



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

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|------------------------------------|--|
| 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 |