

Model ADHT-Ex

Intrinsically Safe Dewpoint Transmitter

Features :-

- **3 Wire, 4-20mA, 24V Dewpoint Transmitter**
- **Intrinsically Safe - Ex ATEX II 1G / EEx ia IIC T6**
- **Overall Range -110°C to +20°C Dewpoint**
- **Accuracy $\pm 2^\circ\text{C}$ Dewpoint (or equivalent)**
- **Calibrated in $^\circ\text{C}$, $^\circ\text{F}$ or ppm(v)**
- **Polarity Protected Input**
- **Weatherproof Rating - IP65**
- **Open / Short Circuit Detection**
- **Built-in Temperature Compensation**
- **High Resolution Measurement Circuitry**
- **Calibration Traceable to National & International Standards**



The Alpha Moisture Systems **Model ADHT-Ex** is a 3 wire, 4-20 mA, 24V powered dewpoint transmitter. The unit is fully self contained in a robust stainless steel casing with weatherproof protection to IP65, making it ideal for use in heavy industrial environments.

Designed with the operator in mind, **Model ADHT-Ex** is extremely easy to use and the digital **dewSMART™** technology ensures accurate and reliable readings with little or no maintenance.

Model ADHT-Ex is certified intrinsically safe to EEx ia IIC T6 for use in hazardous areas using a MTL 2441B signal isolator for 110V AC or 240V AC operation, or MTL 5042 for 24V DC operation.

Various ranges are available covering an overall range from -110°C to +20°C dewpoint. The **Model ADHT-Ex** derives its power directly from the signal isolator and it is configured to give a linear 4-20mA signal for the chosen range.

The 4-20mA output signal can be transmitted up to 1000 meters to either DCS, SCADA system or any other suitable equipment with an input impedance of less than 600Ω.

Model ADHT-Ex is supplied ready for use, with calibration certificate traceable to National & International Humidity standards, instruction manual and 10 metres of connecting cable.

Specifications

Model ADHT-Ex Intrinsically safe dewpoint transmitter

Sensor

MODEL

ADHT Aluminium Oxide, Ultra High Capacitance **dewSMART™** sensor with IP65 connector.

RANGE

Overall Range -110°C to +20°C dewpoint or 0.01 to 23000ppm. (Other engineering units available)

ACCURACY

± 2°C Dewpoint (3 Sigma RSS)

OPERATING TEMPERATURE RANGE

-20°C to +60°C

STORAGE TEMPERATURE

-40°C to +80°C

TEMPERATURE COEFFICIENT

Temperature compensated for operating range.

RESPONSE TIME

Wet to Dry : -20°C to -60°C - less than 60 secs.
Dry to Wet : -110°C to -20°C - less than 20 secs

SAMPLE FLOW RANGE

Flow independent but ideally 2 to 5 sl/min

CALIBRATION

Supplied calibrated with traceability to NPL. (NPL traceability for range -75°C to +20°C)

RECOMMENDED RECALIBRATION PERIOD

1 Year

REPLACEMENT SENSOR

Completely interchangeable

Electrical

TRANSMITTER TYPE

3 Wire Type Transmitter

OUTPUT SIGNAL

4 to 20mA Linear suitable for external equipment with a maximum input impedance of 600 W (@ 24V) (Dependant on isolator selection)

MAXIMUM SAFE AREA CABLE LENGTH

1000m

MAXIMUM HAZARDOUS AREA CABLE LENGTH

200m Dependant on cable parameters and hazardous area classification

Hazardous Area Cable Parameters when using MTL 2441B or MTL 5042 signal isolators/repeaters.			
Gas Group	µF	mH or µH/Ω	
IIC	0.13	4.3	55
IIB	0.39	12.6	165
IIA	1.04	33.6	440

CABLE TERMINATIONS

IP65 rated connector at the sensor and other end terminated with bootlace ferrules.

ELECTROMAGNETIC COMPATIBILITY (EMC)

Immunity: Complies with EN 50082-1 : 1992
Emissions: Complies with EN 50081-1 : 1992

INTRINSIC SAFETY CERTIFICATION

Standard: EN 50014:1992 / EN50020:1994 Code : ATEX II 1G / EEx ia IIC T6 - Certificate No: SIRA99ATEX2096X
For full safety description please request the above certificate.

WARRANTY

2 years for faulty workmanship and defective parts.

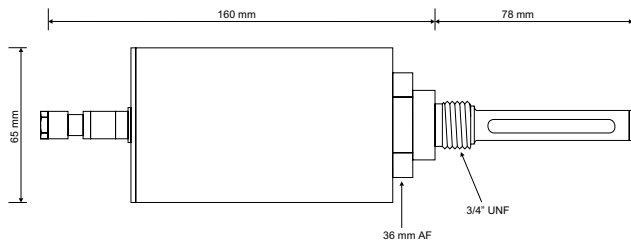
Corrosive Gases

The Sensor should not be exposed to corrosive gases (or corrosive contaminants in the main gas sample) as they would chemically attack the sensor and render it useless.

Examples of such gases are mercury (Hg), ammonia (NH₃), chlorine (Cl₂) and wet acid vapours i.e. acid vapours in gas with moisture content greater than 100ppm(v). Strong oxidising agents such as ozone (O₃) should also be prevented from coming into contact with the sensor.

Weights and Dimensions

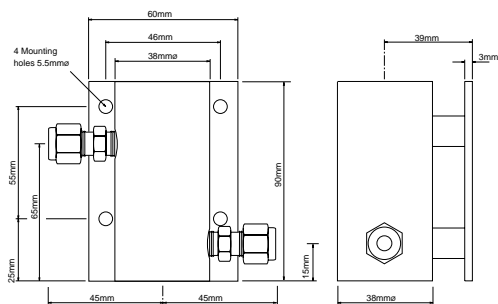
SENSOR



Allow a minimum of 60mm above the sensor body for plug and cable.

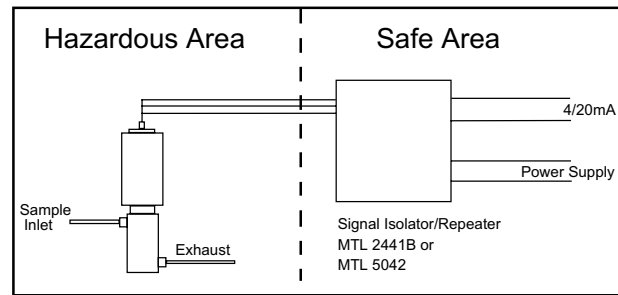
Weight : 0.83kg
Packed weight :3.5kg

SENSOR HOLDER



Weight : 800g
Packed Weight : 1Kg

Installation



Note: Samples should be taken from the upper surface of the main line to prevent any risk of condensate reaching the sensor. Additional components may be required for specific applications - refer to *Accessories* and *Sampling System* specification sheets. Use stainless steel, nickel or copper piping wherever possible.

Ordering Information

SENSOR

Model ADHT-Ex-

RANGE		
PURPLE	-110 to +20°C	PL
SILVER	-110 to -20°C	SR
BLUE	-80 to +20°C	BL
GREY	-80 to 0°C	GY
RED	-80 to -20°C	RD
YELLOW	-60 to 0°C	YW
GOLD	-50 to +20°C	GD
GREEN	-30 to +20°C	GN

SENSOR HOLDER (OPTIONAL)

Model ADSH-

FITTINGS	
1/4" OD PIPE	4
6mm OD PIPE	6
1/8" OD PIPE	8

WITH PORT FOR PRESSURE GAUGE P

Example: If your requirement is for a dewpoint transmitter with a range -80°C to -20°C dewpoint then please order: **Model ADHT-Ex-RD**.

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