Dew point sensors / transmitters for low dew points

What is dew point?
The atmospheric temperature (varying according to pressure and humidity) below which water droplets begin to condense and dew can form. In technical terms, the dew point is the temperature at which the water vapor in a sample of air at constant barometric pressure condenses into liquid water at the same rate at which it evaporates. At temperatures below the dew point, the rate of condensation will be greater than that of evaporation, forming more liquid water.

Facts about dew and fog:
The condensed water is called dew when it forms on a solid surface. The condensed water is called either fog or a cloud, depending on its altitude, when it forms in the air.

"Dew point temperature is never greater than the air temperature because relative humidity cannot exceed 100%"

- The maximum gap between the temperature and dew point is 80°C. i.e. if the dew point (Td) is -40°C, the temperature should not be higher than 40°C.
- The working temp range of the probe is -40°C … +60°C.
- The scaling mentioned in the data sheet for Td / Tf / T is only for the output



Link to the website	EE371	EE355	EE354
Measuring range	Tf > 0 °C, Td will be displayed		
Dew point Td	-60…60 °C Td	-60…60 °C Td	-20…50 °C Td
Frost point Tf	-60…0 °C Td	Td < 0 °C output is Tf	Td < 0 °C output is Tf
Volume concentration Wv	20…200,000 ppm	20…200,000 ppm	Not available
Working range			
Probe	-40…70 °C	-40…70 °C	-40…60 °C
Electronics	-40…60 °C	-40…60 °C	-40…60 °C
With LCD display	-20…50 °C	Not applicable	Not applicable
Scaling range			
Dew point Td in °C	-40…60 /-10…50 /-60…20	-100…80°C Td (adjustable scaling)	-40…80°C Td (selected from table)
Frost Tf in °C	-40…60 /-10…50 /-60…20		
Volume concentration Wv	0…100 / 0…500 / 0…1000 ppm		
Accuracy	±2 °C Td ± (5 ppm + 9% measured value)	±2 °C Td ± (5 ppm + 9% measured value)	±1 °C Td
Outputs for Td, Tf, Wv	0-1 V/ 0-5 V/ 0-10 V **or** 0-20 mA/ 4-20 mA	Modbus RTU **and** 4-20mA (3-wire technology)	Modbus RTU and 4-20mA
Power supply	10-30 V DC	18-28 V DC	10-28 V DC
Pressure range	0…20 bar / 0…100 bar	0…80 bar	0…80 bar
Output parameters	Any **2** of the following: Dew point Td, Frost point Tf, ppm volume concentration Wv	Any 1 of the following: Dew point Td, Frost point Tf, ppm volume concentration Wv	Any 1 of the following: Dew point Td, Frost point Tf
Options	Relay output (Model S) Display (D08)		
Application	low dew point measurement in compressed air systems and industrial process control	compressed air systems, plastic dryers and industrial drying processes	Ideal sensor for refrigeration dryers

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