S 220 DEW POINT SENSOR (-100 ºC … 0 ºC)

CS iTEC

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
- New CS-iTEC 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
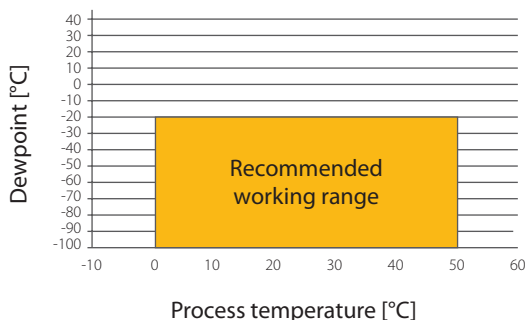- M12 connector

The CS-iTEC dew point sensor S 220 provides reliable and long term stable dew point monitoring in industrial applications.
CS-iTEC 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 CS-iTEC service kit.

Recommended working range S 220

Dewpoint [°C] / Process temperature [°C]

Recommended working range

Technical data S 220	
Measuring range	Dew point: -100 °C ... 0 °C
	Temperature: -30 °C ... + 70 °C
	Pressure: -0.1 ... 1.6 MPa
Accuracy	Dew point: 2 °C
	Temperature: 0.3 °C
	Pressure: 0.05 bar
Pressure range	-0.1 ... 1.6 MPa
Power supply	12 ... 30 VDC / 30 mA
Measured gas	Non-corrosive gases
Ambient conditions	0 °C ... +50 °C
Transport temperature	-30 °C ... +70 °C
Response time [90%] (at 4 l/min, perforated cap)	-80 °C ... -20 °C: 20 sec -20 °C ... -80 °C: 3 min
Output signal	4 ... 20 mA, 3-wire (S699 0220, S699 0221, S699 0223) Modbus / RTU (S699 0222, S699 0224) Loop powered 4 ... 20 mA (S699 0025)
Analog output scaling	4 mA --> -100 °C 20 mA --> +20 °C
Connector	M12, 5 pole
Wire sizes	Connector terminals support 0.14 ... 0.25 mm²
Casing	Process connection: stainless steel 1.4301(SUS 304) Casing: zinc alloy
Classification	IP 65
Process connection	G 1/2" thread (ISO 228/1)
Sensor protection	A: stainless steel sinter filter, pore size < 30 µm B: Perforated sensor cap (standard, requires a prefilter 0.1 µm)
EMC	According to IEC 61326-1

Dimensions

8.0

Ø30.0
M12x1.0

Ø30.0

82.7

127.7

SW27

G1/2" (ISO 228/1)

32.0

Ø16.0
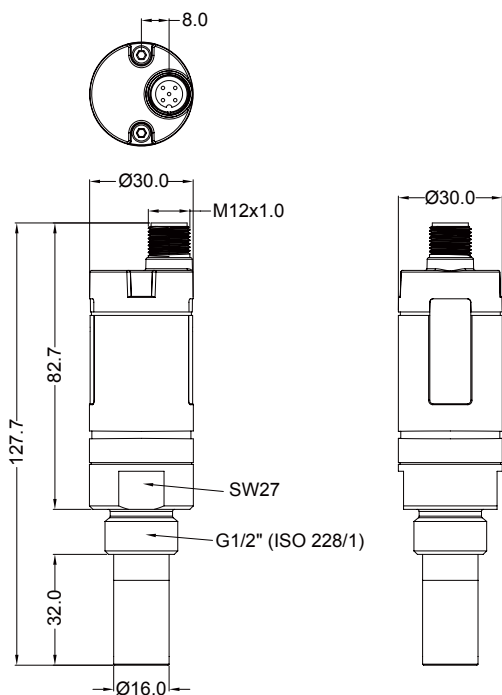
Sensor Technology

The innovative QCM Sensor Technology used by CS-iTEC measures moisture changes in ppb 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 °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
	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
	Sinter cap, pore size 30 µm, stainless steel

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