



## DEWRanger DUO



The **DEWRanger DUO** hygrometer is a fully portable instrument for making spot checks of the absolute moisture content of industrial gases. It can also be used for longer term measurements. It is powered either from its internal re-chargeable battery or from a mains supply of 90-250Vac. The instrument consists of a STORK Instruments **DEWCom** dewpoint transmitter (see details on [www.storkinstruments.eu](http://www.storkinstruments.eu)) which is fitted in a special Desiccant Head. These are installed in a robust Peli industrial case. The standard instrument covers the ranges  $-100^{\circ}\text{C}$  to  $+20^{\circ}\text{C}$  dewpoint ( $-148^{\circ}\text{F}$  to  $+68^{\circ}\text{F}$  dewpoint),  $\text{g}/\text{m}^3$ , 0-9999 ppmv as well as 0-1000 lb/mmscf for natural gas. Selection of the displayed hygrometric unit is factory set but may be easily changed by the user by means of the STORK Instruments Interface (available separately). A 4 - 20 mA, output is accessible from the front panel. **DEWRanger DUO** utilizes the STORK bi-ceramic moisture sensor. Details of this technology are available on the STORK website [www.storkinstruments.eu](http://www.storkinstruments.eu). Calibration is performed in STORK Instruments calibration laboratory using a 2-temperature 2-pressure dewpoint generator fitted with NPL calibrated PT100 temperature sensors. **DEWRanger DUO** is provided with a special desiccant head which keeps the sensor of the **DEWCom** dry when not in use. The molecular sieve desiccant charge normally lasts several years. If replacement is required this can be done by your local distributor.

The monitor as standard provides a 4 to 20 mA linear output over the entire operating range of the instrument in the selected engineering units. The output can be digitally scaled to cover a partial range of the measurement parameter using the STORK Instruments Interface unit (available separately). A thick walled PTFE sample line (supplied with the instrument), is connected to the instrument INLET and to the sample point of the gas to be measured. For operation, the sample gas should be at a pressure of 0.5 to 5 bar and a flow rate between 1 and 5 liters per minute. After about 30 seconds to allow the sampling system to be purged by the sample gas the D-valve (see panel illustration) is held down until the telescopic desiccant head extends to the UP position under the influence of the sample gas pressure. When the reading has stabilized the dewpoint is read.

Routine maintenance of the Stork **DEWRanger** hygrometer is confined to regular re-calibrations. This work can only be done by exposure of the moisture sensor to sample gases of known moisture content. The frequency of re-calibrations required in order to maintain the performance of the hygrometer is primarily dependent on the composition of the gas to which the sensor is exposed: i.e. content of liquid and particulate contaminants, corrosive elements, etc. In most applications, annual re-calibration ensures that the stated accuracy of the hygrometer is maintained.

The **DEWCom** sensor is fully interchangeable. Maintaining the measurement accuracy of the **DEWRanger DUO I** hygrometer is simply a case of exchanging the sensor for a freshly calibrated one, which will be supplied with a traceable certificate of calibration.



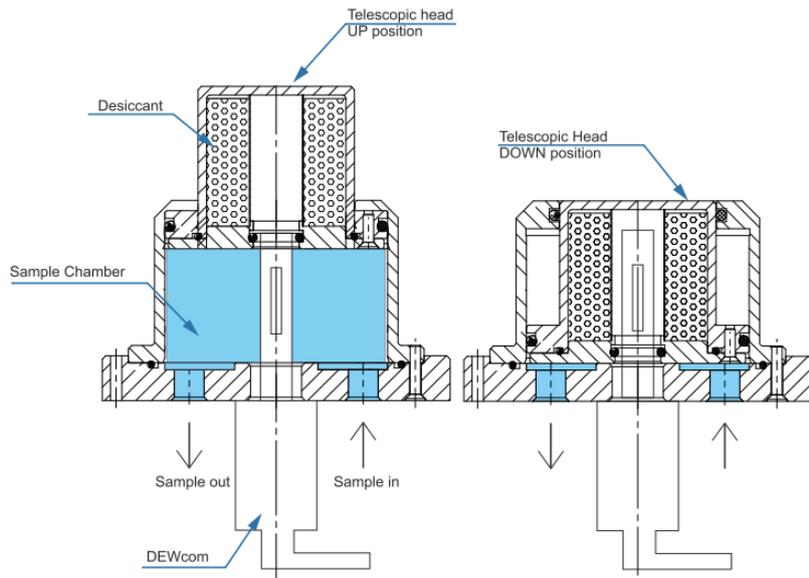
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### TECHNICAL SPECIFICATION

<b>Display:</b>	50mm x 38mm graphic
<b>Dewpoint Measurement Ranges:</b>	-100°C to +20°C, -148°F to +68°F, 0 to 9999 ppmv, 0 to 1000 lb/mmscf, g/m <sup>3</sup> set by interface unit
<b>Electronic accuracy:</b>	PPMV range ±1% of reading, LB/MMSCF range ±1% of reading
<b>Output:</b>	4-20mA
<b>Operating environment:</b>	0°C to +40°C, 0 to 90%RH
<b>Power supply:</b>	90-250 Vac
<b>Weight:</b>	4.4 kg
<b>Case:</b>	PELI 270x246x174mm
<b>Environmental protection:</b>	IP67
<b>Sensor:</b>	STORK Bi-Ceramic Sensor
<b>Calibration range:</b>	-100°C to +20°C
<b>Interchangeability:</b>	Fully interchangeable sensors
<b>Dewpoint accuracy:</b>	±2°C
<b>Operating temperature:</b>	0 to +40°C
<b>Temperature coefficients:</b>	Temperature compensated from -20°C to +40°C
<b>Flow rate:</b>	Recommended 1-5 liters per minute

**Desiccant Head**





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Panel showing D-valve



Outline

