A Robust High Accuracy Dew Point Hygrometer for Monitoring and Controlling Compressed Air Systems

The COM.AIR dew point monitor has been designed to offer the highest level of reliability and accuracy available in compressed air system dew point measurement. It is highly regarded by manufacturing engineers for its robust packaging, accuracy, long life, fast response and ease of use. The COM.AIR is available with a variety of primary standard chilled mirror sensors including Edgetech Instruments’ S Series for most compressed air applications, or the X3 Series when corrosion resistance or lower dew point measurement is needed.

Edgetech Instruments’ COM.AIR employs a highly developed chilled mirror sensor, the most accurate commercial dew point sensor type available, to deliver drift-free dew point measurement in compressed air systems without the need for regular calibration or sensor replacement. It utilizes programmable Automatic Balance Control to correct for the effects of mirror contaminants and provide continuous monitoring with little to no maintenance. Its modular chilled mirror sensor is chemically resistant to background gasses and may be configured for the user’s dew point range requirements. Accuracy certification of the chilled mirror sensor used is fully traceable to NIST. The COM.AIR offers the highest level of reliability and accuracy available in a compressed air system dew point measurement instrument.

COM.AIR is a complete dew point monitoring system contained in a NEMA-12 enclosure for use in rugged industrial environments. The wall mountable package contains the sensor, control circuitry and flow control assembly. After mounting, a single sample line and power connection are all that is needed to put the COM.AIR into operation. An alarm relay, horn and visual indication as well as an analog output are included.

Applications include:
- Compressed air
- Dryer systems
- Heat treating
- Fluidized beds
- Plastics blow and injection molding
- Pharmaceutical processes
- MAP systems
- Power and energy systems
- Verification of polymer and metal oxide probes

Features:
- Precise, drift-free dew point measurement
- Primary standard chrome chilled mirror sensor
- NIST traceable certification
- Automatic Balance Control
- Easily serviceable sensor
- Audible and visual alarms
- Multiple interface options
- Choice of sampling systems
- Integral sample flow meter
Technical Specifications

Measurement Range:

**Dew Point Range** (at 25°C ambient):

**S Series:**
- S2 two-Stage: -40 to 122°F (-40 to 50°C)
- S3 three stage: -103 to 122°F (-75 to 50°C)
Liquid cooling is required to measure dew points below -60°C with S Series sensors

**X3 Series:**
- X3 Standard: -50 to 165°F (-45 to 75°C)
- X3F Fan Cooled: -85 to 165°F (-65 to 75°C)
- X3SF High Efficiency: -95 to 165°F (-70 to 75°C)
- X3LC Liquid Cooled: -130 to 165°F (-90 to 75°C)
Liquid cooling is required to measure dew points below -70°C with X3 Series sensors

**Accuracy** Dew/Frost Point:
- S Series: ± 0.5°F (± 0.28°C)
- X3 Series: ± 0.36°F (± 0.20°C)

**General:**
- **Display:** Red LED, 0.5” (1.27mm) tall; 8 digit alphanumeric
- **Operating temperature:** 32° to 122°F (0° to 50°C)
- **Sample connection:** 1/4” compression fitting, standard model configured for positive pressure
- **Sample flow rate:** 0.5 - 5 SCFH; integral flow meter
- **Pressure:** 0 - 150 psig (10.34bar). Higher pressures available - consult factory

**Power:**
- 90-230 VAC ±10%, 50-400Hz, cord and ON-OFF switch provided

**Outputs:**
- **Analog:** 0-5 VDC or 4-20 mA scaled for sensor
- **Compliance:** 9.0VDC, 450 ohms
- **Serial:** RS-232

**Alarms:**
- **Audible:** >98 dba at 2ft.
- **Relay:** 1 Form C, non-latching 10A at 240 VAC, 8A at 24 VDC, 1/2 HP at 240 VAC

**Weights & Dimensions:**
- **Weight:** 6 lbs. (2.7 kg)
- **Enclosure Dimensions:**
  - 10.7” (27.3cm) H; 14.0” (35.6cm) W; 6”(15.2cm) D

**Environmental:**
- Enamel Coated Steel NEMA 12 (IP52)

**Options:**
- Vacuum pump for sample extraction
- Extended range sensors
- RS232 digital output
- Pressure transducer (for gr/lb. or PPMv measurement)
- In-line particulate/coalescing filter
- Remote sensor mounting kit
- Strobe alarm light
- High pressure sensor
- Platinum or stainless steel mirror

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