



FA 500 - Dew point sensor from -112 to 68 °Ftd

The ideal dew point measuring instrument with integrated display and alarm relay for refrigeration, membrane and adsorption dryers.

Special features:

- Integrated display
- Threshold value adjustable via keypad, alarm relay (max. 60 VDC, 0.5 A)
- Pressure-tight up to 7251 psi (special version)
- Extremely long term stable
- Quick adaption time
- 4...20 mA analog output for dew point
- Different versions for refrigeration and adsorption dryers
- **NEW:** Modbus-RTU interface
- **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/m³]
- Moisture content V/V [ppmV/V]
- Water vapor particle pressure [hPa]
- Atmospheric dew point [°Ftd.atm]

The integrated keys enable simple, menu-controlled operation

Upper connection:

Power supply, 4...20 mA output, Modbus-RTU output

Lower connection:

Alarm relay

Option: Ethernet interface (Modbus TCP or Modbus PoE)



Easy operation via keys on display

-47.8
°Ctd

HW: 1.02 SW: 1.00 MBID: 1 1/3

22.10 °C
0.1940 %rH
0.0378 g/m³

HW: 1.02 SW: 1.00 MBID: 1 2/3

0.0321 g/kg
50.88 ppm
0.0522 hPa
-47.80 °Ctd

HW: 1.02 SW: 1.00 MBID: 1 3/3

☒ Alarm
Unit °Ctd
Value -60.00
Hysteresis 2.00
overrun back

State on

Unit °Ctd

Scale 4mA -80.00°Ctd

Scale 20mA 20.00°Ctd

back

State on

Unit g/m³

Scale 4mA 0g/m³

Scale 20mA 10g/m³

Save Cancel

DHCP ☒
IP Address 192.168.172.010
Sub Netz 255.255.255.000
Gateway 192.168.172.001
Erweitert Speicher Abbruch

Ref. Pressure 1013.00 hPa
Sys. Pressure 7500.00 hPa
back

The integrated display shows the dew point in large text as well as further humidity parameters on additional 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 set.

The 4...20 mA analog output maybe scaled or allocated to one further parameter, e. g. g/m³.

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

DESCRIPTION	ORDER NO.	TECHNICAL DATA FA 500
FA 500 dew point sensor for refrigeration dryers, -4...+122 °Ftd	0699 0501	Measuring range: -112 to +68 °Ftd, -76...+86 °Ftd, -4...+122 °Ftd, or 0... 100% RH
FA 500 dew point sensor for adsorption dryers, -112 to +68 °Ftd	0699 0502	
FA 500 dew point sensor for adsorption dryers, -76...+86 °Ftd	0699 0503	Accuracy: ± 1.8°F to 122...-4°Ftd ± 3.6°F to -4...-58°Ftd ± 5.4°F to -58...-112°Ftd
Connection cables:		
Connection cable for VA/FA series, 16 ft	0553 0104	Pressure range: -1...50 bar (-14.5...725 psi) Special version up to 500 bar (7251 psi)
Connection cable for VA/FA sensors, 32 ft	0553 0105	
Cable for alarm/pulse output, with M12 plug, length 16 ft	0553 0106	Power supply: 24 VDC (10...36 VDC)
Cable for alarm/pulse output, with M12 plug, length 32 ft	0553 0107	
Ethernet connection cable length 16 ft, M12 plug x-coded (8 pin) to RJ 45 plug	0553 2503	Protection class: IP 65
Ethernet connection cable length 32 ft, M12 plug x-coded (8 pin) to RJ 45 plug	0553 2504	
Options for FA 500:		EMC: In acc. with DIN EN 61326-1
Option: Max. pressure FA5xx 5076 psi	Z699 0515	
Option: Max. pressure FA5xx 7251 psi	Z699 0516	Operating temperature: -4...+122 °F
Option: Special scaling FA5xx 4...20 mA= ___ ... ___ g/m³, ppm etc.	Z699 0514	
Option: connection thread FA5xx, 5/8" UNF	Z699 0511	Connection: 2 x M12, 5-pin for analog output, Modbus-RTU and alarm output, M-Bus (optional) Ethernet (PoE) (optional)
Option: surface condition FA 5xx, free of oil & grease	Z699 0517	
Ethernet-interface TCP for VA 500/520 and FA 500	Z695 5006	PC connection: Modbus-RTU interface (RS 485)
Ethernet-Interface PoE for VA 500/520 and FA 500	Z695 5007	
M-Bus board for VA 500/520 and FA 500	Z695 5004	Output: (3-wire) 4...20 mA = -112 to +68 °Ftd 4...20 mA = -76...+86 °Ftd 4...20 mA = -4...+122 °Ftd
Further accessories:		
Standard measuring chamber for compressed air NPT 1/2"	0699 3393	Burden for analog output: < 500 Ω
BSP High pressure measuring chamber up to 5076 psi	0699 3590	
CS Service Software for FA/VA sensors incl. PC connection set, USB connection and interface adapter to the sensor	0554 2007	Alarm relay: NC, max. 60 VDC, 0.5 A
Mains unit in wall housing for maximum 2 sensors of the series VA/FA 5xx, 100-240 V, 23 VA, 50-60 Hz / 24 VDC, 0.35 A	0554 0110	
AC adapter plug 100-240 VAC / 24 VDC for VA/FA 5xx	0554 0109	Screw-in thread: Stainless steel 1.4404: G 1/2", optional: UNF 5/8", NPT 1/2"
Calibration and adjustment:		
Precision calibration at -40 °...37.4 °Ftd incl. ISO certificate	0699 3396	Dimensions housing: 3.01 x 3.35 x 2.95 Inches (WxHxD)