

# Model DSP-Rm

Rechargeable Portable Dewpoint Transmitter

## Features :-

- Mains rechargeable operation
- Overall range -110°C to +20°C dewpoint
- User Friendly - Simple Operation
- Portable - Fully Self Contained
- Self-Diagnostics on Start-up
- Digital Indication
- Automatic Switch Off
- Quick Connect SS Coupling
- Excess of 200 Hours of Continuous Operation
- Desiccant Dry-Down Chamber For Rapid Measurements
- Selectable Engineering Units in °C, °F, ppb(v), ppm(v), ppm(w), g/m<sup>3</sup> & lb/MMSCF

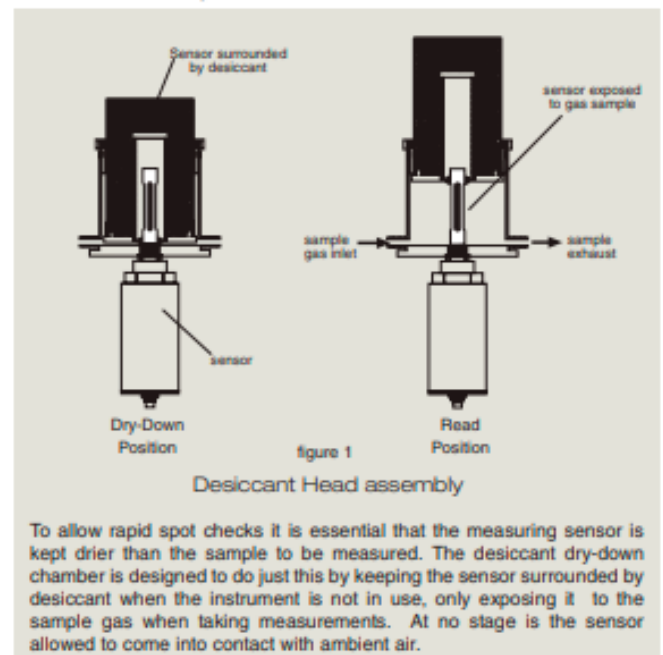


**Model DSP-Rm** is a fully self-contained portable hygrometer from Alpha Moisture Systems which will deliver the most dependable moisture measurement in industrial and laboratory applications. Designed with the operator in mind, Model DSP-Rm is extremely easy to use and the digital **dewSMART™** technology ensures accurate and reliable readings over long periods with little or no maintenance. The incorporation of stainless steel quick connect fittings, together with the Desiccant Dry-down Chamber, allows rapid measurements which saves both time and cost.

**Model DSP-Rm** can operate from a mains power supply or standard rechargeable batteries. Designed to operate at atmospheric pressure, Model DSP-Rm is available in a total of six different ranges, encompassing an overall range from -110°C to +20°C dewpoint, with the display selectable in various engineering units:- °C, °F, ppm(v), ppb(v), ppm(w), g/m<sup>3</sup> & lb/MMSCF. Parts per million (weight) can be programmed for gases other than those pre-programmed (Air, Ar, H<sub>2</sub>, SF<sub>6</sub>, CO<sub>2</sub> & N<sub>2</sub>) by simply inputting the molecular weight of the gas under test.

Full interchangeability of the dewSMART™ Sensor ensures guaranteed accuracy and reliability without the need to return the whole unit back to base for calibration and setup.

Model DSP-Rm is supplied ready for use with batteries, battery charger, calibration certificate traceable to National and International Humidity standards, two metres of stainless steel braided PTFE sampling hose, instruction manual and an optional robust transit case.



To allow rapid spot checks it is essential that the measuring sensor is kept drier than the sample to be measured. The desiccant dry-down chamber is designed to do just this by keeping the sensor surrounded by desiccant when the instrument is not in use, only exposing it to the sample gas when taking measurements. At no stage is the sensor allowed to come into contact with ambient air.

**Corrosive Gases:** The Sensor should not be exposed to corrosive gases (or corrosive contaminants in the gas sample) as these can chemically attack the sensor, impairing calibration accuracy and/or damaging it beyond economic repair. Examples of such gases are mercury (Hg), ammonia (NH<sub>3</sub>), chlorine (Cl<sub>2</sub>) etc. Strong oxidising agents such as ozone (O<sub>3</sub>) should also be prevented from coming into contact with the sensor.

## Specifications

### SENSOR TYPE

Model DDHS - Aluminium Oxide Ultra High Capacitance Digital Sensor

### RANGE

Six different ranges encompassing an overall range of -110°C to +20°C dewpoint (-148 to +68°F).

Corresponding ranges in ppm(v), ppb(v), ppm(w), g/m<sup>3</sup> & lb/MMSCF.

Parts per million (weight) programmable for different gases.

### DISPLAY

Industrial specification, 2 x 20 Character LCD with programmable bright & dark contrast.

### DISPLAY RESOLUTION

0.1°C dewpoint / 0.1ppm

### POWER SUPPLY

9V DC - Six "C" type rechargeable batteries.  
Battery charger included

### BATTERY LIFE

In excess of 200 hours during continuous operation.

### ELECTRONICS ACCURACY

Better than ± 1% of range.

### WARM UP TIME

15 Seconds

### SENSOR CALIBRATION ACCURACY

Better than ±2°C dewpoint. All units supplied with certificates documenting factory calibration against known moisture levels traceable to National & International humidity Standards.

### REPEATABILITY

± 0.1°C dewpoint.

### TYPICAL RESPONSE TIME

95% of reading within 20 seconds in normal operation.

### OPERATING CONDITIONS

Temperature : -20°C to +50°C  
Humidity : 0-98% RH, Non-condensing  
Storage Temperature : -50°C to +70°C  
Operating Pressure : Atmospheric to 0.5 barg

### ELECTROMAGNETIC COMPATIBILITY (EMC)

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

### FLOW RATE TO SENSOR

2 to 20 litres/minute

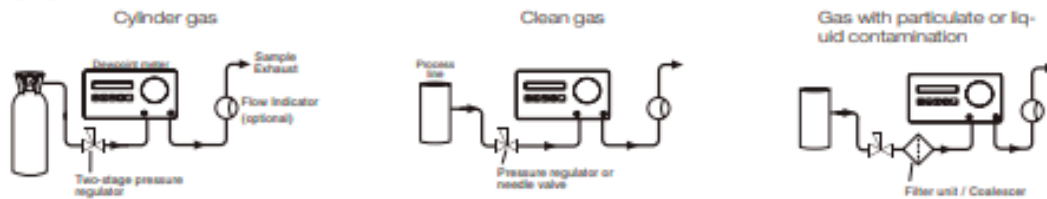
### CONNECTIONS

Swagelok quick-connect stainless steel coupling and 0.25" overall diameter compression tube fitting.

### WARRANTY

1 year from date of delivery against faulty material or workmanship.

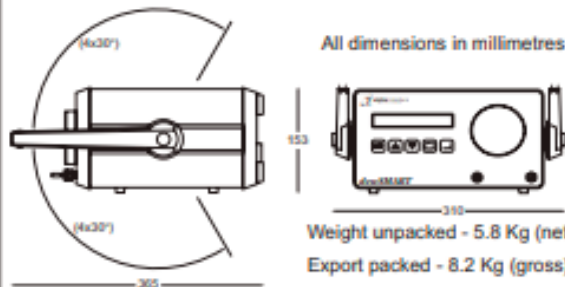
## Installation



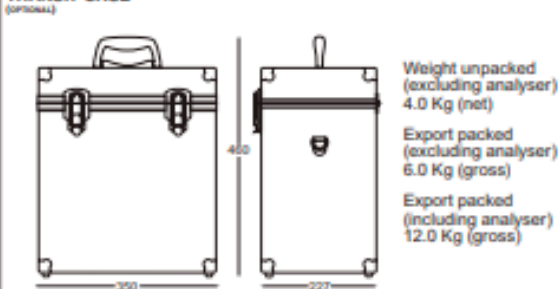
For details on additional accessories please see Accessories specification sheet

## Weights and Dimensions

### INSTRUMENT



### TRANSIT CASE (OPTIONAL)



## 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 (NH<sub>3</sub>), chlorine (Cl<sub>2</sub>) and wet acid vapours i.e. acid vapours in gas with moisture content greater than 100ppm(v). Strong oxidising agents such as ozone (O<sub>3</sub>) should also be prevented from coming into contact with the sensor.

## Ordering Information

### INSTRUMENT

#### Model DSP-Rm-

RANGE	PL
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 -80 to 0°C	YW
GOLD -50 to +20°C	GD
GREEN -30 to +20°C	GN

### TRANSIT CASE (OPTIONAL)

#### Model DSP-Tc

Example : If your requirement is for a dewpoint transmitter with an operating range of -80°C to -20°C dewpoint then please order as : **Model DSP-Rm-RD**

3189 DSP-Rm (Temp) pd210923-ISS 1

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CERTIFICATE No. FM35600  
BS EN ISO 9001:2015

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