Dew Point Sensor – Q Series

For desiccant dryers with dew point between -100°C to -20°C

Features:

- Next generation advanced quartz technology for extremely dry dew point conditions

- Dew Point Range: 110°C to +0°C (-166°F to +32°F)

- Accuracy +/- 2°C

- Gas systems up to 4 Mpa (600psi)

- Up to four output signals
  (i) Pressure Dew Point
  (ii) Relative Humidity
  (iii) Temperature and
  (iv) Pressure (with optional integrated pressure sensor)

- Two outputs as standard
  (i) Digital - Modbus and
  (ii) Analog - 4-20mA

- Fast response time

- Includes Measuring Chamber and M12 connector

- IP65 rated

- Options
  (i) integrated pressure sensor
  (ii) 5m Cable
  (iii) Multiple Gas options
  (iv) In-Built Display

- Alarm relay – only available on the 'Dew Point Sensor with Display'

Standard Dew Point Sensor

Dew Point Sensor with Display

The most advanced quartz technology dew point sensor available. Ideal for compressed air and inert gas systems up to 4 Mpa (600psi) with desiccant dryers or extremely dry conditions and down to -100°C PDP (-148°F).

Newly developed moisture sensitive materials provide superior signal sensitivity under ultra-low humidity conditions, and provide long term stability. The innovative temperature compensation algorithm and multi-point temperature compensation calibration greatly improves the sensor's temperature drift and ensures high-precision measurements over a wide temperature range. Sensor calibration can be performed every 2 years[1].

[1]Provided sensor not exposed to relative humidity above 85%

More information: www.compressedairalliance.com/products

Benefits of dew point monitoring:

- Improve system reliability
- Reduce product contamination risks
- Reduce system maintenance
- Reduce operating and energy costs
- Improve dryer reliability
- Improve filter life and performance

- Reduce risk of rust and corrosion build up
- Reduce risk of bacteria, fungus and yeast build up
- Be aware of changes in dryer performance before moisture appears in your plant

Specifications

Sensor	
Sensor Technology	Quartz (QCM) sensor
Sensor Filter	Stainless steel mesh filter (filter grade 70 um)
Contact us for other filter options	

Measurement Range	
Pressure Dew Point Range	110°C to +0°C -166°F to +32°F
Gas Temperature Measurement Range	-40 to +100 °C -40 to +212°F
Pressure Measurement Range	
• with pressure sensor	0 to 17 bar
• without pressure sensor	0 to 50 bar

Accuracy	
Dew Point Accuracy	
• 0 to -80°C	±2%
• -80 to -110°C	±3%
Temperature Accuracy	
• 0 to + 50°C	±0.3°C
• -40 to 0°C and +50 to +100°C	±0.5°C
Pressure Accuracy (@23°C)	±0.3% F.S
Pressure changes with temperature	±0.01 bar / 10°C

Dew Point Measurement Response Time	
-80 to -30 °Ctd	20 sec [40 sec]
-30 to -70 °Ctd	5 min [20 min]
Reference Conditions: 63% [90%], 20 °C, 1bar(a), 4L/min	

Working Environment	
Operating Temperature	-20 to +70°C -4 to +158°F
Relative Humidity	0 to 95% RH
Minimum gas flow	> 1L /min

Output	
Outputs	4-20 mA (3 wire) Modbus RTU (RS485)
Current Output Resolution	0.002 mA
Current Output Temperature Drift	0.01% of span/°C
Current Output Load	Max 500 ohm
Alarm Relay Output	
• Standard Dew Point Sensor	Not available
• Sensor with Display	Normally open 32 VDC/500 mA
Connector	
• Standard Dew Point Sensor	1 x 5 pin M12, female
• Sensor with Display	2 x 5 pin M12, female

Power Supply	
Power Requirement	10 ... 30 VDC
• Standard Dew Point Sensor	Max 50 mA @ 24 V
• Sensor with Display	16 ... 30 VDC Max 150 mA @ 24 V
Electromagnetic Compatibility	Meets IEC 61326-1

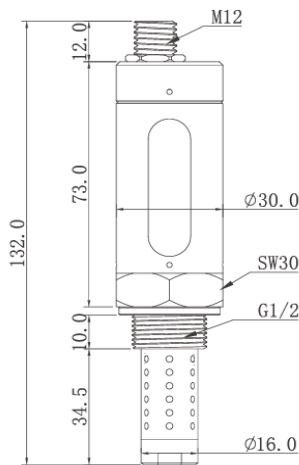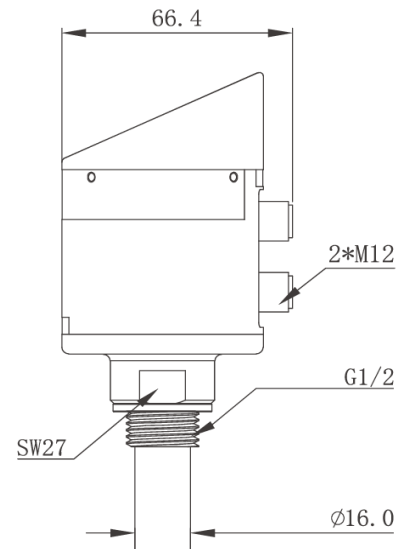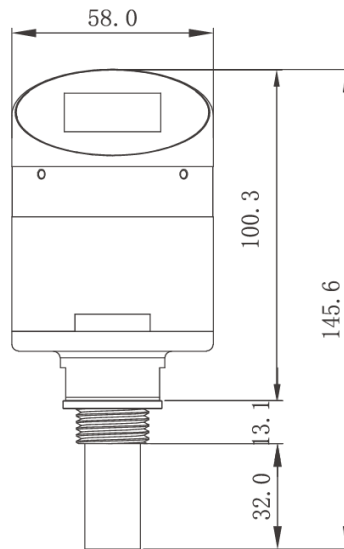| Other	
Process Connection	G1/2" thread
Contact us for UNF process connection	
IP Rating	IP65
Casing	
• Standard Dew Point Sensor	Stainless Steel
• Sensor with Display	Anodised Aluminium
Display	
• Standard Dew Point Sensor	NA
• Sensor with Display	1.5" touch screen

Dimensions (mm)

Standard Dew Point

Dew Point Sensor with Display

How to Order

Buy online: www.compressedairalliance.com/products

Integrated Pressure Sensor
0 - No
1 - Yes

Connector & Cable
1 – M12 Connector Only
2 – M12 with 5M Cable

Gas Type
1 – Air
2 – Oxygen
3 – Nitrogen
4 – Hydrogen
5 – Carbon Monoxide
6 – Carbon Dioxide
7 – Argon
8 – Helium

| D | E | Q | 1 | 2 | 0 | 0 | 0 | 2 |

Product Prefix
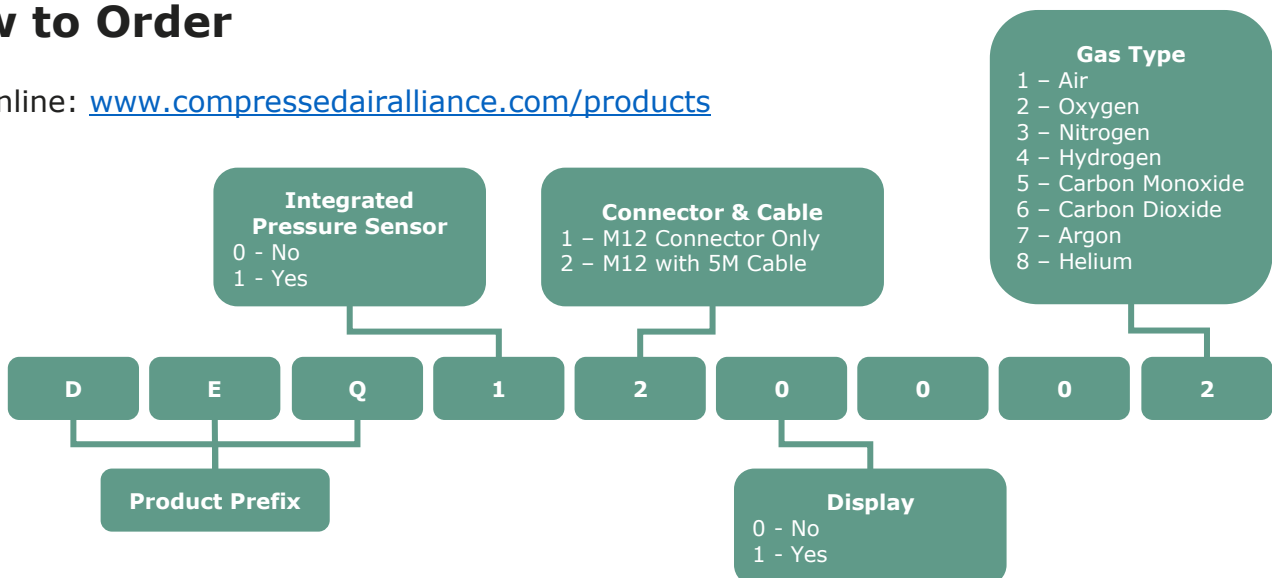
Display
0 - No
1 - Yes

Other Dew Point Sensors

W Series Dew Point Sensor

Wall mount dew point monitor. Ideal for applications that require a large display or visual alarm

Pressure Dew Point Range
-110°C to +60ºC (-166°F to +140°F)

Gas Contamination
Minimal to moderate contamination

Outputs
None. Stand alone unit

Technology
Quartz, Alumina-Oxide or Polymer sensor (depending on dew point range)

Options
Integrated pressure sensor

Power Plug (USA, Euro, UK or Australian plug)

A Series Dew Point Sensor

Mid-range sensor

Pressure Dew Point Range
-100°C to +20°C (-148 °F to +68°F)

Gas Contamination
Minimal contamination

Outputs
Modbus & 4-20mA

Technology
Alumina-Oxide sensor

Options
Integrated pressure sensor, in-built display, data cable

K Series Dew Point Sensor

Robust sensor, suitable for harsh conditions

Pressure Dew Point Range
-60°C to +60°C (-76°F to +140°F)

Gas Contamination
Moderate levels of contamination

Outputs
Modbus & 4-20mA

Technology
Polymer sensor

Options
Integrated pressure sensor, in-built display, data cable

Mini Dew Point Sensor

Entry level sensor. Compact design and can be used in small spaces

Pressure Dew Point Range
-60°C to +60°C (-76°F to +140°F)

Gas Contamination
Moderate levels of contamination

Outputs
Modbus & 4-20mA

Technology
Polymer sensor

Options
Stainless Steel or Aluminium casing
Note: No integrated pressure or in-built display option available

P Series Dew Point Meter

Portable dew point meter. Ideal for temporary measurement

Pressure Dew Point Range
-110°C to +60ºC (-166°F to +140°F)

Gas Contamination
Minimal to moderate contamination

Outputs
None. Stand alone unit

Technology
Quartz, Alumina-Oxide or Polymer sensor (depending on dew point range)

Options
Integrated pressure sensor

Power Plug (USA, Euro, UK or Australian plug)