User Manual

Dew Point Sensor - A Series

Model: DEA

Table of Contents

Notices

Please **read all of this manual** before you install, operate or maintain this product. Pay attention to notes, warnings and instructions. The manufacturer cannot be held liable for any damage which occurs as a result of noncompliance with this manual.

Do not tamper with device. Should the device be tampered with in any manner other than a procedure which is described and specified in this manual, the warranty is cancelled and the manufacturer is exempt from liability.

The product is designed exclusively for the described application. Use of this product in conditions not specified in this manual or, contrary to the instructions provided by the manufacturer, is considered improper handling of the product and will void your warranty. The manufacturer will not be held liable for any damages resulting from improper use of the product.

This manual should be read carefully by relevant personnel and the end user. This manual should be kept with the product and be made available as needed. **Once you install or use the product, you accept that you have read, understood and complied with this manual**.

Compressed Air Alliance endeavours to make the content of this manual correct, but is not responsible for omissions or errors and the consequences caused. In case of any doubts or questions regarding this manual or the product, please contact Compressed Air Alliance.

Warnings

Ignoring the warnings can lead to serious injury and/or cause damage!

When handling, operating or carrying out maintenance on this product, personnel must employ safe working practices and observe all local health & safety requirements and regulations.

Improper operation or maintenance of this product could be dangerous and result in an accident causing damage to machinery or injury or death.

The manufacturer cannot anticipate every possible circumstance which may represent a potential hazard. The warnings in this manual cover the most common potential hazards and are therefore not all-inclusive. If the user employs an operating procedure, an item of equipment or a method of working which is not specifically recommended by the manufacturer they must ensure that the product will not be damaged or made unsafe and that there is no risk to persons or property.

NEVER CHANGE ORIGINAL COMPONENTS WITH ALTERNATIVES.

Compressed Air Safety

Any contact with quickly escaping air or bursting parts of the compressed air system can lead to serious injuries or even death.

- Do not exceed the maximum permitted pressure.
- Only use pressure rated installation materials and parts.
- Avoid getting hit by escaping air or bursting parts.
- The system must be pressure-less during maintenance work.

Electrical Safety

Any contact with energised parts of the product, may lead to an electrical shock which can lead to serious injuries or even death. The user shall take all measures necessary to protect against electrical shock.

Consider all regulations for electrical installations.

The system must be disconnected from any power supply during maintenance work.

Any electrical work on the system is only allowed by authorised qualified personal.

Storage and transportation

- Please make sure that the storage and transportation temperature of the sensor is between -40°C to +80°C (-40°F to +176°F) and the humidity is <90%, no condensation.
- Avoid direct UV and solar radiation during storage.

Cleaning

If you need to clean the sensor it is recommended to use a clean, dry cloth. For stubborn marks, use distilled water or isopropyl alcohol only.

Please note: contamination on the sensor tip will affect calibration and accuracy of the sensor. Removal of the contamination may not fix the issue.

Disposal

Electronic devices are recyclable material and do not belong in the household waste. The product, accessories and its packing material must be disposed according to local statutory requirements.

Introduction

About Dew Point Sensors

Intended use

Compressed Air Alliance's dew point sensors are suitable for use in manufacturing, industrial and base building environments providing the sensor's specifications are met. This includes:

- Sensor is used in inert gases, eg air, oxygen, nitrogen, carbon dioxide
- Pressure dew point is between: -80°C to +20°C (-112°F to + 68°F) or -110°C to +20°C (-166°F to 140°F) depending on the sensor
- Gas pressure is between:
  - 0 to 50 bar (725 psi) if the sensor doesn't have integrated pressure
  - 0 to 17 bar (247 psi) if the sensor does have integrated pressure
- Gas temperature is between: -40°C to +100°C (-40°F to +212°F)
- Power supply is between: 10 to 30 vDC
- The dew point is **not** used in explosive areas.

Refer to the *Specifications* section (next page) for full requirements.

Our dew point sensors measure pressure dew point, gas temperature, relative humidity and pressure (optional).

About dew point sensors

Dew Point Sensors are the simplest way to monitor dryer performance and detect moisture issues before they can cause a problem.

Moisture in the gas systems can clog pipes, break machinery, cause contamination (eg rust, mildew, bacteria) or cause freezing.

Dew point sensors are cheap, easy to install and have low maintenance requirements.

Benefits of monitoring dew point

- Improve system reliability
- Reduce product contamination risks
- Reduce system maintenance
- Reduce operating and energy costs
- Reduce the risk of rust and corrosion build up
- Improve dryer reliability
- Improve filter life and performance
- Reduce the risk of bacteria, fungus and yeast build up
- Alerts you to changes in dryer performance before moisture appears in your plant
- Easy to install and low maintenance
- Suitable for temporary or permanent installations.

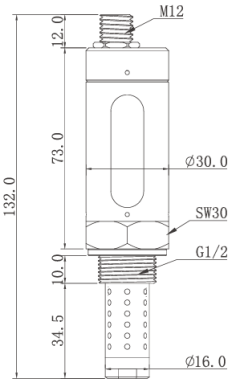
Specifications – A Series

	A Series - Standard 	A Series - with Display 
Technology	Alumina-Oxide	
System	Compressed air and gas systems up to 4 Mpa (600psi)	
Dryer Type	Refrigerant, Desiccant, Drum or Membrane dryers	
Gases	Air, Argon, Carbon Dioxide, Carbon Monoxide, Helium, Hydrogen, Nitrogen, Oxygen	
Accuracy	Dew Point (+20 to -80°C): ±2°C Dew Point (-80 to -110°C): ±3°C Temperature: ±0.5°C Pressure: ±0.3% FS (at 23°C) *Contaminants such as oil, high humidity or other impurities can affect the calibration and accuracy of the sensor.*	
Minimum gas flow	> 1 L/min	
	Measurement Ranges	
Dew Point Measurement	-80°C to +20°C | -112°F to 68°F OR -110°C to +20°C | -166°F to +68°F	
Pressure Measurement	0 to 50 bar (725 psi) **or** 0 to 17 bar (247 psi) if using the integrated pressure sensor	
Gas Temp Measurement	-40°C to +100°C | -40°F to +212°F	
	Outputs	
Output	Analogue: 4 to 20mA (3 wire) Digital: RS485 Modbus / RTU	
Modbus Output Signals	Pressure Dew Point (PDP), Relative Humidity (RH), Temperature (°C or °F) **Optional** pressure	
Analogue Output Signals	Pressure Dew Point (PDP) only	

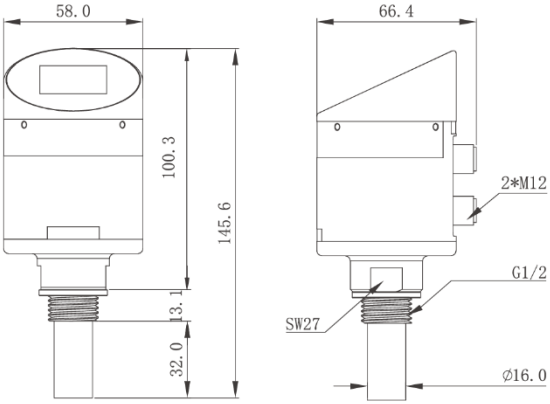
	A Series - Standard	A Series - with Display
		
Relay output	NA	Normally open 32vDC / 500 mA
	Power	
Power Supply	10 to 30 VDC Max 50 mA @ 24 V + 4-20mA Current output	16 to 30 VDC Max 150 mA @ 24 V + 4-20mA Current output
4-20 mA Current Output • Resolution • Temperature Drift • Load	• 0.002 mA • 0.01% of span/°C • Max 500 ohm	
Electrical Connection	1 x 5 pin M12, female	2 x 5 pin M12, female
EMC	Meets IEC 61326-1	
	Other Information	
Inbuilt Display	NA	1.5" LCD Touch screen
Process Connection	G1/2" thread (Contact us for UNF process connection)	
Measurement Chamber	1/2" Quick coupling (Nitto type) with Adjustable Bleed Screw	
Ambient Temperature	-30°C to +70°C | -22°F to +158°F	
Gas Relative Humidity	0 to 95% RH	
Dimensions	135 mm L x 35 mm W 5.3" L x 1.4" W	148 mm L x 67 mm W 5.8" L x 2.6" W
Casing	Stainless Steel	Anodised Aluminium
IP Rating	IP65	
Installation Type	Permanent or temporary installation	
Calibration Frequency	Every 2 years *provided the sensor is not exposed to relative humidity above 85%*	

Dew Point Sensor Dimensions (mm)

Standard Dew Point Sensor



Dew Point Sensor with Display



Protective Cap / Transport Cap

The dew point sensor comes with a protective cap / transport cap. This cap is designed to protect the sensor during transport and storage. Please remove this cap before installing the sensor.

Protective cap still on sensor

Protective cap removed

Protective cap still on sensor

Protective cap removed

Pressure Dew Point or Atmospheric Dew Point

It is important to know if you are measuring Pressure Dew Point (PDP) or Atmospheric Dew Point as they will give different results. This is because dew point is affected by pressure. For a given relative humidity, the higher the gas pressure, the higher the dew point due to the increased volume ratio of gas to moisture. Decreasing gas pressure increases the gas volume thereby reducing the dew point.

Pressure Dew Point (PDP) is the dew point inside the pipe where the gas is under pressure (ie the pressure is higher than atmospheric pressure).

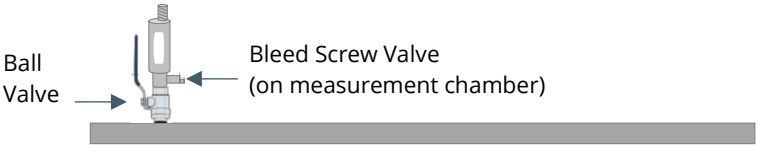
Atmospheric Dew Point is the dew point in non-pressured gases, ie the dew point of ambient conditions.

Atmospheric Dew Point

Sensor is measuring dew point in ambient conditions, ie the sensor is outside the pipe

Pressure Dew Point

Sensor is measuring dew point inside the pipe



If the dew point sensor is installed in the pipe and you want to measure:

- Pressure Dew Point – open the ball valve and open the bleed screw slightly. This will draw gas up to the sensor tip whilst maintaining the pipe pressure.
- Atmospheric Dew Point – Install a flow control valve on the inlet side of the chamber and open slightly. Open the bleed screw fully. This will bring the pressure in the measurement chamber to atmospheric pressure.

Dew Point Sensor Pack

Each dew point sensor comes with:

- ✓ Dew Point sensor – either standard A Series sensor **or** A Series with Display
- ✓ Measurement Chamber with mounting bracket
- ✓ Connector – either 5 meter cable with connector **or** connector only (no cable).
- ✓ Calibration certificate

Dew Point Sensor

Standard Dew Point Sensor

OR

Dew Point Sensor with Display

Measurement Chamber and Mounting Bracket

Measurement Chamber **AND**

Mounting bracket

Connector

M12 connector only
(no cable)

OR

5 meter cable with M12 connector

Installation

Installation Overview

Compressed Air Alliance recommends that our dew point sensors are installed via a measurement chamber.

Step 1 – Find a suitable section of pipe

- The sensor must be installed vertically, on dry side of system
- Do **NOT** install the sensor before a dryer or in gases with a relative humidity above 80%
- Do **NOT** install the sensor upside down, horizontally, at an angle or in wet gas

Step 2 – Install connection point in pipe, eg a ball valve, nozzle or nipple

Step 3 – Remove protective cap from sensor

Step 4 – Attach Dew Point Sensor to connection point

Step 5 – Set the gas bleed

Step 6 – Wire the sensor (see '*Installation – Electrical*')

Step 7 – Check the sensor settings

Step 8 (optional) – Connect the sensor to your SCADA or energy management system

Step 9 – Fill out the Commissioning Report (last page of this manual)

Tools and Equipment needed for installation

(not included with Dew Point Sensor Pack)

Wrench / Spanner

Thread Tape / Sealant

Ball Valve (optional)

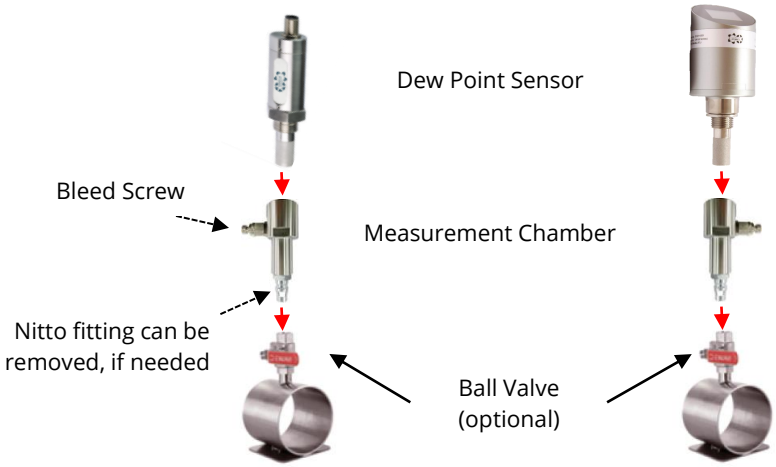
Hot Tap Kit (optional)

Installation – Mechanical

WARNING! Incorrect installation can damage the sensor or cause it to work incorrectly.

Notes

- **Before installing the sensor, make sure it is rated for your system** (refer to the "Specifications" section).
  - Use of the product outside specified ranges or operating parameters can lead to malfunctions and may damage the product or system.
- Do not use this product in explosive areas.
- Always use a spanner / wrench to install the product.
- Only use pressure rated materials and parts when installing and maintaining the product.
- Do not disassemble the product.
- Please follow local and national regulations before/during installation and operation.
- The product must be installed properly and calibrated regularly, otherwise it may lead to inaccurate measurement values.

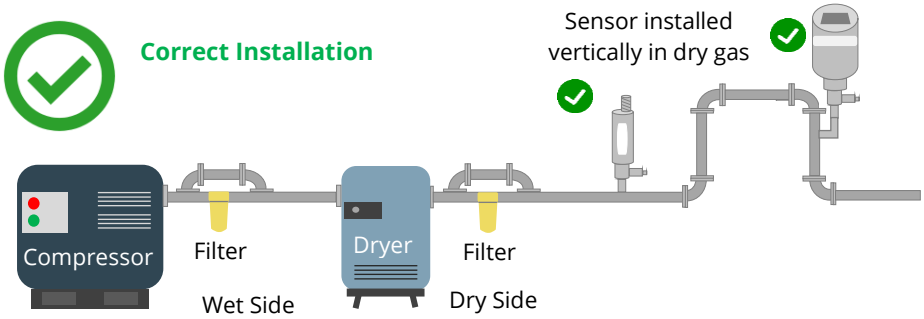


Step 1 – Find a suitable section of pipe

The sensor **must be installed vertically in dry gas** (gas humidity should be less than 80% relative humidity (RH)).

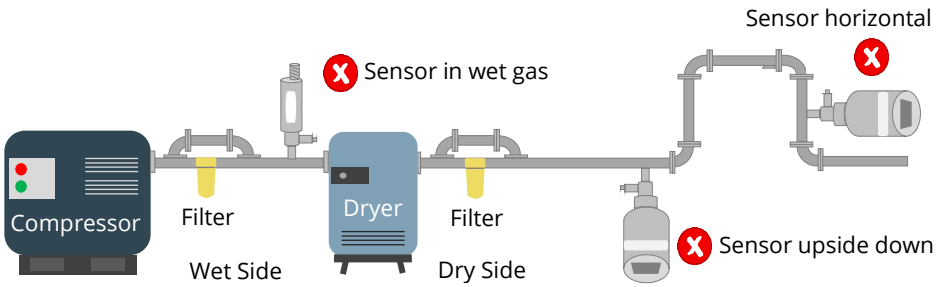
Make sure the sensor location has enough room above the pipe to install the sensor.

If installing the sensor outdoor, protection from sun and rain is necessary.



Incorrect Installation

Do **NOT** install the sensor before a dryer or in gases with a re lative humidity above 80%.
Do **NOT** install the sensor upside down, horizontally or at an angle, as shown below.
Do **NOT** let condensate reach the tip of the sensor

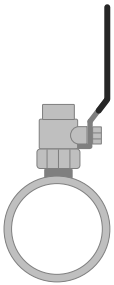


Step 2 – Install connection point in pipe

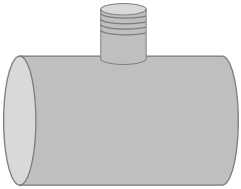
To install the sensor, you need a connection point to the pipe, eg a ball valve or a nozzle or nipple. The thread must be G 1/2".

Use of a ball valve is optional - You do not need to use a valve to install the sensor. However, using a valve will make removing the sensor easier (eg when you need to remove the sensor for calibration).

If installing a ball valve, you can use a hot tap drill and clamp to create a connection point on pressurized or unpressurised pipes. See the Compressed Air Alliance website for information on hot tap drills and clamps.



Ball Valve **OR** Welded nipple on pipe



Step 3 – Remove Protective Cap

Remove (unscrew) the protective cap from the dew point sensor

Protective cap still on sensor

Protective cap removed

Insert sensor into measurement chamber

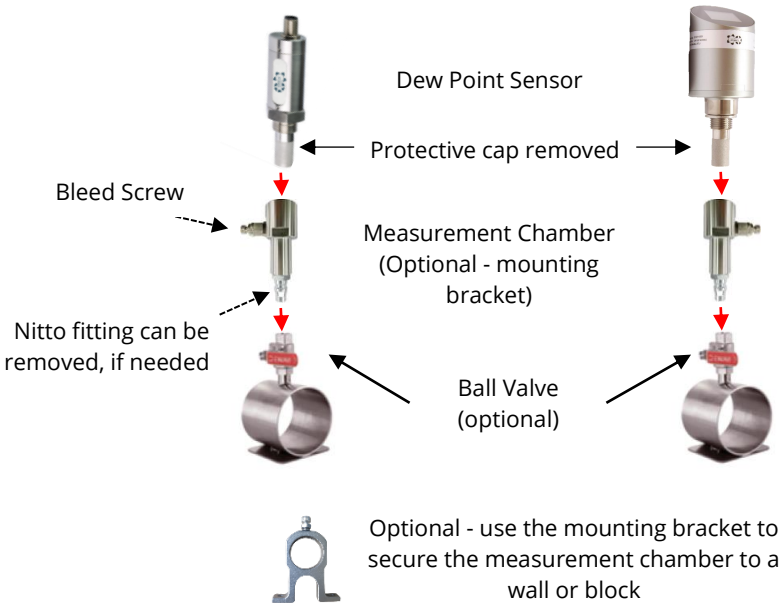
Protective cap still on sensor

Protective cap removed

Insert sensor into measurement chamber

Step 4 – Attach dew point sensor to connection point

- Attach the measurement chamber to the connection point.
  - You can remove the nitto fitting and replace with a 1/4" male BSP fitting, if required
- Screw the sensor into the measurement chamber
  - Make sure the protective cap is removed from the dew point sensor
- Screw the measurement chamber into the connection point (eg valve, nipple or nozzle) and tighten with a spanner
  - Compressed Air Alliance recommends that our dew point sensors are installed via a measurement chamber
  - A reducing bush may be needed if connecting the measurement chamber to a large ball valve or nipple
  - Fix measurement chamber firmly to prevent loosening or shaking
  - Use thread tap or sealant to prevent gas escaping
  - If needed, you can use the mounting bracket to secure the measurement change to a wall or block
- Open the valve



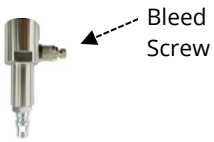
Step 5 – Set the Gas Bleed

To ensure a flow of gas past the sensor tip, either allow a small amount of gas to escape to atmosphere (option 1 below) or connect a zero loss chamber (option 2 below).

Option 1 – Bleed gas to air

On the measurement chamber:

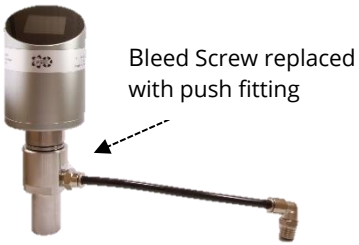
- Close the bleed screw completely.
- Then slowly open the bleed screw to allow a small flow of gas to escape to the atmosphere.



Option 2 – Zero Loss Chamber

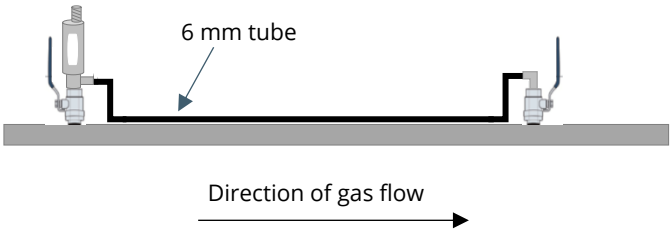
The zero loss chamber will prevent gas escaping to atmosphere and can improvie system efficiency.

- Remove the bleed screw and fitting from measurement chamber
- Install a 1/4" to 6mm push fit into measurement chamber
- Connect a 6 mm tube between the measurement chamber and a second connection point downstream of the sensor.



Tip - use cable ties to secure the 6 mm tube to the pipe.

Zero Loss Chamber set up



Installation – Electrical

WARNING! Incorrect wiring can damage the sensor or cause it to work incorrectly.

Notes:

- Do **not** screw the M12 connector using force, otherwise it may damage the connection pins.
- Always check the M12 connectors to make sure they are wired correctly.
- Consider all local and national safety requirements and regulations for electrical installations.
- **The system must be disconnected from any power supply during installation and maintenance work.**
- Any electrical work on the system is only allowed by authorised and qualified personal.

4-20mA Scaling

The sensor has an analog output range of 4 to 20 mA, which is a 3-wire active analog output. The analog output scaling is:

Pressure Dew Point Range -80°C to +20 °C (-112°F to +68°F)	Pressure Dew Point Range -110°C to +20°C (-166°F to +68°F)
• 4 mA = -80°C (-112°F) • 20 mA = +20°C (+68°F)	• 4 mA = -110°C (-166°F) • 20 mA = +20°C (+68°F)

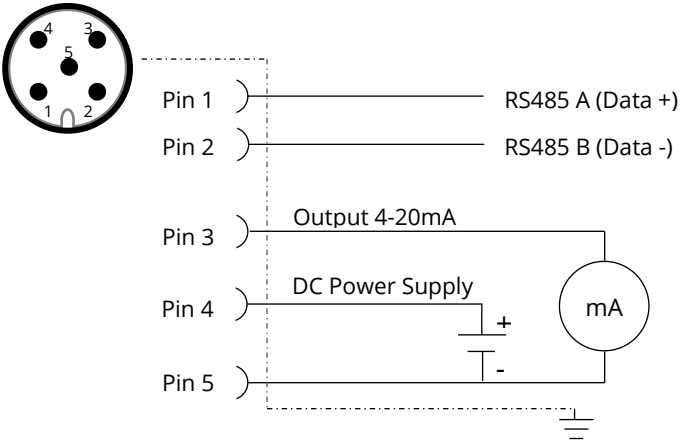
The analog output can be set to correspond to temperature, dew point, or humidity.

Wiring - Standard Dew Point Sensor

The standard Dew Point Sensor has one 5 pin, M12 connector on top of the sensor.

If you ordered a cable with the sensor, the cables will be coloured coded as shown in the table below. Its good practice to check the cable colours and make sure they match the chart below.

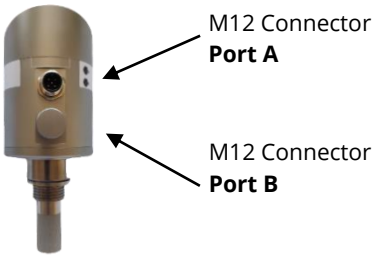
	Connector	Cable Colour
Pin 1	RS845, Data + (A)	Brown
Pin 2	RS845, Data - (B)	White
Pin 3	4-20mA Output	Blue
Pin 4	+12-30 vDC	Black
Pin 5	0 vDC (Ground for Modbus)	Grey



Wiring - Dew Point Sensor with Display

The Dew Point Sensor with Display has two 5 pin, M12 connectors on the back of the sensor.

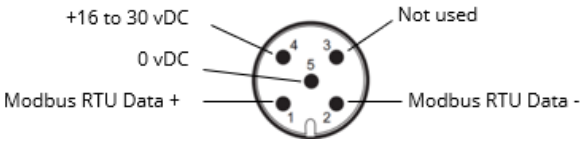
- **Port A** is used for Modbus and Power
- **Port B** is used for 4-20mA and Alarm Relay



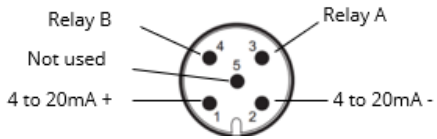
If you ordered a cable with the sensor, the cables will be coloured coded as shown in the table below. Its good practice to check the cable colours and make sure they match the chart below.

	Port A (Modbus & Power)	Cable Colour	Port B (4-20mA & Alarm Relay)
Pin 1	RS845, Data + (A)	Brown	4-20mA+
Pin 2	RS845, Data - (B)	White	4-20mA-
Pin 3	NA	Blue	Relay A
Pin 4	+16 to 30 vDC	Black	Relay B
Pin 5	0 vDC (Ground for Modbus)	Grey	NA

Port A (Modbus & Power)



Port B (4-20 mA & Relay)



Alarm Relay Output for Dew Point Sensor with Display

The Dew Point Sensor with Display has a relay output which can monitor dew point. For example, when the dew point reaches a set value, the sensor will issue an alarm.

Alarm relay specifications:

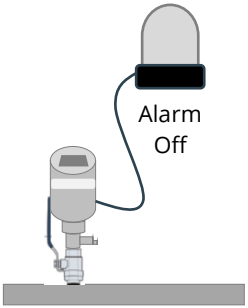
- Maximum: 32 VDC / 500 mA
- Power switch status: Normally open (N/O)

M12 Connector
Port B
Used Alarm Relay and 4-20mA

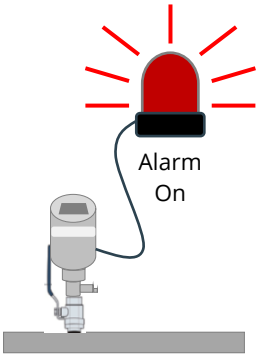
Relay States

	Relay Status	Alarm Status
Dew Point Sensor powered off	Normally open (N/O)	Alarm Off
Dew Point Sensor powered on and the alarm valve is **not** reached.	Normally open (N/O)	Alarm Off
Dew Point Sensor powered on **and** the alarm valve is reached.	Normally closed (N/C)	Alarm Activated

Relay Status:
Normally Open (N/O)



Relay Status:
Normally Closed (N/C)



Commuication Settings

Default Modbus Settings

All dew point sensors use the following default Modbus settings. Settings can be changed to suit system requirements using our Service Software (contact Compressed Air Alliance for more information) or the display (if fitted).

Default Modbus RTU (RS485) Settings					
Address	**Baud Rate**	**Frame / Parity / Stop Bit**	**Response Time**	**Response Delay**	**Frame Spacing**
1	9600	8 / N / 1	1 Sec	0 Milliseconds	7 Characters

Modbus Registers						
Holding Register	**Address**	**Data Type**	**Byte Length**	**Description**	**Unit**	**Read / Write**
1	0	FLOAT	4	Temperature	°C or °F	Read
3	2	FLOAT	4	Relative Humidity	%RH	Read
5	4	FLOAT	4	Pressure Dew Point	°Ctd or °Ftd	Read
Optional integrated pressure sensor						
21	20	FLOAT	4	Absolute Pressure	KPa, Mpa, Bar, PSI	Read
42	41	FLOAT	4	Gauge Pressure	KPa, Mpa, Bar, PSI	Read

Using the Display

Using the Display

Dew Point Sensor with Display

If you purchased the Dew Point Sensor with Display, you can view or edit the following dew point settings:

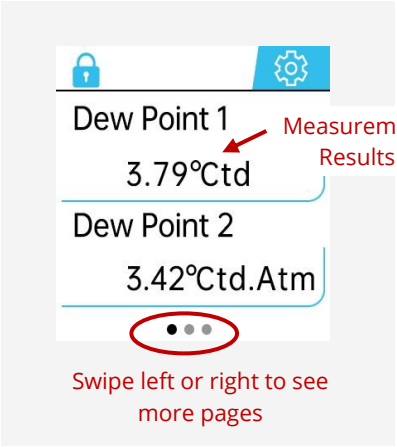
- ✓ Gas type
- ✓ Units of measurement
- ✓ Modbus / RS485 settings
- ✓ Analog / 4-20mA settings
- ✓ Alarm (Relay) settings
- ✓ Which measurements are displayed on the touch-screen
- ✓ Language
- ✓ Screen Timeout
- ✓ Screen Brightness

Standard Dew Point Sensor

The standard dew point sensor does **not** come with an in-built display.

If you need to change dew point settings, you will need to use our Service Software. Contact Compressed Air Alliance for more information.

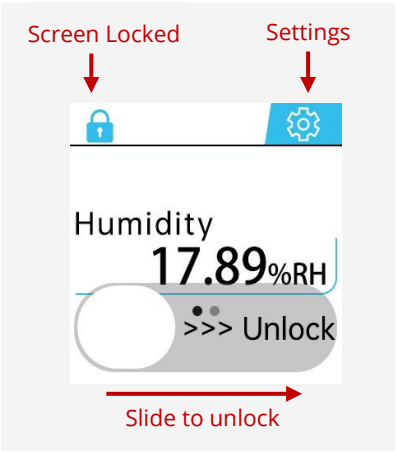
Home Screen



Measurement results are shown in the middle of the screen.

The **dots at the bottom of the screen** (•••) show you how many pages there are. Swipe left or right to see more results.

Unlocking the Screen

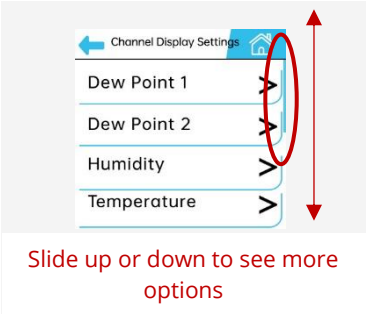


The screen automatically locks when not in use. The **lock** ( ) at the top left of the screen means the screen is locked.

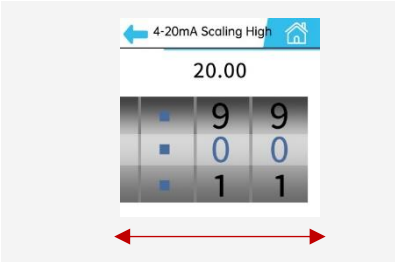
You can unlock the screen by sliding the dot to the right.

Navigation

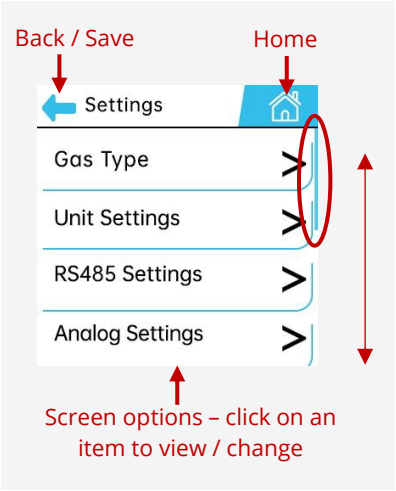
For screens with **lists**, you may need to scroll up or down to see the full list of options (see picture below).



For screens with **dials**, you may need to scroll left and right to full range of options (see picture below).



Settings



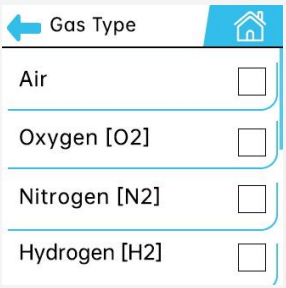
Your dew point sensor will come pre-configured. If you want to view or change the settings:

- Unlock the screen
- click on the Settings Menu icon ( ) on the home page.
- Scroll through the list to find the setting you want to view / edit
- Click on the setting, make the relevant changes then click the back ar ( ) to save your changes and return to the previous screen.

Note: Changes will be saved as soon as you press the back arrow.

Note: Advanced settings are password protected. If you need to access advanced setting, contact Compressed Air Alliance.

Gas Type



You can select from the following gas types:

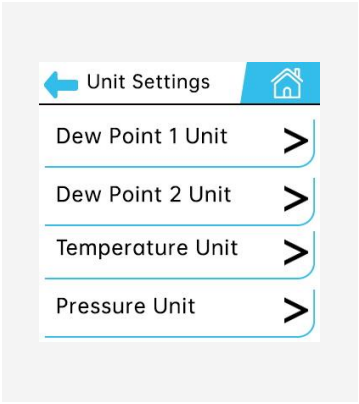
- ✓ Air
- ✓ Argon (Ar)
- ✓ Carbon dioxide (CO2)
- ✓ Carbon monoxide (CO)
- ✓ Helium (He)
- ✓ Hydrogen (H2)
- ✓ Natural Gas
- ✓ Nitrogen (N2)
- ✓ Nitrous oxide (N2O)
- ✓ Oxygen

To change the Gas type:

- go to **Settings ( ) > Gas Type**.
- Select the desired gas type
  - Scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

The flow meter is calibrated in air. If you select another gas type, the flow meter will automatically adjust its readings to match the gas selected.

Unit of Measurement



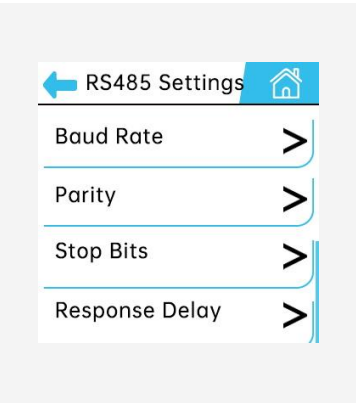
You can change the units of measurement for Dew Point (Dew Point 1 and 2, Temperature and Pressure.

Measure	Units
Dew Point 1	°Ctd, mg/m3, g/kg, g/m3, PPM(w), PPM(v), kj/kg,
Dew Point 2	As above, plus °Ctd.Atm
Temperature	°C, °F
Pressure	hPa, kPa, Mpa, mbar, bar, PSI

To change the Unit of Measurements:

- go to **Settings ( ) > Unit Settings**
- Select the desired unit of measure
  - You might need to scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

Modbus / RS485 Settings



In the RS485 menu, you can set / change the modbus settings.

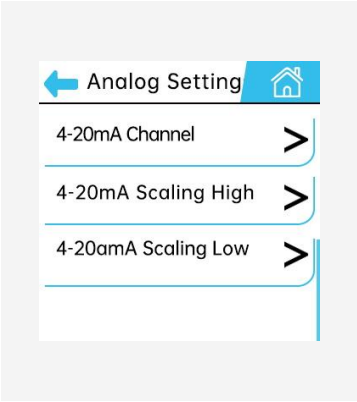
Default Modbus settings are:

- ✓ Baud Rate: 9600
- ✓ Parity: None
- ✓ Stop Bit: 1
- ✓ Response Delay: 0
- ✓ Device Address: 1

To change the Modbus settings:

- go to **Settings ( ) > RS485 Settings.**
- Press the setting you want to change
- Select the desired setting.
  - You might need to scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

Analgoue / 4-20mA Settings



In the Analog menu, you can:

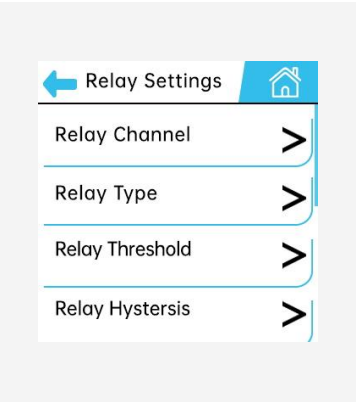
- ✓ select which measurement is transmitted via 4-20mA
- ✓ set the 4-20mA scaling.

Note: Only one measurement can be transmitted via the analog setting

To change the 4-20mA settings:

- go to **Settings (**) **> Analog Settings.**
- Press the setting you want to change
- Select the desired setting.
  - You might need to scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

Relay Settings

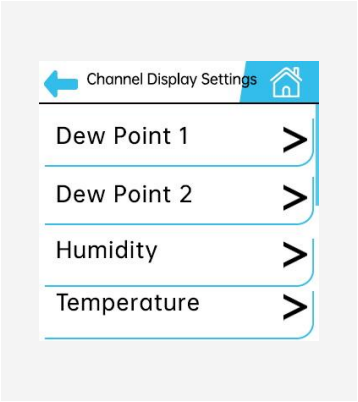


You can set an Alarm Relay for one of the measurements.

To change the Relay settings:

- go to **Settings (**) **> Relay Settings.**
- Press the setting you want to change
- Select the desired setting.
  - You might need to scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

Channel Display

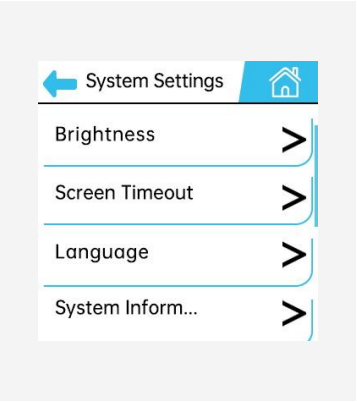


You can select which channels / measurements you want displayed on the home pages of the Dew Point monitor.

To change the Channel Display settings:

- go to **Settings (** **) Display Settings.**
- Press the setting you want to change
- Select the desired setting.
  - You might need to scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

System Settings



In system settings, you can:

- ✓ Change the **Screen Brightness**
- ✓ Change the **Screen timeout** from 15 seconds to 10 minutes
- ✓ Change the **Language** from English to Chinese
- ✓ See the system information, eg hardware and software version numbers, serial number, number to times the sensors has been powered on

To change the Display settings:

- go to **Settings (** **) > Channel System Settings.**
- Press the settings you want to change / view
  - You might need to scroll up or down to see all options
- Press the arrow ( ) to save your setting and return to the previous screen.

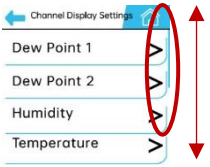
Trouble Shooting

Trouble Shooting

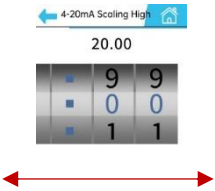
Problem	Possible Causes	Suggested Action
All Dew Point Sensors		
Readings are different than expected	Only the bottom part of the protective cap has been removed	Remove (unscrew) the whole protective cap from the dew point sensor (see page 14)
	Sensor installed incorrectly, eg upside down, in wet air	Check installation
	Gas is not reaching the sensor tip. • Measurement Chamber not used.	Install measurement chamber and open bleed valve slightly. This will ensure that gas reaches the sensor tip
	Gas is not reaching the sensor tip. • Ball Valve is closed or • Gas system is turned off.	Open ball valve. Check gas system is turned on
	Gas is not reaching the sensor tip. • Bleed screw is closed.	Open bleed valve slightly on the measurement chamber
	Too much gas is reaching the sensor tip. • Bleed screw open too far.	Tighten bleed valve on the measurement chamber so that only a small amount of gas is escaping
	Sensor is wired incorrectly	Check Wiring • 4-20mA wiring uses 3-wires or 4 wires (depending on the sensor) • Modbus uses 4 wires
	Sensor communication set up incorrectly	Check 4-20mA settings and/or Modbus settings
	Dryers, filters, condensate drains are not working correctly	Service equipment

Problem	Possible Causes	Suggested Action
	Equipment failed (eg dryer failure) thus allowing too much water vapour, oil or particles to enter the system	Sensor may be damaged. Contact Compressed Air Alliance
	Sensor due for calibration	Calibrate sensor. Compressed Air Alliance can help with calibration
Readings don't change or readings stuck on a certain number	Sensor damaged	Contact Compressed Air Alliance
	Incorrect sensor for you compressed air system	Check that the sensor's specifications are suitable for your system.
Air is escaping from the bleed screw on the measurement chamber	-	This is normal operation. If you don't want gas to escape from the bleed screw, use a 'Zero Loss Chamber' (see page 16)
Dew Point Sensor with Display		
Alarm Relay not working	Sensor is wired incorrectly	Check Wiring
	Alarm settings are wrong	Check alarm settings
The touch screen doesn't work	Dirty screen	Clean the screen
	You are using hard objects to operate the display, eg fingernails, pens	Use the fleshy part of your finger to touch the screen. The touch screen does not work if you use finger nails or pens.
	Screen is locked	The screen automatically locks when not in use. The lock symbol (🔒) at the top left of the screen means the screen is locked. 

Problem	Possible Causes	Suggested Action
I can't see all menu items	On some menus, you will need to scroll up and down (or left and right) to see all items.	



Slide **up** or **down** to see more options



Slide **left** and **right** to see more options

The screen is in the wrong language	**Step 1 – Unlock Screen and go to Settings** If the lock screen symbol ( ) is present, you will need to unlock the screen first. Click on the Settings icon ( ) on the top right of the home page.   **Step 2 – Go to System Settings** Scroll to the bottom of the settings screen. Press the "System Setting" option – **2nd option from bottom**

Problem	Possible Causes	Suggested Action

2nd menu option from **bottom** of page
You may need to scroll down to find this setting

Step 3 – Go to Language Settings

Press "Language" menu option – **2nd menu from bottom**

2nd menu option from **bottom** of page

Step 4 – Select desired language

Select the desired language.

Press the arrow button ( ) to save your selection and return to the previous screen

Factory Settings

The default settings / factory settings are shown below. If you need to change these settings and you have a:

- Standard Dew Point Sensor – contact Compressed Air Alliance or your local Distributor.
- Dew Point Sensor with Display - you can change these settings using the display.

Setting	Default Value / comments		
All Dew Point Sensors			
Gas Type	Air		
Unit Setting		USA	Rest of World
	Dew Point Units	°F	°C
	Temperature Units	°F	°C
	Pressure Units	psi	Bar
RS485 (Modbus) Settings	Baud Rate	9600	
	Parity	None	
	Stop Bits	1	
	Response Delay	0	
	Device Address	1	
Analog Settings	4-20mA Channel	Pressure Dew Point (PDP)	
	4-20mA Scaling Low (4)	-80°C OR	-110°C
	4-20mA Scaling High (20)	+20°C	+20°C
Additional Settings for Dew Point Sensor with Display			
(Alarm) Relay Settings	Relay Channel Relay Type Relay Threshold Relay Hystersis		
Screen Timeout	10 seconds		

Warranty

Compressed Air Alliance provides a 12-month warranty for all sensors. The warranty covers materials and workmanship under the stated operating conditions from the date of delivery. Please report any findings immediately and within the warranty time.

If faults occur during the warranty period Compressed Air Alliance will repair or replace the defective unit, without charge for repair labour and material costs but there is a charge for other services such as labour to remove or reinstall the instrument, transport and packing. Warranty repairs do not extend the period of warranty.

The following damage is excluded from this warranty:

- Improper use and non-adherence to the user manual.
- Use of unsuitable accessories.
- External influences (e.g. damage caused by vibration, damage during transportation, excess heat or moisture).

The warranty is cancelled when one of the following situations occurs:

- The user opens the measurement instrument without a direct request written in this manual.
- Repairs or modifications are undertaken by third parties or unauthorised persons.
- The serial number has been changed, damaged or removed.

Other claims, especially damage occurring on the outside of the instrument (eg dents, marks), are not included unless responsibility is legally binding.

Calibration

The sensor is calibrated before delivery. The calibration date is printed on the certificate which is shipped with the sensor.

Dew Point Sensors require calibration to remain accurate. The frequency of calibration depends greatly on the level of contamination within your system.

We recommend you calibrate the sensor every 2 years (provided the sensor is not exposed to contaminates or relative humidity above 85%). Calibration is excluded from the product warranty. For more information, contact Compressed Air Alliance:

- Phone:
  - Australia: 1300 558 526
  - International: +61 494095632
- What'sApp: +61 494095632
- E-mail: sales@compressedairalliance.com

Commissioning Report

About the Sensor

Part Number (eg DEA122001)			
Serial Number			
Installed by		**Installed Date**	

About the Compressed Air System

Dryer Type (select one)	Refrigerant	Desiccant	Membrane	Other
Dew Point Sensor Reading				

Installation

Step	Task	Yes	NA	No	Comments	Sign
1	Is the Dew Point Sensor installed correctly? (refer to "*Installation - Mechanical*")					
2	Is the Dew Point Sensor wired correctly? (refer to "*Installation – Electrical*")					
3	Dew Point sensor attached to pipe?					
4	Modbus and 4-20mA settings checked?					
5	Are the dryer and condensate drains working correctly?					

Compressed Air Alliance Pty Ltd

Address: 2/7 Narabang Way, Belrose NSW 2085, Australia

Phone / WhatsApp: +61 494 095 632

E-mail: sales@compressedairalliance.com

Website: www.compressedairalliance.com