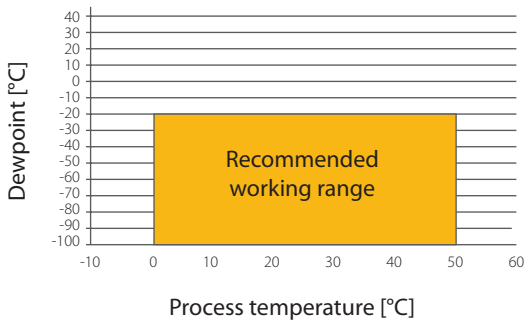
S 220 DEW POINT SENSOR (-100° ... 0°C)

The SUTO dew point sensor S 220 provides reliable and long term stable dew point monitoring in industrial applications.
SUTO is using a new sensor technology which has superior signals at very low moisture levels thus providing reliable measurements down to -100°C.

A stainless steel sinter filter with pore sizes below 30 µm protects the sensor from particles. It's designed for applications where very low moisture levels needs to be detected.

The measured dew point is output through a 4-20 mA signal (3-wire or loop powered). Sensor parameters such as analogue output scaling, physical units, can be easily changed by using SUTO service kit.

Recommended working range S 220



Features

- Very fast response time ensures safe and reliable indication whenever dew points are out of valid ranges
- Small size makes it ideal for dryer installations
- Measures dew points down to -100°C
- SUTO QCM sensor technology
- Version with integrated pressure measurement
- Various output versions available: 1 x 4 ... 20 mA, 2 x 4 ... 20 mA, RS-485 (Modbus), 4 ... 20 mA loop powered
- IP65 casing provides robust protection in rough industrial environment
- Can be installed directly into dryers through G 1/2" thread
- High accuracy of ±2°C dew point
- M12 connector

Technical data S 220	
Measurement range	Dew point -100° ... 0°C Temperature -30° ... +70°C Pressure -0.1 ... 1.6 MPa
Dew point sensor	QCM
Temperature sensor	Pt100
Pressure sensor	Piezo resistive type
Accuracy	Dew point ±2°C Temperature 0.3°C Pressure 0.05 bar
Operating Pressure	-0.1 ... 1.6 MPa
Operating Temperature (Medium)	-30° ... +70°C
Measured gases (Medium)	Non-corrosive gases
Response Time t90 (@ 4 l/min)	-80°C-> -20°C: 20 sec -20°C-> -80°C: 180 sec
Ambient Temperature	0° ... +50°C
Ambient Humidity	0 ... 100%rH
Supply Voltage	12 ... 30 VDC
Current consumption (model depending)	30 mA @ 24 VDC 3-Wire 20 mA @ 24 VDC 2-Wire
Output signals (model depending)	4 ... 20 mA 3-Wire 4 ... 20 mA 2-Wire Modbus RTU
Electrical connection	M12, 5 pole
Process connection	G 1/2" thread (ISO 228/1) Stainless steel 1.4301 (SUS 304)
Casing material	Zinc alloy
Classification	IP65
EMC	IEC 61326-1
Approval	-
Sensor protection	Sinter filter/perforated cap
Transport Temperature	-30° ... +70°C
Storage Temperature	-20° ... +50°C
Weight	204 g

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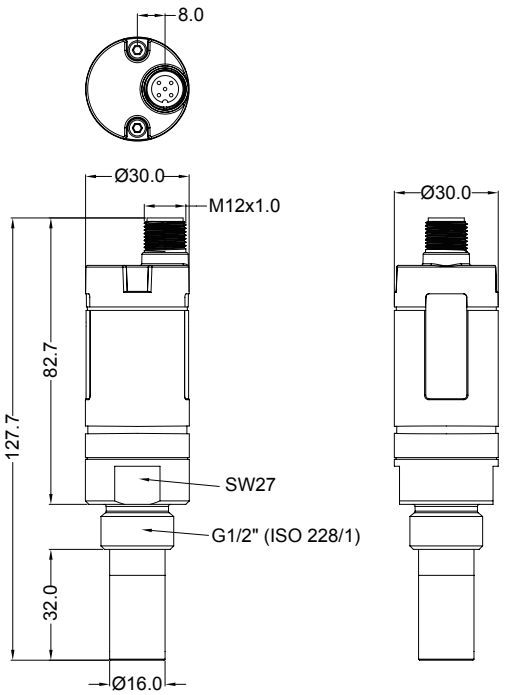
Dimensions



Sensor Technology

The innovative QCM Sensor Technology used by SUTO measures moisture changes in parts per billion range.

Stated accuracy under following conditions:

- Ambient temperature 23°C ±3°C
- Process temperature 23°C ±3°C
- Ambient humidity < 95%, no condensation
- Airflow > 2 l/min at sensor tip

Order no.	Description
S699 0220-X	S 220, dew point sensor, -100° ... 0°C, G 1/2" thread, 16 bar, 1 x 4 ... 20 mA
S699 0221-X	S 220, dew point sensor, -100° ... 0°C, G 1/2" thread, 16 bar, 2 x 4 ... 20 mA, dew point and temperature
S699 0222-X	S 220, dew point sensor, -100° ... 0°C, G 1/2" thread, 16 bar, RS-485 (Modbus)
S699 0223-X	S 220, dew point sensor, -100° ... 0°C, G 1/2" thread, 16 bar, incl. pressure, 2 x 4 ... 20 mA, dew point and pressure
S699 0224-X	S 220, dew point sensor, -100° ... 0°C, G 1/2" thread, 16 bar, incl. pressure, RS-485 (Modbus)
S699 0225-X	S 220, dew point sensor, -100° ... 0°C, G 1/2" thread, 16 bar, loop powered 4 ... 20 mA
A554 2005	Service kit for sensor configuration including software
A699 3491	Measuring chamber for easy installation in compressed air system up to 1.5 MPa
A699 3493	Measuring chamber bypass type (in and out 6 mm hose connection)
R699 3696	Sensor calibration
C190 0193	Perforated filter cap, aluminum
C198 0008	Sinter cap, diameter 16 mm, stainless steel, 30 µm pore size

X: Select the desired sensor protection cap by adding A or B at the end of the order number.
A: stainless steel sinter filter, pore size < 30 µm (standard)
B: Perforated sensor cap (standard, requires a prefilter 0.1 µm)
Example: S699 0220-B

Find more informationn about accessories for dew point sensors at the end of this catalog