

Model DSP-FCI

Portable Dewpoint Meter

Features :-

- Overall Range -110°C to +20°C Dewpoint
- Portable - Fully Self Contained
- Self-Diagnostics on Start-up
- Quick Connect SS Coupling
- Ordinary "C" Type batteries
- Sample flow control for inlet pressure up to 20 barg
- Sample flow indication
- Excess of 250 Hours of continuous operation
- Desiccant Dry-Down Chamber for rapid measurements
- Selectable engineering units in °C, °F, ppb(v), ppm(v), ppm(w), g/m³ & lb/MMSCF



Model DSP-FCI 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-FCI** 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-FCI also incorporates an integral flow control valve which allows for high pressure samples (up to 20 barg) to be reduced to atmospheric pressure for introduction to the desiccant head assembly. In addition the built in flow indicator with sample-specific graduation, provides flow control for air, SF₆ or any other gas.

Model DSP-FCI 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/m³ & lb/MMSCF. Parts per million (weight) can be programmed for gases other than those pre-programmed (Air, Ar, H₂, SF₆, CO₂ & N₂) by simply inputting the molecular weight of the gas under test.

The unit's portability and ease of use are ideally suited for measurement of the moisture content of air or gas on a spot-check basis.

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-FCI is supplied ready for use with batteries installed, 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.

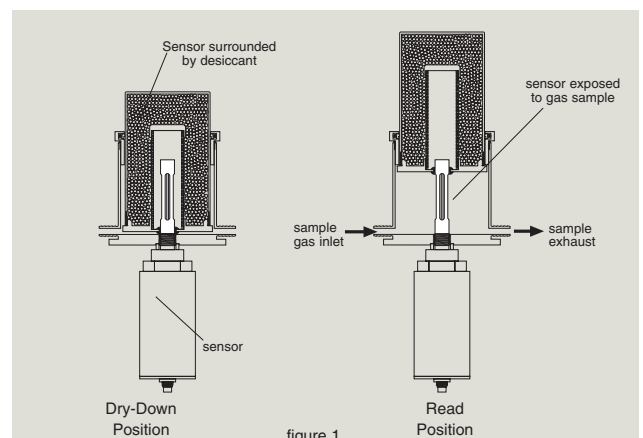


figure 1
Desiccant Head assembly

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.

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MODEL DSP-FCI - Portable Dewpoint Meter

Specification

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/m³ & lb/MMSCF.

Parts per million (weight) programmable for different gases.

OPERATING PRESSURE

Input pressure to flow meter: 20 bar maximum

Input pressure to Dessicant Head Assembly: 0.5 barg maximum

NOTE: The sample pressure must be reduced to 0.5 barg maximum by the integral flow control valve, before it is allowed into the Dessicant Head Assembly. The Dessicant Head Assembly is only designed to operate at 0.5 barg maximum pressure.

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 batteries.

BATTERY LIFE

In excess of 250 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

ELECTRMAGNETIC 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

Inlet: Swagelok quick-connect stainless steel coupling.

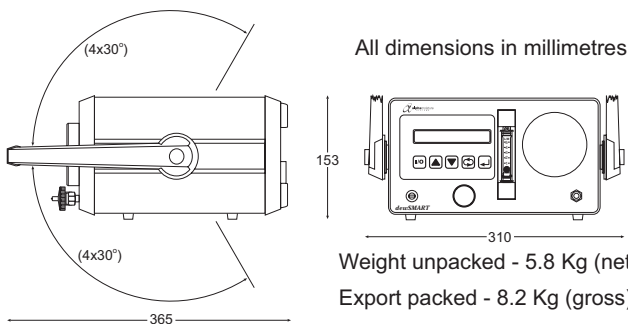
Outlet: 0.25" overall diameter compression tube fitting.

WARRANTY

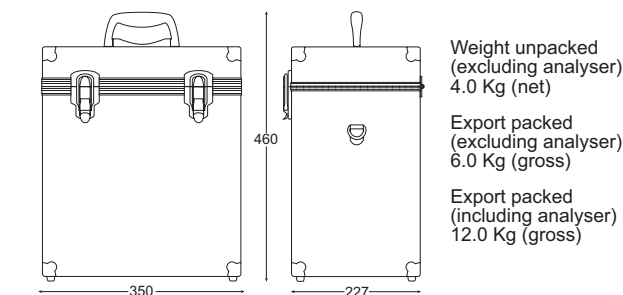
2 years from date of delivery against faulty material or workmanship.

Weights and Dimensions

INSTRUMENT



TRANSIT CASE (OPTIONAL)



Ordering Information

Model DSP-FCI-

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

TRANSIT CASE (OPTIONAL)

Model DSP-TC

Example : If your requirement is for a Portable dewpoint meter with an operating range of -80°C to -20°C dewpoint then please order as :

Model DSP-FCI-RD

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.

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