

Transmet Dewpoint Transmitter

A digital dewpoint transmitter designed for moisture measurements from -100 to +20 °C dewpoint. Applications include monitoring of the dewpoint of any flammable or non-flammable process gas such as compressed air, nitrogen, natural gas, or hydrogen.

- Simple Operation
- High Accuracy and Repeatability
- Fast Response
- Dewpoint and temperature measurements
- RS232C, RS485, 0-20mA and 4-20mA linear outputs
- Networkable up to 32 points
- Intrinsically Safe
- Wide Measurement Range

Simple Operation

Transmet is extremely easy to use. The instrument is fully self-contained, with sensor probe and electronics integrated in a rugged cast aluminum NEMA4 housing. Transmet is a 3-wire transmitter which operates from a 10-28 VDC power source and provides a user-selectable linear 0-20mA or 4-20mA analog output and RS232C or RS485 digital communications output of dewpoint. Transmet measures the gas tested either by direct insertion into a process line or by routing a small sample stream through the optional stainless-steel sensor block. Simply select the desired output, connect to the gas source, power supply, and measurement device, and Transmet is ready to use.

High Accuracy And Repeatability

The proprietary design of the Kahn Ceramic Moisture Sensor, combined with sensitive and stable electronics, provides high accuracy and excellent repeatability. With a standard dewpoint measurement range from -100 to +20°C, Transmet offers measurement accuracy of:

- $\pm 1^\circ\text{C}$ dewpoint from -60 to +20°C dewpoint
- $\pm 2^\circ\text{C}$ dewpoint from -100 to -60°C dewpoint
- $\pm 0.3^\circ\text{C}$ temperature from -20 to +40°C

Resolution is better than 0.2°C dewpoint across the range.



Fast Response

Transmet has been designed to respond quickly and accurately to changes in moisture level. The sensor provides minimum flow path, reduced internal surface area, and contains no unnecessary sampling volume. Add to this the inherently fast response of the Kahn Ceramic Sensor and the result is a fast and precise indication of process dewpoint.

Digital Or Analog Outputs

Featuring a user-selectable current-sink or digital interface, Transmet can be easily interfaced with a wide variety of monitoring or logging devices, ranging from basic digital or analog panel meters to sophisticated computer-based data acquisition and control systems. Transmet can easily be configured using internal selection switches to give an RS232C or RS485 output of measured dewpoint and temperature. The RS232 interface can be connected directly to a PC serial port and the device accessed through simple communications software. In the RS485 transmission mode, up to 32 individual Transmet units may be addressed simultaneously on a single daisy-chain network system. Kahn's networking software allows on-screen monitoring and logging of data from all 32 Transmet instruments and provides scaling, ranging, variable timebase and data export to spreadsheet and database programs.

Intrinsically Safe

Transmet-IS is designed for use in hazardous areas. When equipped with the appropriate ISBU (intrinsic safety barrier unit) it is rated for NFPA Class 1, Groups A-D locations. The high accuracy and rugged reliability of Transmet-IS can be used in petrochemical and natural gas applications for measurement of flammable and non-flammable gases. In a refinery, LNG plant, offshore platform or natural gas terminal, Transmet-IS provides an effective means to check the moisture content at any point in the process. Transmet-IS is also ideal for any industrial application requiring safe measurement of flammable gases, such as hydrogen used as coolant in electrical generators or as a blanketing gas in heat treating applications.

Wide Measurement Range

Capable of dewpoint measurements from -100 to +20°C, and temperature measurements from -20 to +40°C, Transmet offers wide range and high accuracy in a compact, economical package. Transmet is suitable for all manner of indoor and outdoor applications, and carries a NEMA4 environmental resistance rating

Additional Features

Accessories such as a stainless-steel sample block, filtration elements, an engineered sampling system, and stand-alone digital displays are available to help you customize Transmet to your specific application

SPECIFICATIONS

Measurement Range:

Dewpoint: -100 to +20°C
Temperature: -20 to +40°C

Accuracy:

±1°C from -60 to +20°C dewpoint
±2°C from -100 to -60°C dewpoint
±0.3°C for temperatures from -20 to +40°C

Repeatability:

Better than 0.2°C dewpoint

Resolution:

Dewpoint:
• 0.1°C from -80 to +20°C
• 1.0°C from -100 to -80°C
Temperature: 0.1°C

Body Construction:

Cast Aluminum, NEMA4 rated

Sensor:

Kahn Ceramic Moisture sensor with sintered stainless-steel guard.

Sensor Thread:

5/8-18 UNF straight thread, stainless-steel

Operating Conditions:

Pressure: vacuum to 5000 PSIG
Temperature: -20 to +40°C (-5 to +100°F)

Flow:

Recommended rate: 1-5 NI/min (2-10 SCFH)
Velocity: 20 meters/sec (65 ft/sec) maximum

Power Requirements:

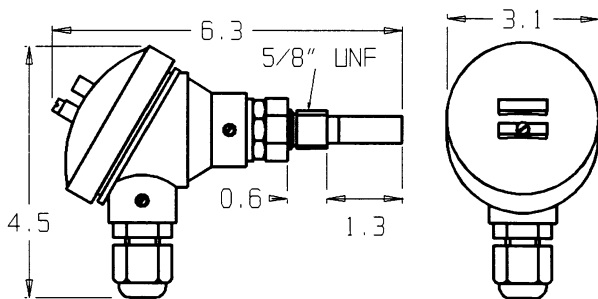
10 to 28 VDC, reverse polarity protected

Operating Modes:

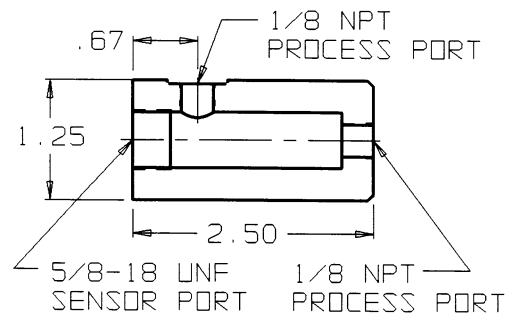
- Current Sink selectable linear 0-20mA or 4-20mA corresponding to transmitter range
- RS232C 2400 baud, 8 data bits, 1 stop bit, dewpoint and temperature. Maximum cable length 15 meters
- RS485 1200 baud, 8 data bits, 1 stop bit, dewpoint and temperature maximum total cable length 1200 meters

Options:

- Network connector kit
- Network RS232/RS485 converter
- Network cable
- power supply modules
- sample block
- filtration elements
- sampling systems
- digital display modules



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Sample Block

NOTE:

The information included herein was correct at the time of publication and supersedes all previously published data. However, it is our policy to continually improve our products to ensure ever better performance. Consequently, current Kahn products may incorporate modifications not shown or described on these pages.

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