



## 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 like oxygen, nitrogen, argon ...
- Residual moisture/ dew point measurement after granulate dryers in plastics industry

### Recommendation:

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

**Advantage:** Easy installation via quick coupling

### Special features:

- Extremely long-term stable
- Analog output 4 ... 20 mA for dew point
- Condensation insensitive
- Fast adjustment time
- Pressure resistant up to 350 bar (special version)
- **NEW:** Modbus RTU interface
- **NEW:** Higher resolution of the sensor signal due to improved evaluation electronics
- **NEW:** Sensor diagnosis on site with mobile device or CS service software
- Readable via Modbus:
  - Pressure dew point [° Ctd.]
  - Temperature [° C]
  - Rel. humidity [% RH]
  - Abs. humidity [g / m³]
  - Moisture content [g / m³]
  - Moisture content V / V [ppmV / V]
  - Partial vapor pressure [hPa]
  - Atmospheric dew point [° Ctd.atm]

| DESCRIPTION   | ORDER-NO. |
|---|-----------|
| FA 510 dew point sensor for desiccant driers -80°...20°Ctd incl. inspection certificate, 4...20 mA output signal (3-wire connection) and Modbus-RTU interface   | 0699 0510 |
| FA 515 dew point sensor for desiccant driers -80°...20°Ctd incl. inspection certificate, 4...20 mA output signal (2-wire connection) or Modbus-RTU interface    | 0699 0515 |
| FA 510 dew point sensor for refrigerated driers -20...50°Ctd incl. inspection certificate, 4...20 mA output signal (3-wire connection) and Modbus-RTU interface | 0699 0512 |
| FA 515 dew point sensor for refrigerated driers -20...50°Ctd incl. inspection certificate, 4...20 mA output signal (2-wire connection) and Modbus-RTU interface | 0699 0517 |
| <b>Connection cables:</b>   |           |
| Connection cable for VA/FA sensors, 5 m   | 0553 0104 |
| Connection cable for VA/FA sensors, 10 m  | 0553 0105 |
| <b>Option for FA 510:</b>   |           |
| Option: analogue output FA 510, Special version 2...10 Volt   | Z699 0510 |
| <b>Options for FA 510/515:</b>  |           |
| Option: max. pressure FA 5xx 350 bar  | Z699 0515 |
| Option: special scaling FA 5xx 4...20 mA= __ ... __ g/m³, ppm etc.  | Z699 0514 |
| Option: connection thread FA 5xx, 5/8" UNF  | Z699 0511 |
| Option: surface condition FA 5xx, free of oil & grease  | Z699 0517 |
| <b>Further accessories:</b>   |           |
| Standard measuring chamber up to 16 bar   | 0699 3390 |
| High pressure measuring chamber up to 350 bar   | 0699 3590 |
| Measuring chamber, stainless steel 1.4305   | 0699 3290 |
| CS Service Software for dew point sensors incl. PC connection set (Modbus to USB Interface)   | 0554 2007 |
| <b>Calibration and adjustment:</b>  |           |
| Precision calibration at -40°Ctd or 3° Ctd including ISO certificate  | 0699 3396 |
| Additional calibration point freely selectable  | 0700 7710 |

| TECHNICAL DATA FA 510/515        |  |
|----------------------------------|--|
| <b>Measure range:</b>            | -80...20°Ctd, -20...50°Ctd   |
| <b>Accuracy:</b>                 | ± 1°C to 50...-20°Ctd<br>± 2°C to -20...-50°Ctd<br>± 3°C to -50...-80°Ctd  |
| <b>Pressure range:</b>           | -1...50 bar<br>special version up to 350 bar   |
| <b>Power supply:</b>             | 24 VDC (16...30 VDC)   |
| <b>Protection class:</b>         | IP 65  |
| <b>EMV:</b>                      | according to DIN EN 61326-1  |
| <b>Operating temp.:</b>          | -20...70 °C  |
| <b>Connection:</b>               | M12, 5-pole  |
| <b>PC connection</b>             | Modbus-RTU interface (RS 485)  |
| <b>Analog output</b>             | 4...20 mA = -80...20°Ctd<br>4...20 mA = -20...50°Ctd<br>FA 510: 4...20 mA (3-wire)<br>FA 515: 4...20 mA (2-wire) |
| <b>Burden for analog output:</b> | < 500 Ω  |
| <b>Screw-in thread:</b>          | G 1/2"<br>optional: UNF 5/8", NPT 1/2"   |
| <b>Dimensions:</b>               | Ø 30 mm, length approx. 130 mm   |
| <b>Via service software:</b>     |  |
| Choose units                     | % RH, °Ctd, g/m³, mg/m³, ppm V/V   |
| Scaling                          | change 4...20 mA   |