

High-Pressure Dew Point Monitor & Alarm

General Description

The Model 7149 high-pressure dew point monitor and alarm system is designed to provide a simple, reliable method of measuring the dew point (moisture content) of high-pressure (up to 5000 psig) dry air systems. It is a variation of the system incorporated in our high-pressure desiccant air dehydrators. Here, it is used as a stand-alone device, downstream of an air dehydrator whose built-in monitor/alarm system is unreliable or no longer supported by the original manufacturer, or in conjunction with an interstage membrane dehydrator (IMD) not containing its own dew point monitor. The first installation with an IMD is on USS MAHAN, DDG 72. Fittings furnished as standard allow easy installation at the end of the HPAC discharge hose.

Measurement is made by a highly sensitive aluminum oxide sensor, which is bathed by a continuous stream of air. Its impedance varies with the air's moisture content, and is read by the humidity alarm controller. The operator may adjust the controller to achieve the desired alarm point. The dew point meter on the front of the control panel displays the current outlet air dew point. A sample valve compatible with a MIL-I-24144 high-pressure frost point indicator is provided.

If at any time the outlet air moisture content exceeds the controller's set point, the controller activates the humidity alarm. This alarm includes the flashing red humidity alarm lamp, the audible alarm (buzzer), and the humidity alarm remote connection. The buzzer can be disabled by the audible alarm switch. The humidity alarm remote connection is a relay closure (closed on alarm) with a 6800-ohm resistor in parallel. The remote signal is ICAS-compatible.

Specifications:

Fully qualified for high-impact shock per MIL-S-901, Grade A; Type I vibration, 4 - 50 Hz, per MIL-STD-167-1; EMI/RFI per MIL-STD-461.

Indicating Range: 0° F to -60° F pressure dew point for desiccant high-pressure dehydrators; -45° F to -90° F atmospheric dew point (+40° F to -30° F 3000-psi pressure dew point) for interstage membrane dehydrators.

Alarm Point: Operator-adjustable from 0° F to -60° F dew point. Factory pre-set at -30° F unless ordered otherwise.

Operating Pressure: 0 to 5000 psig

Indicator: Meter movement

Alarms: Local lamp and audible alarm; remote "dry contacts" with 6800-ohm supervisory resistor



Electrical Requirements: 115 VAC, 60 Hz, single-phase, 1 amp.

Fittings: Flare fittings (1/2" 37°) standard; unions per NAVSEA 810-1385884 and others available on request.

Dimensions:

- Sensor Unit: 8" W x 7" H x 6" D
- Control Panel: 9" W x 12" H x 7" D

Weight: 35 pounds

Mounting:

- Sensor Unit: Stud to bolt to bulkhead or other location.
- Control Panel: Mounting tabs. A weldable mount for both is provided.

Howell Laboratories, Inc.

188 Harrison Rd.
Bridgton, Maine 04009
(207) 647-3327

(888) 744-8359

FAX (207) 647-8273

e-mail: contracts@howelllabs.com
An Employee-Owned Company

web: www.howelllabs.com
Certified to ISO 9001:2000