



DEW POINT CONTROLLER & SENSOR

Description

This new microprocessor-based family based DEW point Controller with Sensor is designed for a wide variety of Variable Gas Quality Test, Compressed air dryers, plastic dryers, additive manufacturing and other OEM applications. The AIDP24C is Dew Point Controller with Output Of 4-20mA & RS 485 Modbus RTU.

**AIDP24C****AIDP24S****AIDP24FC
FLOW CELL****AIDPCIC
INTERFACE CBLE**

Why is knowledge of dew point in compressed air important?

The importance of dew point temperature in compressed air depends on the intended use of the air. In many cases dew point is not critical (portable compressors for pneumatic tools, gas station tire filling systems, etc.). In some cases, dew point is important only because the pipes that carry the air are exposed to freezing temperatures, where a high dew point could result in freezing and blockage of the pipes. In many modern factories, compressed air is used to operate a variety of equipment, some of which may malfunction if condensation forms on internal parts. Certain water sensitive processes (e.g. paint spraying) that require compressed air may have specific dryness specifications. Finally, medical and pharmaceutical processes may treat water vapor and other gases as contaminants, requiring a very high level of purity.

What is the typical range of dew point temperatures to be found in compressed air?

Dew point temperatures in compressed air range from ambient down to -80 °C (-112 °F), sometimes lower in special cases. Compressor systems without air drying capability tend to produce compressed air that is saturated at ambient temperature. Systems with refrigerant dryers pass the compressed air through some sort of cooled heat exchanger, causing water to condense out of the air stream. These systems typically produce air with a dew point no lower than 5 °C (23 °F). Desiccant drying systems absorb water vapor from the air stream and can produce air with a dew point of -40 °C (-40 °F) and drier if required.

What are the standards for the quality of compressed air?

ISO8573.1 is an international standard that specifies the quality of compressed air. The standard defines limits for three categories of air quality:

- * Maximum particle size for any remaining particles
- * Maximum allowable dew point temperature
- * Maximum remaining oil content

Each category is given a quality class number between 1 and 6 according to the reference values shown in the table below. As an example, a system that conforms to ISO8573.1 and is rated for class 1.1.1 will provide air with a dew point no higher than -70 °C (-94 °F). All remaining particles in the air will be 0.1 um or smaller, and the maximum oil content will be 0.01 mg/m3. There are other standards for compressed air quality, such as ANSI/ISA- 7.0.01-1996 for instrument air.

**SPECIFICATIONS**

SPECIFICATIONS	AIDP24C
POWER	90-260VAC
RANGE	-110~60'C
DISPLAY	OLED LCD
DIGITAL OUTPUT	2 NOS RELAY 1CO 5A
ANALOG OUTPUT	4~20mA
COMMUNICATION	RS485 MODBUS RTU
CURRENT CONSUMPTION	135mA
ACCURACY	+/- 2 'Cdp
SIZE IN LxBXD	96X96X85
OPERATING TEMPERATURE	- 40'C ~55'C
HOUSING MATERIAL	ABS
MAX. DIRECT PRESSURE	15 BAR
SENSOR Connection	1/2" BSP Male
SENSOR MOC	S.S.304
SENSOR FILTER	S.S316

PERAMETERS BY COMMUNICATION

RELATIVE HUMIDITY %
TEMPERATURE IN 'C
TEMPERATURE IN 'F
TEMPERATURE IN 'K
DEW POINT IN 'C
DEW POINT IN 'F
DEW POINT IN 'K
SATURATED PRESSURE IN hPa
WATER PRESSURE IN hPa
ABSOLUTE HUMIDITY IN g/m3
MIXING RATION g/Kg
ENTHELPHY IN Kj/Kg
PPM VOLUME DRY
PPM MASS DRY
PPM VOLUME WET
PPM MASS WET
PPM MOISTURE

SENSOR DRAWING AIDP24S