

Quality&Precise



MAXWELLON DT6020

-60°C ~ +20°C
Dew Point Transmitter
2024

Maxwellon

The DT6020 dew point transmitter uses a thermosetting polymer high molecular weight sensitive capacitor, which has a rapid response, stable and reliable performance, and a measurement range of -60°C to 20°C with an accuracy of $\pm 2^{\circ}\text{C}$ over the full range. This product features an automatic zero point calibration function and stable long-term performance. The development of this high molecular dew point capacitor is the result of more than 20 years of hard research. Due to its low rate of change, the signal is difficult to distinguish in the circuit. Therefore, we conducted a large amount of basic research and finally mastered the technology to improve low humidity sensitivity.

■ Key Feature

- Brand new high molecular film sensor technology
- Accuracy measurement up to $\pm 2^{\circ}\text{C}$
- Super fast response speed and excellent long-term stability
- Resistant to particle contamination, oil vapor, and most chemicals
- Multi-point temperature compensation calibration before leaving the factory
- Excellent anti-interference ability
- IP65 protection level, providing good protection even in harsh environments
- Low humidity sensitivity exceeding ordinary humidity-sensitive capacitors by more than 100 times
- Polymer materials are resistant to acid, alkali, and water immersion, requiring low environmental requirements for use.

■ Working Principle

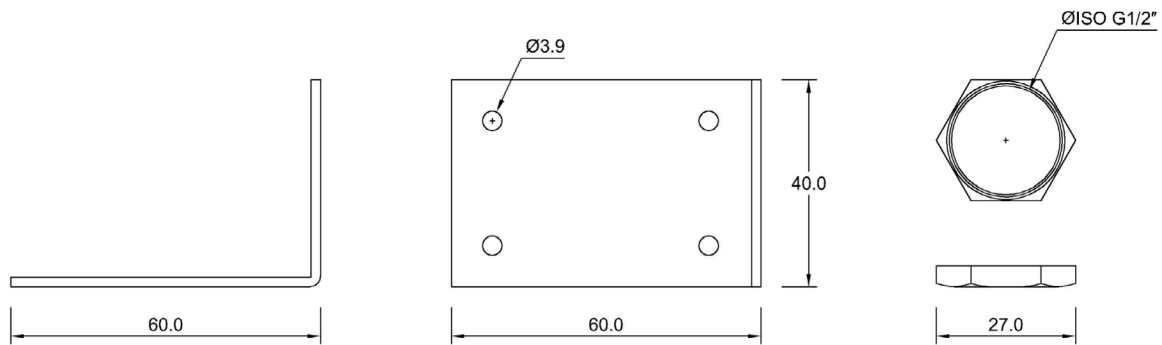
This sensor uses a humidity-sensitive capacitor as the core component, which can sense the moisture content of air in extremely low humidity. After multi-point calibration and temperature correction, it ensures the reliability of the test and has accurate measurement results in various environments, and then converts into current signal and RS485 signal output.

■ Dimension

Unit: mm (± 0.5)

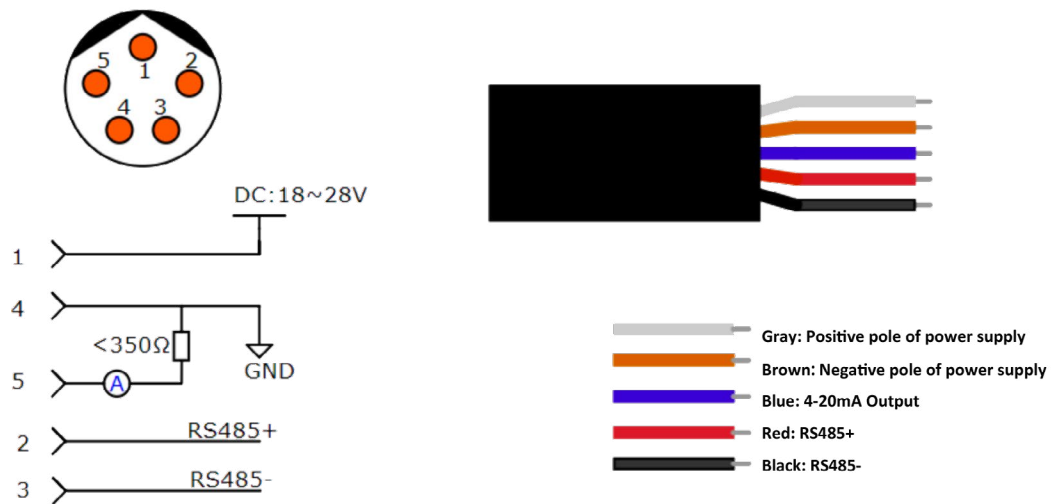


DT6020



DT6020 Accessories (Standard)

■ Connection

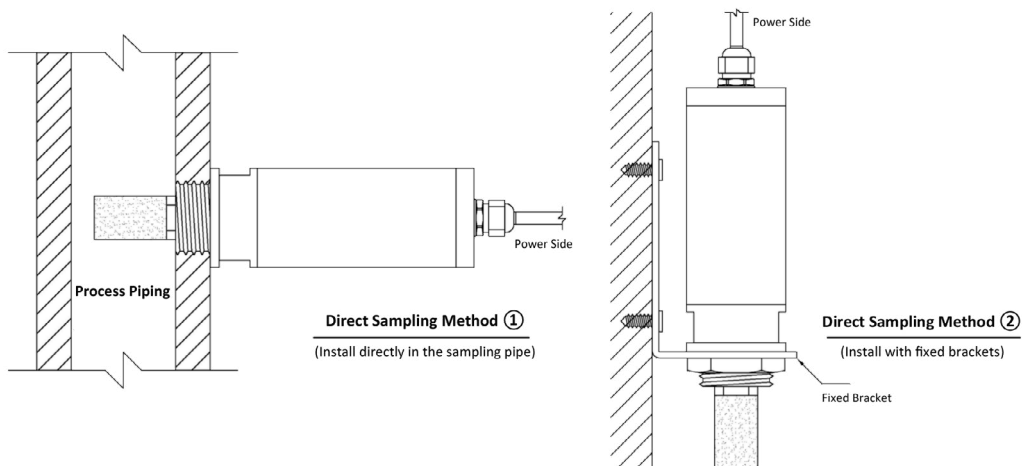


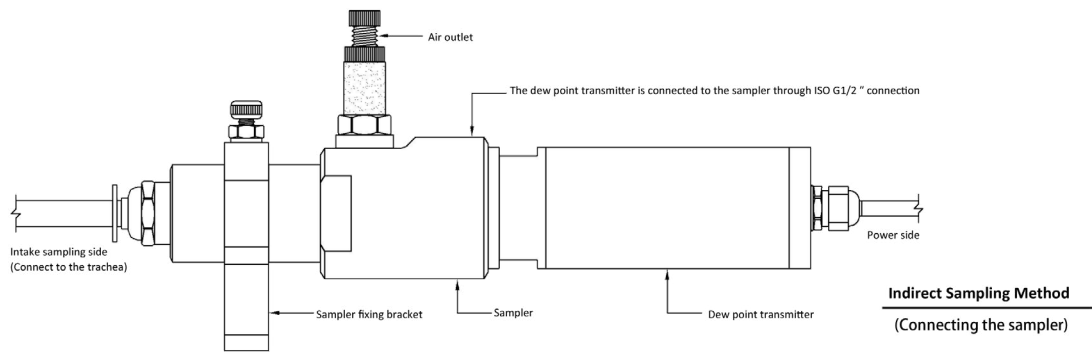
PIN	1	2	3	4	5
Signal	18~28V	RS485 +	RS485 -	GND	OUT
Explanation	Power +	RS485 +	RS485 -	Power -	Current Output

Specifications

Measurement													
Dew Point Measurement Range	-60°C ~ +20°Ctd												
Application Temperature Range	-40°C ~ +60°C												
Measurement Accuracy													
Dew Point Accuracy (Air or Nitrogen)	±2°Ctd												
Response Time [63% (90%), Gas Temperature: +20 °C, Pressure: 1 bar]													
-40 -> -30°Ctd	40 s (80 s)												
-30 -> -40°Ctd	5 min (20 min)												
Output													
Current Output	4 ~ 20mA (three wire system)												
	Dew Point Temp.	/	/	-60	-50	-40	-30	-20	-10	0	10	20	
	Current (mA)	4	5.6	7.2	8.8	10.4	12	13.6	15.2	16.8	18.4	20	
Current Output Resolution	0.002mA												
Current Output Temperature Drift	0.01% of span/°C												
Current Output Load	< 350 ohm												
Power Supply													
Normal Measurement	18 ~ 28V/30mA												
Environment													
Operation Temperature	-40°C ~ 60°C												
Storage Temperature	-40°C ~ 60°C												
Relative Humidity	0 ~ 95%RH												
Sample Gas Flow Rate	> 1 L/min												
Pressure	0 ~ 50bar												
Others													
Housing	Stainless steel												
Protection Level	IP65												
Mechanical Component Connection	ISO G1/2"												
Stainless Steel Mesh Filter	Filter level 40-50um												
Electromagnetic Compatibility	IEC 61326-1												
Electrical Connection	M8 aviation plug (straight)												

Installation Diagram (Sampler Optional)





■ Conditions

Working Conditions

To ensure the normal and stable operation of the sensor, it is recommended to use a temperature range of -40°C to 60°C and a humidity range of 0-95% RH. Exceeding the recommended range may cause temporary drift in the measurement results.

Storage

Humidity sensors are environmentally sensitive electronic components and require careful protection. Long-term exposure to high concentrations of chemical vapors will cause sensor measurements to drift. Therefore, it is recommended to store the sensor in the original packaging and meet the storage conditions: temperature range $-40^{\circ}\text{C}\sim 60^{\circ}\text{C}$; humidity range 0-95%RH. During the production and transportation process, ensure that the sensor is kept away from high-concentration chemical solvents, and avoid using volatile glue, sticky tape, self-adhesive stickers, or volatile packaging materials, such as foam plastic bags, foam plastics, etc.



Maxwellon Electronic Instruments Co.,LTD.

Factory: No.6 Xiangjiang Road, Qingdao 266000, China
Tel: 0086 13816527810

Sales Office: NO.153 Zhuzhou Rd.,Laoshan District, Qingdao 266100, China.
Tel: 0086-532-80977508
Fax: 0086-532-80977508

Sales: Sales@Maxwellon.com
Web: www.maxwellon.cn