Model AMT

Dewpoint Transmitter 4-20mA. Ranges available between -120°C to +20°C (-184°F to +68°F) 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/m³, 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 ±2°C dewpoint.

FEATURES

• 2 Wire Loop Powered Dewpoint Transmitter
• Overall Range: -120°C to +20°C Dewpoint
• Accuracy better than ± 2°C Dewpoint
• INTEGRATED AUTOMATIC CALIBRATION
• Can be configured for linear 4-20mA signal in: °C & °F Dewpoint, ppm(v), ppb(v), g/m³, lb/MMSCF
• Temperature Compensation
• Failure Diagnostics
• Long Term Stability
• Fast Response Time
• IP66 / NEMA4X 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 IP66 (NEMA4X), with the transmitter electrical connections made via a secure industrial connector.

Model AMT transmitter can withstand 35,000 kPa (350bar) maximum pressure and by employing a low resistance cable, the transmitter can be located at significant distances, in excess of 1000 metres, 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.

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

Note: The Model AMT is not suitable for Ammonia (NH₃), Chlorine (CL) and Hydrogen Chloride (HCl). SF₆ can be monitored with no effect to the sensor element. Sulphur Dioxide (SO₂) can be monitored if the moisture content is low, less than 100ppm(v).
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


MAXIMUM SERIES RESISTANCE: \( (40 \times (\text{Supply Voltage} - 7)) \) 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.

FACTORY CALIBRATION: Supplied with Certificate of Calibration traceable to NPL / NIST

ACCURACY: Better than \( \pm 0.3 \) °C dewpoint

TEMPERATURE COEFFICIENT: \( = 0.1 \) °C / °F

REPEATABILITY: Better than \( \pm 0.1 \) °C dewpoint

OPERATING TEMPERATURE: -20°C to +60°C

STORAGE TEMPERATURE: -20°C to +70°C

OPERATING PRESSURE: From 1kPa (0.01 barA) to Maximum 35,000kPa (350 barA)

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: IP66 (NEMA4X) rated, size C, DIN EN 175301 connector at the Transmitter and other end terminated with bootlace ferrules.

CABLE: Supplied with 2m standard cable. Nominal diameter 3.4mm, 92ohms/km at 20°C

ELECTROMAGNETIC COMPATIBILITY (EMC): Complies to BS EN 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 Stainless steel mesh - 50 micron

PROBE MATERIAL (WETTED PARTS): 316 Stainless Steel

WEATHERPROOF CLASSIFICATION: IP66 / NEMA4X when Connector mated to Transmitter.

MECHANICAL CONNECTION:
- 3/4" UNF (16tpi) with integral Viton “O” ring seal.

MECHANICAL WARRANTY: 12 months.

CALIBRATION WARRANTY: 24 months in case of faulty workmanship and defective parts.

ACCESSORIES INCLUDED: Standard 2 meter connecting cable.

How to Order - Step 1 of 4
Select a Range Below

Model AMT- [X]

<table>
<thead>
<tr>
<th>Range</th>
<th>Description</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD(F)</td>
<td>-100°C to +20°C (-148°F to +68°F) dewpoint</td>
<td>( = 0.1 ) °C / °F</td>
</tr>
<tr>
<td>LD(F)</td>
<td>-120°C to +20°C (-184°F to +68°F) dewpoint</td>
<td></td>
</tr>
<tr>
<td>HD(F)</td>
<td>-65°C to +20°C (-85°F to +68°F) dewpoint</td>
<td></td>
</tr>
<tr>
<td>SILVER</td>
<td>-110°C to -20°C (-166°F to -4°F) dewpoint</td>
<td></td>
</tr>
<tr>
<td>RED</td>
<td>-80°C to -20°C (-112°F to -4°F) dewpoint</td>
<td></td>
</tr>
<tr>
<td>GREY</td>
<td>-80°C to 0°C (-112°F to +32°F) dewpoint</td>
<td></td>
</tr>
<tr>
<td>BLUE</td>
<td>-80°C to +20°C (-112°F to +68°F) dewpoint</td>
<td></td>
</tr>
<tr>
<td>PURPLE</td>
<td>-100°C to 0°C (-148°F to +32°F) dewpoint</td>
<td></td>
</tr>
</tbody>
</table>

SP: 1 to 1000 ppm(v) - resolution = 1ppm

MP: 0.1 to 100.0 ppm(v) - resolution = 0.1ppm

LP: 0.01 to 10.00 ppm(v) - resolution = 0.01ppm

PB: 1 to 1000 ppm(v) - resolution = 1ppm

HG: 0.01 to 10.00 g/m3 - resolution = 0.01g/m3

LG: 0.001 to 1.000 g/m3 - resolution = 0.001g/m3

LB: 0.1 to 100 lb/MMSCF

To order, select a range and follow the instructions. Example: Dewpoint Transmitter Model DS1200-AMT-SDC(F) = –100°C to +20°C (-148°F to +68°F) dewpoint.

How to Order - Step 2 of 4
Select A Longer Cable Below

CAB069-AMT + [XX]

Non-Standard off the shelf cables available in 3, 4, 5, 10, 12, 15, 25m lengths. For longer lengths please call.

Part No. CAB069-AMT

How to Order - Step 3 of 4
Order a Display Below

Model DS1200

- Perfect for continuous online measurements
- Fast Response
- 12V – 235V AC or DC operation
- Single channel in-line hygrometer
- Panel protection to IP66 (NEMA4X)
- 2 independent alarms
- 2 independent alarms

For more details please see data sheet DS1200.

How to Order - Step 4 of 4
Select a Transmitter Holder
Comes compete with mounting plate. 2 grades available: 303 or 316 Stainless Steel

ADSH-AMT 303 + ADSH-AMT 316 +

Pipe Fittings

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

© Alpha Moisture Systems Ltd.
**Dimensions**

**Model AMT Dewpoint Transmitter**
4-20mA Loop Powered Transmitter

![Model AMT Dewpoint Transmitter diagram]

**Model ADSH-AMT Transmitter Holder**
Flow Through Sample Cell

![Model ADSH-AMT Transmitter Holder diagram]

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

![Model DS1200 Display diagram]