration interval of 2 years
• Dew point measurement range −70 ... +60 °C (−94 ... +140 °F)
• Accuracy ±2 °C (±3.6 °F)
• Withstands condensation
• Compatible with Vaisala DRYCAP® Handheld Dew Point Meter DM70
• Compatible with Vaisala Insight PC software
• Traceable calibration
• Voltage (V) or current (mA) analog output
• RS-485 digital output with Modbus® RTU support
• LED alarm for exceeded dew point level
• Fast response time
**Measurement performance**

- **Sensor**: DRYCAP® 180D
- **Sensor protection**: Stainless steel sintered filter
- **Recommended calibration interval to confirm the specified accuracy**: 2 years

**Dew point temperature**

- **Measurement range (typical)**: −70 ... +60 °C (−94 ... +140 °F) $T_d$
- **Accuracy in air or N₂**: ±2 °C (±3.6 °F) $T_d$ (see graph below)

* > 12 bar, accuracy ±4 °C $T_d$

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**Inputs and outputs**

- **Analog output (scalable)**: 4 ... 20 mA (3-wire), 0 ... 1 V, 1 ... 5 V
- **Resolution for current output**: 0.002 mA
- **Resolution for voltage output**: 0.3 mV
- **Accuracy for current output at +20 °C**: ±0.05 mA
- **Accuracy for voltage output at +20 °C**: ±0.01 V
- **Operating voltage with digital output**: 12 ... 28 VDC
- **Operating voltage with voltage output**: 12 ... 28 VDC
- **Operating voltage with current output**: 18 ... 28 VDC
- **Load for current output**: Max. 500 Ω
- **Load for voltage output**: Min. 10 kΩ
- **Typical temperature dependence**: 0.005 % of span/°C
- **Digital output**: RS-485, non-isolated
- **Supported protocols**: Vaisala industrial protocol, Modbus RTU
- **Supply current at +20 °C ($U_m$ 24 VDC)**
  - Normal measurement: 10 mA + load current (typical)
  - During self-diagnostics: 220 mA pulsed (typical)

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**Mechanical specifications**

- **Mechanical connection**: ISO 228-1 G1/2", 1/2" NPT, 3/4"-16 UNF, 5/8"-18 UNF
- **Housing material**: Stainless steel (AISI316L)
- **Weight**:
  - G thread and UNF thread versions: 90 g (3.2 oz)
  - NPT thread version: 100 g (3.5 oz)

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**Compliance**

- **IP rating**: IP66
- **EMC compliance**: EN 61326-1, industrial electromagnetic environment

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**Spare parts and accessories**

- **Connection cable for DM70**: 219980SP
- **USB cable for PC connection**: 219690
- **Loop powered external display**: 226476
- **Loop powered external display with relays**: 234759

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**Sampling cells**

- **Basic sampling cell**: DMT242SC
- **With Swagelok 1/4" male connectors**: DMT242SC2
- **With quick connector and leak screw**: DSC74SP
- **Two-pressure sampling cell**: DSC748SP
- **Cooling/venting coil**: DMC01SP

See the DSS70A product page at www.vaisala.com for further information about the sampling cells available for DM70.

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1) Vaisala Insight software for Windows is available at www.vaisala.com/insight.
DMT143 with ISO 228-1 G1/2" thread

DMT143 with 1/2" NPT thread

DMT143 with 3/4"-16 UNF thread

DMT143 with 5/8"-18 UNF thread