# **Model AMT Dewpoint Transmitter**



4-20mA. Ranges available between -184°F to +68°F (-120°C to +20°C) dewpoint

Model AMT Dewpoint Transmitter is a two wire 4-20mA loop powered transmitter, used for continuous measurement of moisture in dry process gases or dry compressed air, which will output a linear 4-20mA signal corresponding to the dewpoint temperature. The Model AMT transmitter can also be factory configured to output a 4-20mA linear signal for any other moisture unit e.g. ppm(v), ppm(w), g/m<sup>3</sup>, lb/MMSCF etc.

# Fast Response - Stable - Reliable - Accurate -Easy to Install.

The Ultra High Capacitance sensing element is long lasting and offers excellent sensitivity, repeatability and response speed.

Each unit is supplied with a Certificate of Calibration, traceable to International Humidity Standards, validating accuracy better than ±3.6°F (±2°C) dewpoint.

Measuring instrument conforms with BS FN 61326-1

### **FEATURES**

- 2 Wire Loop Powered Dewpoint Transmitter
- Overall Range: -184°F to +68°F Dewpoint
- Accuracy better than ± 3.6°F Dewpoint
- INTEGRATED AUTOMATIC CALIBRATION
- Can be configured for linear 4-20mA signal in: °F & °C dewpoint, ppm(v), ppb(v), g/m<sup>3</sup> & lb/MMSCF

# \* when printed at 100% in US letter format

- Temperature Compensation
- **Failure Diagnostics**
- Long Term Stability
- Fast Response Time
- NEMA4X (IP66) Protection

The transmitter also incorporates an Automatic Calibration (AUTOCAL) feature, which allows the user to carry out a field calibration / span check. The AUTOCAL feature is operated by two small button switches built within the transmitter enclosure. To avoid tamper, the switches are locked in normal use and can only be activated by following a specific routine from the manual.

The integral RISC microprocessor circuitry of the Model AMT transmitter allows high resolution with advanced self diagnostics for fault conditions. It also enables periodic re-calibration of the moisture sensor, storing calibration data within the fully self contained unit. Loop powered by a 7V to 28V dc source, the Model AMT transmitter will provide a linear 4-20mA signal over the chosen range.

The mechanics of the **Model AMT** transmitter have been designed to cope with extreme environmental conditions. The rugged stainless steel construction offers protection to NEMA4X (IP66), with the transmitter electrical connections made via a secure industrial connector.

Model AMT transmitter can withstand 5,076PSIA (350barA) maximum pressure and by employing a low resistance cable, the transmitter can be located at significant distances, in excess of 3300 feet (1km), from the control room.

Designed with the operator in mind for reliable and accurate measurements, the Model AMT transmitter is extremely easy to install and operate, requiring little or no maintenance.

Note: The Model AMT is not suitable for Ammonia ( $NH_2$ ), Chlorine (CI) and Hydrogen Chloride (HCI).  $SF_6$  can be monitored with no effect to the sensor element. Sulphur Dioxide (SO<sub>2</sub>) can be monitored if the moisture content is low, less than 100ppm(v).

The Model AMT transmitter is supplied with a Certificate of Calibration, an instruction manual and 2m connecting cable.

1 OF 3

# **Specifications**

## **MODEL AMT Dewpoint Transmitter**

4-20mA Loop Powered Transmitter

TRANSMITTER TYPE: 2 Wire, 4-20mA Loop Powered Transmitter

**OUTPUT SIGNAL:** 4 to 20mA Linear

OPERATING VOLTAGE: 7V - 28V dc. Reverse polarity protected. MAXIMUM SERIES RESISTANCE: = {40 x (Supply Voltage - 7)} ohms SENSING ELEMENT: Ultra High Capacitance - Aluminium Oxide Type

RANGES: See How to Order Below

AUTOCAL: Field calibration / Span check facility. Activated and operated via two button switches on the Transmitter body. Locked in normal operating mode to avoid tamper.

FACTORY CALIBRATION: Supplied with Certificate of Calibration traceable

ACCURACY: Better than ±3.6°F (±2°C) dewpoint (NIST / NPL traceable for range -130°F to +68°F

**TEMPERATURE COEFFICIENT:** Temperature compensated for operating range. REPEATABILITY: Better than ±0.54°F dewpoint

OPERATING TEMPERATURE: -4°F to +140°F (-20°C to +60°C) STORAGE TEMPERATURE: -4°F to +158°F (-20°C to +70°C)

OPERATING PRESSURE: From 0.145PSIA (0.01 barA) to Maximum 5,076PSIA

**OPERATING HUMIDITY** (External): Maximum - 95% RH Non-condensing SAMPLE FLOW RATE: Flow independent but ideally 2 to 5 litres per minute. Max: 25 litres/min

CABLE TERMINATIONS: NEMA4X (IP66) rated, size C, DIN EN 175301 connector at the Transmitter and other end terminated with bootlace ferrules. CABLE: Supplied with 6.6 feet standard cable. Nominal diameter 0.13 inches, (3.3mm), 92ohms/km at 68°F (20°C)

**ELECTROMAGNETIC COMPATIBILITY (EMC):** 

Complies BS FN 61326-1 WARM UP TIME: 10 seconds FAULT CONDITIONS:

**Open Circuit :** Output drives to 20.50mA **Short Circuit :** Output drives to 20.75mA

**ISOLATION:** Sensing Element connected to the 4-20mA loop but isolated from Transmitter body.

TRANSMITTER ENCLOSURE: 316 Stainless steel body with size C, DIN EN

175301 connector

SENSOR PROTECTION: 316 Sintered stainless steel filter - 50 micron

PROBE MATERIAL (WETTED PARTS): 316 Stainless Steel

WEATHERPROOF CLASSIFICATION: NEMA4X (IP66) when connector mated to

MECHANICAL CONNECTION: 3/4" UNF (16tpi) with integral Viton "O" ring

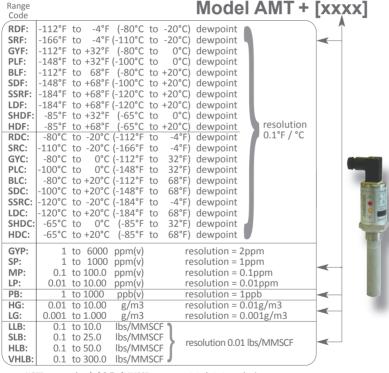
MECHANICAL WARRANTY: 24 months in case of faulty workmanship and

defective parts **CALIBRATION WARRANTY: 12 months.** 

ACCESSORIES INCLUDED: Standard 2 meter connecting cable.

# How to Order - Step 1 of 3

# Select from a standard range below



NOTE: ppm, ppb, g/m3 & lbs/MMSCF ranges are stated at atmospheric pressure Model AMT Transmitter can be configured to provide corresponding ranges for operation at other constant pressure. This must be stated at time of order.

Order Example:- Dewpoint Transmitter Model AMT-GYF = −112°F to 32°F dewpoint range.

# How to Order - Step 3 of 4

Order a Control Display

# Model DS1200 ≺



- Perfect for continuous online measurements
- Fast Response
- 22V 253V AC or DC operation Single channel in-line hygrometer
- Panel protection to NEMA4X (IP66)
- 2 independent alarms

For more details please see data sheet DS1200.

# How to Order - Step 2 of 4

Select A Longer Cable

# CAB069-AMT + IXXI

Your AMT Transmitter comes complete with 2 metres (6.6ft) of connecting cable as standard.

To order a longer length in metres, add number after this part number.

Example: CAB069-AMT-10 for 10 metres (32.8ft)

Non-Standard off the shelf cables available in:

(39.4ft) (49.2ft) (82.0ft) (9.8ft) (13.1ft) (16.4ft) = = 25 =

**10** = (32.8ft) For longer lengths please call.

#### **AMT Standard Cable 2 Meters**



Part No. CAB069-AMT

#### How to Order - Step 4 of 4

#### Select a Transmitter Holder

Comes compete with mounting plate.

2 grades available: 303 or 316 Stainless Steel

#### [Pine Fittings] ADSH-AMT 303 + [X] [X] ADSH-AMT 316 +

X = Choose INLET Pipe Fitting 0 = None 1/8" NPT Port

**4** = 1/4" - Pipe OD **8** = 1/8" - Pipe OD **6** = 6mm - Pipe OD

X = Choose OUTLET Pipe Fitting

0 = None 1/8" NPT Port

**4** = 1/4" - Pipe OD **8** = 1/8" - Pipe OD 6 = 6mm - Pipe OD

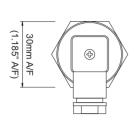
Order Example:- For Transmitter Holder 303 grade with 2 x 1/4 fittings Order ADSH-AMT 303 - 4 - 4

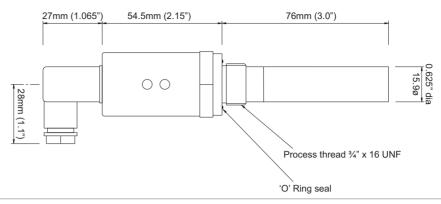


#### **Dimensions**

## **Model AMT Dewpoint Transmitter**

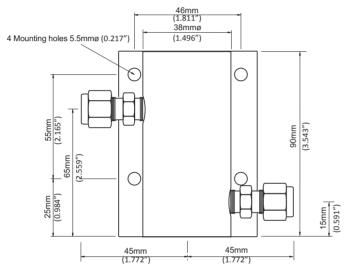
4-20mA Loop Powered Transmitter

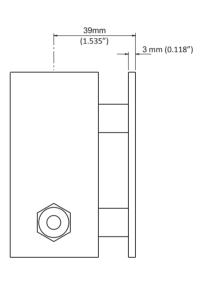




### **Model ADSH-AMT Transmitter Holder**

Flow Through Sample Cell





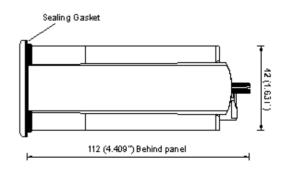
Note: The Assembly is shown with 1/4" OD tube fittings. The dimensions across the tube fittings will vary for all other size fittings.

### Model DS1200 Display

Stable, Accurate and Reliable Alarmed Monitor



Panel out-out: 44.5 x 91.5 (1.752" x 3.602")



Maximum panel thickness: 10mm (0.394")

Product specification may be subject to change, without prior notice, as part of our ongoing product development programme.

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