



## FA 550 dew point sensor - in robust diecast 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 60 VDC, 0.5 A)
- 4...20 mA analog output
- Optional: 2 pieces 4 ... 20 mA analog output e.g. for dew point and temperature
- Extremely stable in the long term
- Quick adaption time
- Pressure-resistant up to 7251 psi (optional)
- **NEW:** Modbus-RTU interface
- **NEW:** Ethernet interface (optional)
- **NEW:** Higher resolution of sensor signal due to the improved evaluation electronics
- **NEW:** Sensor diagnosis on site with a portable device or CS Service Software
- **Readable via Modbus:** pressure dew point [°Ftd], temperature [°F], rel. humidity [% RH], abs. humidity [g/m³], degree of humidity [g/kg], moisture content V/V [ppmV/V], partial vapor pressure [hPa], atmospheric dew point [°Ftd.atm]

### APPLICATION:

- Dew point measurement in the compressed air after adsorption dryers/membrane dryers and refrigeration dryers
- 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 screenshot displays the following menu structure:

- Display Page 1:** Shows the main dew point value (-47.8 °Ctd) in large digits, followed by three smaller parameters: 22.10 °C, 0.1940 %rH, and 0.0378 g/m³.
- Display Page 2:** Shows four parameters: 0.0321 g/kg, 50.88 ppm, 0.0522 hPa, and -47.80 °Ctd.
- Display Page 3:** Shows the alarm configuration with fields for Unit (°Ctd), Value (-60.00), Hysteresis (2.00), and overrun.
- Parameter Page 1:** Shows the state (on), unit (°Ctd), scale for 4mA (-80.00°Ctd), and scale for 20mA (20.00°Ctd).
- Parameter Page 2:** Shows the state (on), unit (g/m³), scale for 4mA (0g/m³), and scale for 20mA (10g/m³).
- Network Page:** Shows DHCP status (checked), IP Address (192.168.172.010), Sub Netz (255.255.255.000), Gateway (192.168.172.001), and options for Erweitert (Advanced), Speicher (Storage), and Abbruch (Cancel).
- System Page:** Shows Ref.Pressure (1013.00 hpa) and Sys.Pressure (7500.00 hpa).

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 freely entered via the keys. In addition to the alarm threshold, the hysteresis can also be freely entered.

The 4...20 mA analog output can be scaled freely or 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**

<b>Measuring range</b>	
A1	(-112 to +68 °Ftd) -80...+20 °Ctd.
A2	(-4 to +122 °Ftd) -20...+50 °Ctd.
A3	(-40 to +86 °Ftd) -40...+30 °Ctd.
A4	(-76 to +86 °Ftd) -60...+30 °Ctd.
A5	(-112 to +68 °Ftd) -80...+20 °Ctd. (scaling 4...20 mA = -148...+68 °Ftd.)
A6	(-112 to +68 °Ftd) -80...+20 °Ctd. (scaling 4...20 mA = -166...+68 °Ftd.)

<b>Display option</b>	
B1	with integrated display
B2	without display

<b>Option Signal output / Bus connection</b>	
C1	2 x 4 ... 20 mA analog output (electrically 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 electrically 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)

<b>Special version analog output</b>	
D1	No special version
D2	Special version 2...10 V

<b>Scaling analog output</b>	
E1	Standard scaling
E2	Special scaling 4...20 mA = 0...x g/m³, ppm, g/kg etc.

<b>Sensor protection cap</b>	
F1	Stainless steel sintered cap (~ 50 µm)
F2	perforated stainless steel cap

<b>Connection thread</b>	
G1	G 1/2"
G2	UNF 5/8"
G3	1/2" NPT

<b>Maximum pressure</b>	
H1	725 psi
H2	5076 psi
H3	7251 psi

<b>Surface condition</b>	
I1	standard version
I2	special cleaning - oil and grease free (e.g. for oxygen applications and so on)
I3	Silicone-free version including special cleaning oil- and grease-free

<b>DESCRIPTION</b>	<b>ORDER NO.</b>
FA 550 Dew point sensor in robust Diecast aluminum housing	0699 0550

**Further accessories:**  
 Standard measuring chamber up to 232 psi  
 High pressure measuring chamber for compressed air up to 5076 psi  
 Stainless steel bypass measuring chamber for dew point measurement in gases under pressure

**Connection cables:**  
 Connection cable for probes 16 ft. with open ends  
 Connection cable for probes 32 ft. with open ends  
 Ethernet connection cable length 16 ft., M12 plug x-coded (8 pin) to RJ 45 plug  
 Ethernet connection cable length 32 ft., M12 plug x-coded (8 pin) to RJ 45 plug  
 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  
 CS Service Software VA 550 incl. interface cable to PC (USB) and power supply - for configuration / parametrisation VA 550/570  
 PNG cable screwing - for FA 550, VA 550/570

**Calibration and adjustment:**  
 Precision calibration at -40 °Ctd...37.4 °Ftd incl. ISO certificate  
 Additional calibration point freely selectable

<b>TECHNICAL DATA FA 550</b>	
<b>Measuring range:</b>	-112 to +68 °Ftd, -76...+86 °Ftd -4...+122 °Ftd, or 0...100% RH
<b>Accuracy:</b>	± 1.8°F to +122...-4°Ftd ± 3.6°F to -4...-58°Ftd ± 5.4°F to -58...-112°Ftd
<b>Pressure range:</b>	-14.5...725 psi, Special version up to 5076 psi or 7251 psi
<b>Power supply:</b>	24 VDC (10...36 VDC)
<b>Protection class:</b>	IP 67
<b>EMC:</b>	In acc. with DIN EN 61326-1
<b>Operating temperature:</b>	-4...122 °Ftd
<b>Outputs:</b>	<b>Standard:</b> Modbus-RTU, 4...20 mA active (not electrically isolated), alarm relay (max. 48 VDC, 0.5 A) <b>Options:</b> See order code
<b>Burden:</b>	< 500 Ω
<b>Material:</b>	Diecast aluminum housing, sensor tube stainless steel 1.4571
<b>Screw-in thread:</b>	Stainless steel 1.4404: G 1/2", optional: UNF 5/8", NPT 1/2"