Be smart. **Measure it.**

S211 / S215 / S220

Dew Point Transmitters

S211 -60 … +20 °C Td

FOR DESICCAN DRYERS

S215 -20 … +50 °C Td

FOR FRIGE DRYERS

S220 -100 … +20 °C Td

FOR HIGH-TECH APPLICATIONS

SIGNAL OUTPUT
4 ... 20 mA
Modbus/RTU

DISPLAY OPTION
For on-site values

COMPACT DESIGN
Makes it easy to fit into the application

PRESSURE SENSOR
integrated as option

AIR QUALITY
ISO-8573
Monitors humidity

PRECISE MEASUREMENT
± 2 °C Td Accuracy

Benefits

- Compact size makes them ideal for dryer installations
- Optional display for on-site values. Display can be rotated by 340 ° to fit your needs
- User friendly signal outputs to connect to process controls or monitoring systems
- IP65 casing provides robust protection
- Low maintenance costs due to stable and reliable measurements which increase calibration intervals
- Measured values available in several units: °C Td • g/m^3 • mg/m^3 • ppmv • g/kg (@ reference pressure) • % rH and more, please ask our support for other measurement units

1 Reliable Measurement

SUTO can rely on a 20+ years experience in developing dew point sensors used in compressed air systems and pressurized gases. During that period of time, the engineers have continued to develop new measurement methods and even developed own sensor elements for our innovative dew point meters.

2 Various Output Signal

The Dew Point Meters are perfectly suited to be integrated into process controls or high-level monitoring systems. Various output options are offered for a seamless integration:

- 4 ... 20 mA 2-wire + SDI
- 4 ... 20 mA 3-wire + SDI
- 4 ... 20 mA 3-wire + Modbus/ RTU

3 Robust Materials

The main body is made from high class aluminum alloy with a soft finish. The process connection is a 1.4301 (SUS 304) stainless steel connection, made to last forever.

Top cover made from aluminum at the same quality as the main body. The optional display cover is made from robust Polycarbonate with ABS reinforcement to withstand the rough environment.

4 Display Option

The OLED display directly mounted on the device provides on-site real time values. The display can be easily rotated by 340 ° to fit your application.

5 S220 with unique QCM Sensor

Our QCM sensor is the result of years of high-tech research and development. The sensor was especially designed for low dew point applications where other sensor types fail.

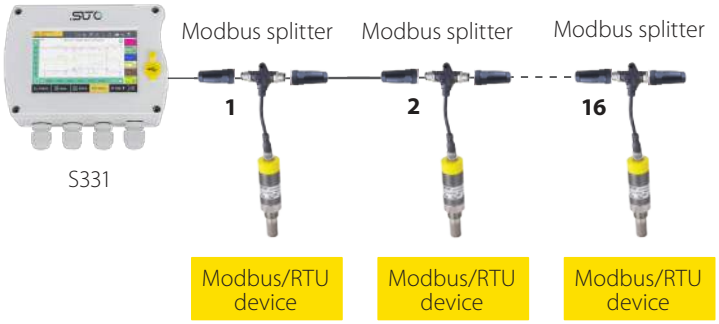
The combination of QCM and the well known Polymer sensor makes the S220 the worlds first model to measure accurate over the whole range, from -100 °C Td up to +20 °C Td by switching automatically between the two sensor elements as needed.

Measurement Ranges and Applications

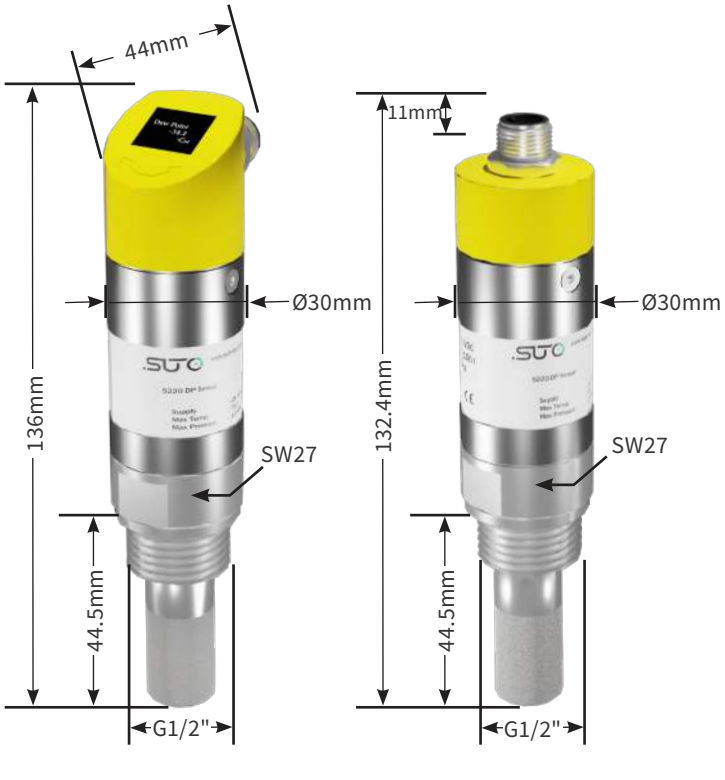
Model	S211	S215	S220
Dew point	-60 ... +20 °C Td	-20 ... +50 °C Td	-100 ... +20 °C Td
Temperature	-30 ... +70 °C	-30 ... +70 °C	-30 ... +70 °C
Pressure	0 ... 1.6 MPa	0 ... 1.6 MPa	0 ... 1.6 MPa
Application	In desiccant dryers	In fridge dryers	In high tech requirements and conditions

Modbus Sensor Network with S331

The Modbus/RTU bus allows to connect several devices to a single bus line via Daisy-Chain. For example up to 16 devices to a S331. The S331 is a very powerful yet cost effective new data logger and display solution.



Dimensions



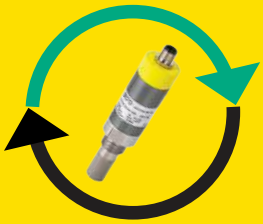
With display **Without display**

Exchange Service

No Downtime anymore!

The exchange calibration service eliminates down time and enables users to have a seamless record of their dew point measurements.

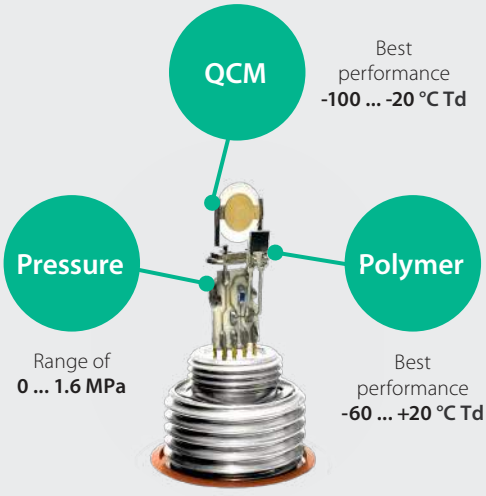
The user receives in advance a calibrated instrument with calibration certificate and the same instrument settings. The onsite instrument is then switched against the calibrated one and returned to the supplier.



SUTO | Exchange Service

S220 with unique triple sensor solution

With the S220, SUTO is combining three sensors into a single measurement unit, making it unique and the most advanced sensor available on the market, with a full range of -100 ... + 20 °C Td.



Technical Data

Specifications

Model	S211		S215		S220	
Measurement Range	Dew point Temperature Pressure	-60 ... +20 °C Td -30 ... +70 °C 0 ... 1.6 MPa	Dew point Temperature Pressure	-20 ... +50 °C Td -30 ... +70 °C 0 ... 1.6 MPa	Dew point Temperature Pressure	-100 ... +20 °C Td -30 ... +70 °C 0 ... 1.6 MPa
Dew point sensor	Polymer		Polymer		Polymer + QCM	
Operating Pressure	-0.1 ... 1.6 MPa -0.1 ... 35.0 MPa optional		-0.1 ... 1.6 MPa -0.1 ... 35.0 MPa optional		-0.1 ... 1.6 MPa	
Response time (t90)@4 l/min	0 °C Td → -60 °C Td ≤ 280 sec -60 °C Td → 0 °C Td ≤ 65 sec		0 °C Td → -20 °C Td ≤ 50 sec -20 °C Td → 0 °C Td ≤ 35 sec		0 °C Td → -80 °C Td ≤ 420 sec -80 °C Td → 0 °C Td ≤ 90 sec	
Accuracy	Dew point	+/- 1 °C Td (0 ... 20 °C Td) +/- 2 °C Td (-70 ... 0 / +20 ... +50°C Td) +/- 3 °C Td (-100 ... -70 °C Td)				
	Temperature	+/- 0.3 °C				
	Pressure	0.5 % FS				
Process connection	G 1/2" (ISO 228/1), stainless steel 1.4301 (SUS 304)					
Operating conditions	Medium Temp.: -30 ... +70 °C / Ambient Temp. : 0 ... +50 °C / Ambient Humidity: 0 ... 100 % rH					
Materials	Casing: Aluminum alloy / Process thread: Stainless steel 1.4301 (SUS 304) / Display cover: PC + ABS					
Classification / Approval	IP65 / CE					
Sensor protection	Sinter filter (stainless steel)					
Transport & Storage	Transport Temperature: -30 ... + 70 °C / Storage Temperature: -20 ... + 50 °C					
Weight	180 g					
Measured gases (Medium)	Air, Argon, O_2, N_2, CO_2*					
Output Signal	4 ... 20 mA 2-wire + SDI, 4 ... 20 mA 3-wire + SDI, 4 ... 20 mA 3-wire + Modbus/RTU					
Sensor types	Temperature sensor: Pt100 / Pressure sensor: Piezo resistive type					
Display option	0.66" OLED display, indicates the measured value and unit					
Supply Voltage	15 ... 30 VDC					

* CO_2 medium:
If the S211 is used in CO_2 the range is limited to -40 °C Td
The S211 and S220 must be set to CO_2 ex works or by using the S4C-DP Service Software + Service Kit (please state at the order if S211 and S220 will be used in CO_2)

Accessories

Measuring chamber for easy installation through quick coupling

By-pass measuring chamber with 6 mm hose connections as in- and outlet

High pressure measuring chamber for applications up to 35.0 MPa

M12 Sensor cable with open ends 5 m or 10 m

Ordering

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

	2-wire Analog & SDI output		3-wire Analog & SDI output		3-wire Analog & Modbus/RTU*3 output		3-wire Analog & Modbus/RTU*3 output With Pressure Sensor	
Transmitter Model and Range	**Order No.**	**Code**	**Order No.**	**Code**	**Order No.**	**Code**	**Order No.**	**Code**
S215 Dew Point Transmitter -20 ... +50 °C Td	S699 1215	S1215	S699 2215	S2215	S699 3215	S3215	S699 4215	S4215
S211 Dew Point Transmitter -60 ... +20 °C Td	S699 1211	S1211	S699 2211	S2211	S699 3211	S3211	S699 4211	S4211
S220 Dew Point Transmitter -100 ... +20 °C Td	S699 1220	S1220	S699 2220	S2220	S699 3220	S3220	S699 4220	S4220
Options								
Operating Pressure 0 ... 1.6 MPa (Standard)	-	A	-	A	-	A	-	A
Operating Pressure 0 ... 35.0 MPa	A1381*1	B	A1381*1	B	A1381*1	B	N/A*2	B
Without Display (Standard)	-	C	-	C	-	C	-	C
With OLED Display	N/A*2	D	A1387	D	A1388	D	A1388	D

*1 A1381: The high pressure option is only available for the models S215 and S211. The S220 can not be used in pressure applications > 1.6 MPa
*2 N/A: This option is not available for these models
*3 Standard Modbus/RTU Settings are Slave Address: last two digits of serial number / Com. Settings: 19200 baud, 8/N/1

Order Example

Code:
S3211 AD

S211 Dew point Transmitter, -60 ... +20 °C Td, 3-wire Analog & Modbus/RTU output, Operating Pressure 0 ... 1.6 MPa, with OLED Display

Output Unit

The dew point Transmitter is available with different measurement units for dew point, humidity, temperature and pressure. Standard is:
Dew point = °C Td / Temperature = °C / Pressure = bar
If you would like to have a different unit as output, please specify it at the order or use the optional Service Kit with the Service Software to change the output unit. For example pressure in PSI or humidity in ppmv.

Accessories

Order No.	Description
A699 3491	Measuring chamber with quick connector, up to 1.5 MPa, 2 l/min purge @ 0.8 MPa
A699 3493	Measuring chamber by-pass, up to 1.5 MPa, 6 mm hose connection as in- and outlet
A699 3590	High pressure measuring chamber, up to 35.0 MPa, G 1/4" inner thread process connection
A553 0104	Sensor cable, 5 m , M12 connector, open end wires
A553 0105	Sensor cable, 10 m , M12 connector, open end wires

Calibration

Order No.	Description
R699 3396	Re-calibration dew point transmitter, incl. certificate of calibration

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