

# APPL DEW POINT MONITORS

FAST RESPONSE TIME

DIGITAL LED DISPLAY

DRY RELAY CONTACT OUTPUT

ADJUSTABLE SET POINT

4-20 mA / 0-5 VDC

LINEAR ANALOGUE OUTPUT



MODEL HYG-121005-S-1



-9° TO -40°C (+15° to -40°F) or  
-12 TO +21°C (+10 TO +70°F)

DEW POINT RANGES  
EASILY CONVERTIBLE  
OPTIONAL RANGES AVAILABLE

1/60/120V or 24VDC  
OTHER VOLTAGE ON REQUEST

ECONOMICAL REPLACEABLE  
SENSOR (NO CALIBRATION  
REQUIRED)

SAMPLE AIR SENSOR BLOCK  
WITH NEEDLE VALVE FOR  
FLOW REGULATION



MODEL HYG-080604-S1  
(24 VDC)

## Sensor Specifications

APPL dew point monitors employ a narrow range hygrosensor which is an electronic transducer. The sensor consists of a bifilar winding of palladium wire on a polystyrene core, coated with a hygroscopic film. Operation of the dew point monitor is based on the sensors ability to change electrical resistance on the basis of variation in humidity levels. The sensors are housed in an aluminum sensor block with a sample air bleed valve for continuous monitoring. A small volume of sample air must be continuously directed across the sensor block for continuous sampling.

Features of the sensor are:

- 1) Quick response for real time monitoring 3 seconds for 65% change
- 2) High Accuracy - +/-2% R.H.
- 3) NBS (NIST) Traceability
- 4) Long Life
- 5) Total Interchangeability with monitors without re-calibration
- 6) Easy replacement plug-in pin and socket installation
- 7) Dependable trouble-free operation
- 8) Inexpensive replacement is often less than the cost to re-calibrate most competitive units.

## Hygrometer Board Specifications

Hygrometer boards used in APPL dew point monitors are a solid state printed circuit board, with which the sensor interacts. The board provides a low voltage electrical signal to the sensor, which is returned for monitoring by the board. The resistance through the sensor is measured, conditioned, and amplified to provide a digital readout, proportional monitoring signals, and on/off status based on a pre-determined adjustable set point level. The dew point monitor provides the following user features.

- 1) Adjustable output contact set point anywhere within the dew point range

- 2) SPDT dry contacts for wiring of alarms or equipment operating functions.
- 3) Linear analog output in either 4-20 mA or 0-5 VDC (convertible).
- 4) Terminal strip for user wiring.
- 5) Door-mounted indicator lights to indicate if the current condition is above or below the adjustable set point level.
- 6) On/Off selector switch.
- 7) 10 Foot sensor cable for local mounting of sensor block.
- 8) Convertible dew point scale will display either Celsius or Fahrenheit.
- 9) CSA special inspection approval (120V units).

## Typical Applications

APPL Dew Point monitors may be used to continuously monitor the dew point in compressed air systems, or in low pressure air systems such as those used in the drying of plastic resins or other moisture sensitive products. For compressed air systems, the monitors are available in two dew point ranges. The first is for use with systems using desiccant air dryers which normally operate within a pressure dew point range of -9 to -40°C. The second is for refrigerant air dryers which normally operate within a dew point range above 0°C. The monitors may be used to

provide a visual dew point display, and additionally, to provide a set of dry output contacts for alarm purposes, or for the operation of associated equipment. The same hygrometer board provides dew point monitoring functions for the APPL "Purge Economizer Control\$" system used on twintower regenerative compressed air dryers. Ask for the "Purge Economizer Control\$" bulletin for information on retrofit control panels to allow your twintower air dryer to operate at maximum efficiency.

## Ordering Information

Model	Dew Point Range	Electrical Required	Enclosure Type	Enclosure Size (inches)	Response Time	Output Contact Rating
HYG-121005-S-1	-9 TO -40°C	1/60/120V, 10W	NEMA-12	12 X 10 X 5	3 seconds to 65%	120V, 10 A 24VDC, 10A
HYG-121005-S-R	-12 TO +21°C	1/60/120V, 10W	NEMA-12	12 X 10 X 5	3 seconds to 65%	120V, 10 A 24VDC, 10A
HYG-080604-S-1	-9 TO -40°C	24 VDC	NEMA-4X	8 X 6 X 4	3 seconds to 65%	120V, 10 A 24VDC, 10A

Visit the APPL web site at [www.airpowerproducts.com](http://www.airpowerproducts.com) to view our many other products including:

- Twintower Heatless and Heated Purge Compressed Air Dryers
- Oil-less Reciprocating Air Compressors
- High Pressure Air Compressors (to 1000 PSIG)
- H.S, Regenerative Blowers & Accessories
- Lubricated Air Compressors
- Rotary Scroll Oil-less Air Compressors
- Sprinkler System Air Compressors
- Lubricated & Oil-less Rotary Vane Vacuum Pumps



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