FA 510/515 - Dew point sensor

FA 510/515 for residual moisture measurement in compressed air and gases

Typical applications:

- Dew point measurement in the compressed air after adsorption dryer, membrane dryer, refrigeration dryer
- Residual moisture/dew point measurement in gases such as oxygen, nitrogen, argon...
- Residual moisture/dew point measurement after granulate dryers in the plastics industry

Recommendation:

Mounting with standard measuring chamber for compressed air up to 16 bar

Advantage: Easy installation via quick coupling

Special features:

- Extremely stable in the long term
- Analog output 4...20 mA for dew point
- Condensation-resistant
- Quick adaption time
- Pressure-tight up to 350 bar (special version)
- **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 [°Ctd.]
  - Temperature [°C]
  - rel. humidity [% RH]
  - abs. humidity [g/m³]
  - Degree of humidity [g/kg]
  - Moisture content V/V [ppmV/V]
  - Partial vapour pressure [hPa]
  - Atmospheric dew point [°Ctd.atm]

DESCRIPTION	ORDER NO.
FA 510 dew point sensor for adsorption dryers -80...20 °Ctd incl. factory certificate, 4…20 mA analogue output (3-wire connection) and Modbus-RTU interface	0699 0510
FA 515 dew point sensor for adsorption dryers -80°...20 °Ctd incl. factory certificate, 4…20 mA analogue output (2-wire connection) **or** Modbus-RTU interface	0699 0515
FA 510 dew point sensor for refrigeration dryer -20...50 °Ctd incl. factory certificate, 4…20 mA analogue output (3-wire connection) and Modbus-RTU interface	0699 0512
FA 515 dew point sensor for refrigeration dryer -20...50 °Ctd incl. factory certificate, 4…20 mA analogue output (2-wire connection) **or** Modbus-RTU interface	0699 0517
Connection cables:	
Connection cable for VA/FA series, 5 m	0553 0104
Connection cable for VA/FA sensors, 10 m	0553 0105
Option for FA 510:	
Option: analogue output FA 510, special version 2…10 volts	Z699 0510
Options for FA 510/515:	
Option: max. pressure FA5xx 350 bar	Z699 0515
Option: max. pressure FA5xx 500 bar	Z699 0516
Option: special scaling FA5xx 4…20 mA=__ … __ g/m³, ppm etc.	Z699 0514
Option: connection thread FA5xx, 5/8" UNF	Z699 0511
Option: surface condition FA 5xx, free of oil & grease	Z699 0517
Further accessories:	
Standard measuring chamber up to 16 bar	0699 3390
High pressure measuring chamber up to 350 bar	0699 3590
Stainless steel bypass measuring chamber for dew point measurement in gases under pressure	0699 3290
CS Service Software for dew point sensors incl. PC connection set (Modbus to USB Interface).	0554 2007
Calibration and adjustment:	
Precision calibration at -40 °Ctd or 3 °Ctd incl. ISO certificate	0699 3396
Additional calibration point freely selectable	0700 7710

TECHNICAL DATA FA 510/515	
Measuring range:	-80…20 °Ctd, -20…50 °Ctd
Accuracy:	± 1 °C at 50…-20 °Ctd ± 2 °C at -20…-50 °Ctd ± 3 °C at -50…-80 °Ctd
Pressure range:	-1…50 bar Special version up to 500 bar
Power supply:	24 VDC (10…36 VDC)
Protection class:	IP 66
EMC:	In acc. with DIN EN 61326-1
Operating temperature:	-20…70 °C
Connection:	M12, 5-pin
PC connection:	Modbus-RTU interface (RS 485)
Analogue output:	4…20 mA = -80…20 °Ctd 4…20 mA = -20…50 °Ctd FA 510: 4…20 mA (3-wire) FA 515: 4…20 mA (2-wire)
Burden for analogue output:	< 500 Ω
Screw-in thread:	G 1/2″ Stainless steel Optional: UNF 5/8", NPT 1/2"
Dimensions:	Ø 30 mm, length approx. 130 mm
Via service software:	
Choose units	% RH, °Ctd, g/m³, mg/m³, ppm V/V
Scaling	4…20 mA change

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