VAISALA www.vaisala.com

DM70 Handheld Dewpoint Meter for Spot-Checking Applications

The Vaisala DRYCAP® Handheld Dewpoint Meter DM70 offers accurate and fast measurement for industrial dew point applications, such as compressed air, metal treatment and plastics drying.

Features/Benefits

- Designed for industrial spot-checking and field calibration
- Three models: accurate measurement ranges from -60 to +60 °C (-76 ... +140 °F)
- Vaisala DRYCAP® Sensor with unique autocalibration function
- Low maintenance need due to superior long-term stability
- Sensor withstands condensation
- Fast response, enhanced by Sensor Purge option
- Intuitive user interface
- Data can be logged and transferred to a PC via MI70 Link software
- Compact, small and light
- NIST traceable calibration (certificate included)

The Vaisala DRYCAP® Handheld Dewpoint Meter DM70 measures dew point temperature accurately over a wide measurement range. The probe may be inserted directly into pressurized processes, and it responds rapidly from ambient to process conditions. The sensor withstands condensation and fully recovers from getting wet. The DM70 meter is suitable for direct process dew point measurement in a wide temperature and pressure range. For more demanding applications, the DM70 can be used with the Vaisala sampling cell adapters, or with the Vaisala DRYCAP® Sampling System DSS70A.

Vaisala DRYCAP® Technology

The DM70 is fitted with the Vaisala DRYCAP® Sensor. The sensor provides reliable, stable and high-performance dew point measurement. Autocalibration detects on-line possible measurement inaccuracies and automatically corrects dry-end drift in the calibration curve.

Three Probes to Choose From

Three probe models, all with auto-calibration, are available. The A and B models are both general purpose probes. The C model is specifically developed for SF_6 gas. The B and C probe models have an additional Sensor Purge feature that heats and dries the sensor, making the response from ambient to dry conditions exceptionally fast.

Intuitive User Interface

The DM70 has a versatile and easy-to-use, menu-based user interface, a clear graphical LCD display, and data-logging capability. It can also be used as a tool for reading the output of fixed Vaisala dew point transmitters, like the DMT242, DMT132, DMT143, DMT152 and DMT340.

The DM70 displays one to three parameters at a time, either numerically or graphically. Several humidity units can be selected. In addition, the DM70 includes conversion from gas pressure dew point to ambient pressure dew point. An analog output is also available.

MI70 Link

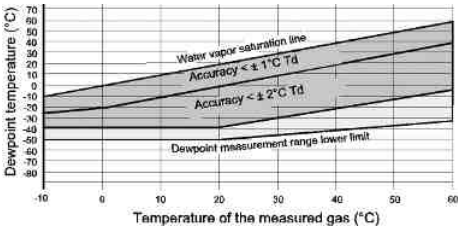
The optional MI70 Link Windows® software and the USB connection cable form a practical tool for transferring logged data and real time measurement data from the DM70 to a PC.

Technical Data

Measured Variables, DMP74A Probe

DEW POINT

Measurement range (typical)	-50 ... +60 °C (-58 ... +140 °F)
Accuracy (A probe) -40...+60 °C	±2 °C (±3.6 °F) (see graph)



Dew point accuracy vs. measurement conditions

Response time

flow rate 0.2 m/s, 1 bar pressure, +20 °C (+68 °F)	63% [90%]
0 -> -40 °C T_d (32 -> -40 °F T_d)	20 s [120 s]
-40 -> 0 °C T_d (-40 -> 32 °F T_d)	10 s [20 s]
Dew point sensor	Vaisala DRYCAP® 180S

TEMPERATURE

Measurement range	-10 ... +60 °C (+14 ... +140 °F)
Accuracy at +20 °C (+68 °F)	±0.2 °C (±0.36 °F)
Typical temperature dependence of electronics	±0.005 °C/°C (±0.005 °F/°F)
Temperature sensor	Pt100 RTD Class F0.1 IEC 60751

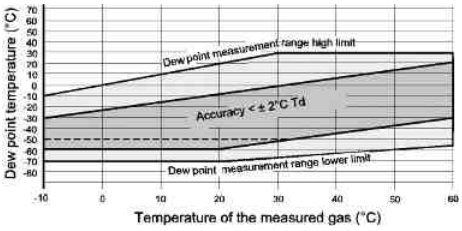
OTHER VARIABLES AVAILABLE

Dew point converted to atmospheric pressure, ppm volume and ppm weight concentration, absolute humidity, mixing ratio, relative humidity

Measured Variables, DMP74B and DMP74C (for SF6 gas) Probes

DEW POINT

Measurement range (typical)	-70 ... +30 °C (-94 ... +86 °F)
Accuracy (B and C probe) -60...+20 °C	±2 °C (±3.6 °F) (see graph)



Dew point accuracy vs. measurement conditions

Dotted line:
For DMP74C the ±2 °C accuracy range is limited to -50 °C T_d when used in SF6 gas.

Response time

flow rate 0.2 m/s, 1 bar pressure, +20 °C (+68 °F)	63% [90%]
0 -> -60 °C T_d (32 -> -76 °F T_d)	50 s [340 s]
-60 -> 0 °C T_d (-76 -> 32 °F T_d)	10 s [20 s]
Dew point sensor	Vaisala DRYCAP® 180M

TEMPERATURE

Measurement range	-10 ... +60 °C (+14 ... +140 °F)
Accuracy at +20 °C (+68 °F)	±0.2 °C (±0.36 °F)
Typical temperature dependence of electronics	±0.005 °C/°C (±0.005 °F/°F)
Temperature sensor	Pt100 RTD Class F0.1 IEC 60751

OTHER VARIABLES AVAILABLE

Dew point converted to atmospheric pressure, ppm volume and ppm weight concentration

All Probe Models

Operating temperature	-10 ... +60 °C (+14 ... +140 °F)
Operating pressure	
DMP74A, DMP74B	0 ... 20 bara (0 ... 290 psia)
DMP74C	0 ... 10 bara (0 ... 150 psia)
Sample flow rate	no effect for measurement accuracy
Measured gases	non-corrosive gases
Probe material (wetted parts)	Stainless steel (AISI 316L)
Sensor protection	Sintered filter (AISI 316L) partno: HM47280
Mechanical connection	G1/2" ISO228-1 thread with bonded seal ring (U-seal)
Housing classification	IP65 (NEMA 4)
Weight	350 g

MI70 Measurement Indicator General

Menu languages	English, Chinese, Spanish, Russian, French, Japanese, German, Swedish, Finnish,
Display	LCD with backlight Graphic trend display of any parameter Character height up to 16 mm
Max. no of probes	2
Power supply	Rechargeable NiMH battery pack with AC-adapter or 4xAA size alkalines, type IEC LR6
Analog output	0...1 VDC
Output resolution	0.6 mV
PC interface	MI70 Link software with USB or serial port cable
Data logging capacity	2700 points
Alarm	Audible alarm function
Operating temperature range	-10...+40 °C (+14…+104 °F)
Storage temperature range	-40 ... +70 °C (-40 ... +158 °F)
Operating humidity range	0 ... 100 % RH, non-condensing
Housing classification	IP54
Housing materials	ABS/PC blend
Weight	400 g
Battery operation time with DMP74 probe	
continuous use	48 h typical at +20 °C (+68 °F)
data logging use	up to a month, depending on logging interval
Electromagnetic compatibility	EN 61326-1, Generic Environment

Technical Data

Accessories

Connection cables for fixed Vaisala dew point transmitters	
for DMT242 transmitter	27160ZZ
for DMT340 series	211339
for DMT152, DMT143, and DMT132 transmitters	219980
for DMT142 transmitter	211917ZZ
Weatherproof Carrying Case	MI70CASE3
Soft Carrying Case	MI70SOFTCASE
MI70 Link software with USB cable	219687
MI70 Link software with serial port cable	MI70LINK
Analog output cable	27168ZZ
10 m (32.81 ft) extension cable for probe	213107SP
Portable Sampling System (see separate data sheet)	DSS70A

Dimensions

Dimensions in mm (inches)

VAISALA

Please contact us at
www.vaisala.com/requestinfo

www.vaisala.com

Scan the code for more information

CE