Panametrics

Datasheet

DewPro® MMR101

High-temperature moisture transmitter

The DewPro MMR101 is a high-temperature loop-powered moisture and temperature transmitter. The transmitter is housed in a Type 4X/IP67 enclosure and features a simple two-wire or four-wire connection. The DewPro MMR101 uses a proven polymer capacitive sensor to provide a humidity measurement range of 0 to 100% RH with an accuracy of ±2% up to 149°F(65°C). A platinum RTD temperature sensor delivers temperature measurements in the range of 32°F to 300°F (0°C to 150°C). The optional integrated display with user interface provides full programming and diagnostic capability. In addition, the transmitter is FM approved instrinsically safe/explosion-proof for use in Class I,II,III, Division 1 and 2, Groups A, B, C, D, E, F & G hazardous (classified) locations.

PANA067DS Rev. 2

With an operating temperature up to 300°F (150°C), the DewPro c is ideally suited for the harshest applications. The transmitter can report moisture content in relative humidity, dew point temperature, absolute humidity, and mixing ratio. Applications include food processing, high temperature solids drying, paint and coating/finishing processes, pharmaceutical processing, and other industrial applications.

Features

- Loop-powered, 4 to 20 mA transmitter
- Proven polymer capacitive sensor for fast response and calibration stability
- Platinum RTD temperature sensor
- 1/2 in MNPT or other process connections
- Operating temperature up to 300°F (150°C)
- 0 to 100% relative humidity
- Dew point 32°F to 300°F (0°C to 150°C)
- Second isolated 4 to 20 mA loop for temperature measurement (patented)
- Microcontroller electronics in Type 4X/IP67 enclosure

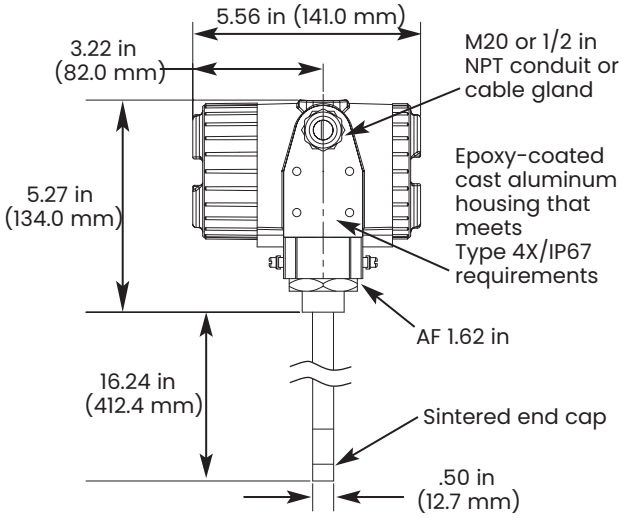
Options

- Integral display with user interface
- FM approved intrinsically safe/explosion-proof, Class I,II,III, Division 1 and 2, Groups A,B,C,D,E,F&G hazardous (classified) locations, or dust ignition proof
- English or metric fittings
- External display available with loop-powered supply and alarm

DewPro MMR101 Specifications

Sensing element	Polymer; capacitance
RH range	0 to 100%
RH accuracy	±2% up to 150°F (65°C)
Temperature sensor	Platinum RTD
Temperature accuracy	±2°F (±1.1°C)
Operating temperature range	• Process: 32°F to 300°F (0°C to 150°C) • Electronics: -40°F to 185°F (-40°C to 85°C)
Maximum operating pressure	150 psi (10.2 bar)
Electronics	Microcontroller operated, loop-powered
Loop power supply	24 VDC nominal, 12 to 30 VDC range
Outputs	Two fully isolated 4 to 20 mA current loops (moisture and temperature) patented (U.S. patent #5,677,476)
Hardware selectable units	• 0% to 100% RH, -40°F to 212°F or -40°C to 100°C dew point (up to 320°F or 150°C under system pressure), • 0 to 1000 g/m3 absolute humidity, and 0 to 1000 g/kg mixing ratio dry air, wet buld temperature, volume %
Standard temperature output	32°F to 300°F (0°C to 150°C) range
Optional display	Four-digit numeric display with bar graph and matrix position indication. Four user interface keys for unit selections, output adjustments and ranging.
Protection	Type 4X/IP67
Probe tube	16 in (400 mm) 316 stainless steel, 0.5 in diameter. Adjustable insertion length from 3 in (80 mm) to 14.25 in (362 mm). 9 in (225 mm) also available.
Typical mounting adapter	1/2 in tube x 1/2 in NPT-M or G 1/2 compression fitting; flanges and other sizes available upon request
Sensor guard	40 micron sintered filter, 316 stainless steel cap
Weight	4.4 lb (2 kg)

European compliance	Complies with EMC Directive 89/336/EEC and PED 97/23/EC for DN<25
Optional certification/ approvals	• FM IS Class I,II,III, Division 1, Groups A,B,C,D,E,F&G, T4 • FM XP-IS Class I, Division 1, Groups A,B,C&D, T5 • FM NI Class I, Division 2, Groups A,B,C&D, T4A DIP Class II,III, Division 1, Groups E,F&G, T4 • ATEX II 3G EEx nA IIC T4



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PANA067DS_R2 (01/2021)

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