DEW POINT SENSOR (-100ºC ... 0ºC)
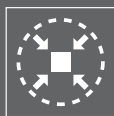# S 220

COMPACT DESIGN
Makes it easy to fit into the application

Very fast response time —
ensures safe and reliable measurements

S 220 FEATURES

COMPACT DESIGN
Makes it easy to fit into the application

PRECISE MEASURMENT
Unique QCM sensor technology

LOW DEW POINT
Measures down to -100°C

PRESSURE SENSOR
Integrated as option

S 220 FEATURES AT A GLANCE

- 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

S 220 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

Recommended working range S 220

Dewpoint [°C] vs Process temperature [°C]

Recommended working range
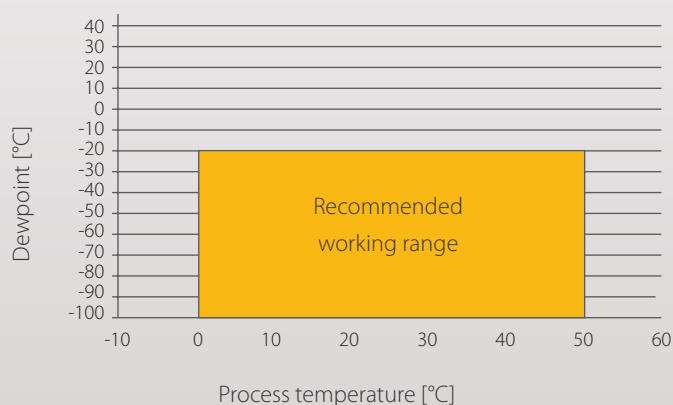
S 220 TECHNICAL DATA

General Specifications	
Measurement range	Dew point -100°C ... 0°C Temperature -30°C ... +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°C ... +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°C ... +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 poles
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°C ... +70°C
Storage Temperature	-20°C ... +50°C
Weight	204 g

Dimensions
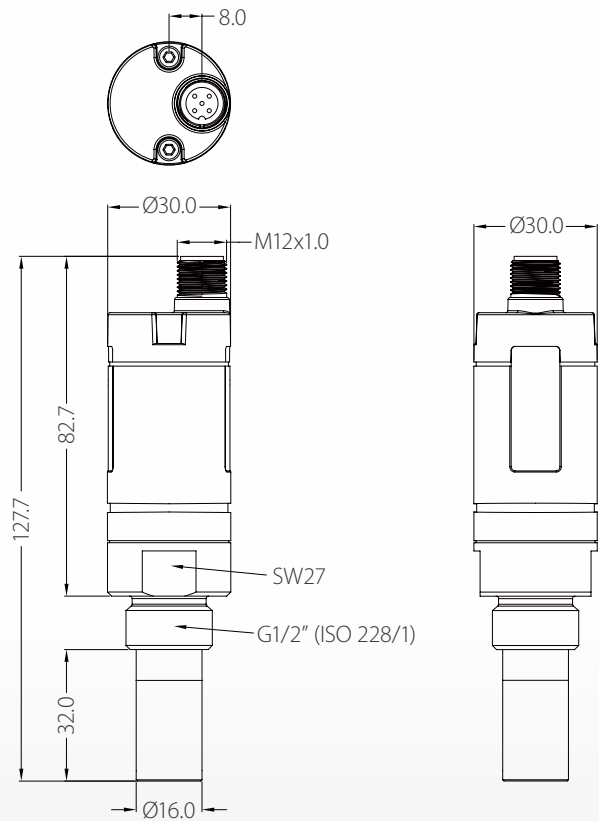
S 220 BENEFITS

The SUTO dew point sensor S 220 provides long term stable and reliable dew point measurements at very low dew points in industrial applicaitons.

The sensor technolgy used in the sensor is developed by SUTO at offers superior measurement signals at very low moisture apllications, allowing reliable measurements down to -100°C.

The included sinter cap protects the sensor from dust and other particles, this ensures a stable measurement and low maintenance at the same time.

The measured sensor data is trasnmitted via differnt signals. Depending on the seelected model multiple measruement values, like dew point and pressure can be output at the same time. The various analog output options or digital Modbus outputs make the S 220 the prefect dew point sensor to fit into any low moisture application.

S 220 ORDERING

Please use the following table to assist in placing your order with our sales staff.

S 220 DEW POINT SENSOR (-100°C … 0°C)	
Order No.	**Description**
S699 0220-X	S 220, dew point sensor, -100°C … 0°C, G 1/2" thread, 16 bar, 1 x 4 … 20 mA
S699 0221-X	S 220, dew point sensor, -100°C … 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°C … 0°C, G 1/2" thread, 16 bar, RS-485 (Modbus)
S699 0223-X	S 220, dew point sensor, -100°C … 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°C … 0°C, G 1/2" thread, 16 bar, incl. pressure, RS-485 (Modbus)
S699 0225-X	S 220, dew point sensor, -100°C … 0°C, G 1/2" thread, 16 bar, loop powered 4 … 20 mA
Accessories	
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