Portable Moisture Measurement: Repeatable, Fast, and Accurate

Features:

- **NSN: 6625-01-695-6862.**
- **P/N: 9000-G504**
- **Internal battery pack with line powered recharger.**
- **Best in its class: ± 2° C (± 3.6° F) dew point accuracy.**
- **Internal pressure transducer.**
- **USB connection.**
- **Full pressure range from atmospheric to 5000 psig.**
- **Lightweight: 6.6 lb.**
- **Easy operation: just connect, switch on and measure.**

Applications:

Replaces Stephens Analytical DL20N-EP5100 (P/N 7055-G501), Kahn PM880/35880A/MIS Probe2, HLI 5250 (P/N 5250-G501) Low-Pressure Frost Point Indicator, 5100 (P/N 5100-G501) High-Pressure FPI, 9000 Mk I (P/N 9000-G501), 9000 Mk II (P/N 9000-G502), 9000 Mk III (P/N 9000-G503), or any other portable dew point monitor you are currently using. **The HLI 9000 Mk IV does it all!**

Description:

The HLI 9000 Mk IV provides faster response to low dew points, reducing the waiting time for every measurement. This allows the user to spend less time verifying the dew point of his system.

The HLI 9000 Mk IV has a USB port, enabling easy download of logged measurement data.

The Dew Point Indicator offers versatile sampling arrangements ranging from simple fixed orifices for low pressure measurements to configurable high pressure sampling systems up to 5,000 psig using the standard built-in moisture sensor. The HLI 9000 Mk IV features a built-in pressure transducer for simplicity and increased accuracy of pressure-compensated measurements. The Mk IV also contains an internal pressure relief valve to ensure long-term safety and stability.

The menu-driven display, easily accessible gas connections and application software means that the user can quickly and easily set up the instrument and be taking measurements within minutes. All measurement parameters are available at a touch. The keys can be operated in rough environmental conditions where the operator may need gloved hands.

Best-in-class accuracy of ± 3.6° F from -76 to +68° F (± 2° C from -60 to +20° C) dew point provides better measurement confidence and workload coverage.

The HLI 9000 Mk IV is designed as a line-powered device and comes equipped with a rechargeable internal battery pack for those locations without an outlet within reach.

Howell Laboratories, Inc.

The HLI 9000 Mk IV is not suitable for use in hazardous areas or with hazardous gases. Consult the factory for information on models for these applications.

With more than 50 years' experience in fluid processing systems, HLI understands what the user requires when it comes to spot checking dew point or moisture content in the field. The HLI 9000 Mk IV includes all the features you need for efficient work. An extremely fast response and accurate, stable measurement is complemented by an instrument that's easy to use, with data-logging and built in sampling standard and a wide range of available accessories, including a hard transit case. It is NEMA 4 rated, and therefore suitable for demanding outdoor applications.

Technology:

The HLI 9000 Mk IV uses a highly-developed ceramic impedance sensor, which is constructed using state-of-the-art thin and thick film techniques. Water vapor is absorbed into a porous non-conducting layer "sandwiched" between two conductive layers built on top of a base ceramic substrate. The active sensor layer is very thin - less than one micron - and the porous top conductor that allows transmission of water vapor into the sensor is less than 4×10^{-8} inches thick. As a result, the sensor responds rapidly to changes in moisture, both in detecting moisture and also when being dried. It is rugged and gives excellent dew point accuracy coupled with excellent long-term reliability and stability.

Technical specifications:

Performance:

Measurement technology: ceramic, thin-film sensor.

Measurement accuracy: ± 2° C (± 3.6° F) from -60° to + 20° C (-76° to +68° F) dew point.

Measurement range: Calibrated -60° to +20° C (-76° to +68° F) dew point

Readings to +30° C (+86° F) dew point.

Measurement units: °F, °C, °K for dew point and gas temperature.

ppmv, ppmw for air, N_2, H_2, CO_2, SF_6, %RH, g/m^3, g/kg.

Option: active pressure (psi, bar, MPa, KPa).

Resolution (display): 0.1 for all dew-point derived units and auto ranging where appropriate (e.g. ppm).

Resolution (measurement): 0.01° C (0.02° F) dew point.

Measurement system repeatability: Better than 0.1° C (0.18° F).

Measurement system stability: 0.1° C (0.18° F).

Measurement system hysteresis: 0.05° C (0.09° F).

Electrical input/output:

Power supply: 115 VAC power to recharge the internal battery.

Operating conditions:

Operating Pressure Range: 5000 psig for internal sensor, higher pressures with external sampling systems.

Operating Environment: Outdoors, 0 to +100% RH condensing; -20° to +50°C (-4° to +122° F).

Storage/Transport Temperature: -40° to +70° C (-40° to +158° F).

Mechanical specifications:

Display: Blue LCD graphical display.

Enclosure type: Aluminum.

Gas connections: Compatible with existing shipboard installed sample ports; other options available.

Flow across sensor: 1 to 9.4 nlpm (2 to 20 scfh).

Filter: 40 micron stainless steel sinter in the inlet port.

Gas wetted materials: AISI 316L stainless steel.

Outline dimensions: 17 3/16 in x 12 5/32 in x 6 7/32 in (437 mm x 309 mm x 158 mm).

Weight: Hygrometer: <6.6 lb (3 kg).

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General:

Data logging: 8 megabytes; Log interval: 5 to 60 second; Logs per file: Up to 10,000.

Communications: USB port.

Languages: English, Spanish, Portuguese, Italian, French, German.