



FA 550 dew point sensor - in robust die-cast aluminum housing

The FA 550 is ideal for outdoor dew point measurements or rougher industrial environment



Special features:

- Robust, waterproof die-cast aluminum housing, IP 67
- Alarm relay - limit value adjustable via buttons (max 60VDC, 0.5 A)
- 4 ... 20 mA analog output
- Optional: 2 pieces 4 ... 20 mA analog output e.g. for dew point and temperature
- Extremely long-term stable
- Fast adjustment time
- Pressure resistant up to 500 bar (optional)
- **NEW:** Modbus RTU interface
- **NEW:** Ethernet interface (optional)
- **NEW:** Higher resolution of the sensor signal due to improved evaluation electronics
- **NEW:** Sensor diagnosis on-site with handheld device or CS Service Software
- Readable via Modbus: pressure dew point [° Ctd.], temperature [° C], rel. humidity [% RH], abs. humidity [g / m³], degree of humidity [g / m³], moisture content V / V [ppmV / V], Partial vapor pressure [hPa], atmospheric dew point [° Ctd.atm]

APPLICATION:

- Dew point measurement in the compressed air after adsorption dryers/ membran dryers/refrigeration dryer
- Residual moisture measurement / dew point measurement in gases such as: oxygen, nitrogen, argon, hydrogen, natural gas, biogas ...

Easy operation via the keys on the display

The screenshots show the following display pages:

- Page 1/3:** Large display of dew point: **-47.8 °Ctd**
- Page 2/3:** Temperature: 22.10 °C, Relative Humidity: 0.1940 %rH, Absolute Humidity: 0.0378 g/m³
- Page 3/3:** Degree of Humidity: 0.0321 g/kg, Partial Vapor Pressure: 50.88 ppm, 0.0522 hPa, Atmospheric Dew Point: -47.80 °Ctd
- Alarm Settings:** Alarm is checked. Unit: °Ctd, Value: -60.00, Hysteresis: 2.00. Buttons: overrun, back.
- 4...20mA Channel 1 Settings:** State: on, Unit: °Ctd, Scale 4mA: -80.00°Ctd, Scale 20mA: 20.00°Ctd. Buttons: back.
- 4...20mA Channel 1 Settings (Alternative):** State: on, Unit: g/m³, Scale 4mA: 0g/m³, Scale 20mA: 10g/m³. Buttons: Save, Cancel.
- Pressure Settings:** Ref. Pressure: 1013.00 hpa, Sys. Pressure: 7500.00 hpa. Button: back.

The integrated display shows the dew point in big figures as well as further humidity parameters on two more display pages. The arrow key can be used to scroll between the display pages.

The alarm threshold value for the integrated relay can be entered via the keys. In addition to the alarm threshold, the hysteresis can also be freely entered.

The 4...20 mA analogue output can be scaled freely resp. also allocated to one further parameter, e. g. g/m³.

After entering the system pressure of the compressed air system and the reference pressure (atmospheric pressure), the sensor can also calculate back to the atmospheric dew point from the measured pressure dew point if desired.

Example order code FA 550:

0699 0550_A1_B1_C1_D1_E1_F1_G1_H1_I1

Measuring range	
A1	-80...+20 °Ctd. (-112 to 68 °F)
A2	-20...+50 °Ctd. (-4 to 122 °F)
A3	-40...+30 °Ctd. (-40 to 86 °F)
A4	-60...+30 °Ctd. (-76 to 86 °F)
A5	-80...+20 °Ctd. (-112 to 68 °F) (scaling 4...20 mA = -100...+20 °Ctd.)
A6	-80...+20 °Ctd. (-112 to 68 °F) (scaling 4...20 mA = -110...+20 °Ctd.)

Option Display	
B1	with integrated display
B2	without display

Option Signal output / Bus connection	
C1	2 x 4 ... 20 mA analog output (galv. isolated), alarm relay, RS 485 (Modbus RTU)
C4	1 x 4 ... 20 mA analog output (not electrically isolated), alarm relay, RS 485 (Modbus RTU)
C5	Ethernet interface (Modbus / TCP), 1 x 4 ... 20 mA analog output (not galv. isolated), alarm relay, RS 485 (Modbus RTU)
C8	M-Bus
C9	Ethernet interface PoE (Power over Ethernet) Modbus / TCP, 1 x 4 ... 20 mA analog output (not electrically isolated), alarm relay, RS 485 (Modbus RTU)

Special version analog output	
D1	No special version
D2	Special version 2...10 V

Scaling analog output	
E1	Standard scaling
E2	Special scaling 4 ... 20 mA = 0 ... x g / m ³ , ppm, g / kg etc.

Sensor protection cap	
F1	Stainless steel sintered cap (~ 50 µm)
F2	perforated stainless steel cap

Connecting thread	
G1	G 1/2"
G2	UNF 5/8"

Maximum pressure	
H1	50 bar
H2	350 bar
H3	500 bar

Surface condition	
I1	Standard design
I2	Special cleaning oil and grease-free (e. g. for oxygen application etc.)
I3	Silicone-free version including special cleaning oil and grease-free

DESCRIPTION	ORDER-NO.
FA 550 Dew point sensor in robust die-cast aluminum housing	0699 0550
Additional accessories:	
Standard measuring chamber up to 16 bar	0699 3390
High pressure measuring chamber up to 350 bar	0699 3590
Bypass measuring chamber made of stainless steel (1.4305)	0699 3290
Connection cables:	
Connection cable for probes 5 m with open ends	0553 0108
Connection cable for probes 10 m with open ends	0553 0109
Ethernet connection cable length 5 m, M12 plug x coded (8 pin) to RJ 45 plug	0553 2503
Ethernet connection cable length 10 m, M12 plug x coded (8 pin) to RJ 45 plug	0553 2504
Power supply in wall housing for max. 2 sensors VA / FA series 5xx, 100-240 VAC, 23 VA, 50-60 Hz / 24 VDC, 0.35 A	0554 0110
CS service software VA 550 incl. Interface cable to PC (USB) and plug-in power supply - for configuration / parameterization of the VA 550/570	0554 2007
PNG cable gland - for FA 550, VA 550/570	0553 0552
Calibration and adjustment:	
Precision adjustment at -40 ° Ctd or 3 ° Ctd incl. ISO certificate	0699 3396
Additional calibration point freely selectable	0700 7710

TECHNICAL DATA FA 550	
Measuring range:	-80...20 °Ctd, -60...30 °Ctd, -20...50 °Ctd, bzw. 0...100% RH
Accuracy:	± 1°C to +50...-20°Ctd ± 2°C to -20...-50°Ctd ± 3°C to -50...-80°Ctd
Pressure range:	-1 ... 50 bar, Special version up to 350 bar or 500 bar
Power supply:	24 VDC (18...30 VDC)
Protection class:	IP 67
EMC:	According to DIN EN 61326-1
Operating temp.:	-20...50 °C
Outputs:	Standard: Modbus RTU, 4 ... 20 mA active (not electrically isolated), alarm relay (max 48 VDC, 0.5 A) Options: See order code
Burden:	< 500 Ω
Material:	Housing die-cast aluminum, Sensor tube stainless steel 1.4571
Screw:	G 1/2", optional 5/8" UNF