

Measurement and monitoring solution

PDP sensors



Pneumatech pressure dew point (PDP) sensors allow you to measure and monitor the moisture content of your compressed air to take control of your its quality.

Compressed air with the correct dew point ensures you meet industry quality requirements and your air system and equipment run smoothly. You also, avoid corrosion and equipment damage, the growth of microorganisms and product contamination, and costly production downtime. In many industries and applications, precise dew point measurement is required.

Examples include industrial gas generation (nitrogen, oxygen,...) and the drying of granulate in the plastics technology industry.

Accessories



Sensor cable M12

Features & benefits

- Compact design ideal for compact dryer installation
- Integrated display for live reading and total consumption. Display can be rotated 340° for easy readability
- Different output options
 - » 4...20 mA
 - » Modbus/RTU
- Low maintenance costs due to stable and reliable measurements.
- Longer calibration intervals.
- Suitable for pressures up to 16 bar. For higher pressure, please contact your sales representative
- Pressure measurement also available

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 plastic industry

Technical data

| Model | PDP sens T20 | PDP sens T60 | PDP sens T100 |
|------------------------------|---|-----------------------------|-----------------------------|
| Measurement range | Dew point: -20...+50°C Td | Dew point: -60...+20°C Td | Dew point: -100...+20°C Td |
| | Temperature: -30...+70°C | Temperature: -30...+70°C | Temperature: -30...+70°C |
| | Pressure: 0...1.6 MPa | Pressure: 0...1.6 MPa | Pressure: 0...1.6 MPa |
| Dew point sensor | Polymer | Polymer | Polymer + QCM |
| Operating pressure | -1...16 bar | | |
| Response time (t90) @4 l/min | 0°C Td → -20°C Td ≤ 50 sec | 0°C Td → -60°C Td ≤ 280 sec | 0°C Td → -80°C Td ≤ 420 sec |
| | -20°C Td → 0°C Td ≤ 35 sec | -60°C Td → 0°C Td ≤ 65 sec | -80°C Td → 0°C Td ≤ 90 sec |
| Accuracy | +/- 1°C Td (0 ... 20°C Td) | | |
| | +/- 2°C Td (-70 ... 0 / +20 ... +50°C Td) | | |
| | +/- 3°C Td (-100 ... -70°C Td) | | |
| Temperature | +/- 0.3°C | | |
| Pressure | 0.5% FS | | |
| Process connection | G 1/2" (ISO 228/1), stainless steel 1.4301 (SUS 304) | | |
| Operating conditions | Medium temp.: -30...+70°C | | |
| | Ambient temp.: 0...+50°C | | |
| | Ambient humidity: 0...100% rH | | |
| Materials | Casing: Aluminum alloy | | |
| | Process thread: Stainless steel 1.4301 (SUS 304) | | |
| Classification / Approval | IP65 / CE | | |
| Sensor protection | Sinter filter (stainless steel) | | |
| Transport & Storage | Transport temp.: -30...+70°C | | |
| | Storage temp.: -20...+50°C | | |
| Weight | 180 g | | |
| Measured gases (Medium) | Air, Argon, O ₂ , N ₂ , CO ₂ * | | |
| | 4...20 mA 2-wire + SDI | | |
| Output signal | 4...20 mA 3-wire + SDI | | |
| | 4...20 mA 3-wire + Modbus/RTU | | |
| Sensor types | Temperature sensor: Pt100 | | |
| Display option | Pressure sensor: Piezo resistive type | | |
| Display option | 0.66" OLED display, indicates measured value and unit | | |
| Supply Voltage | 15...30 VDC | | |

* CO₂ medium:

If the PDP sens T60 is used in CO₂, the range is limited to -40°C Td

The PDP sens T100 must be set to CO₂ ex works or by using the S4C-DP service software + service kit

(please state when ordering if pdp sensor is intended for use for CO₂)

Ordering

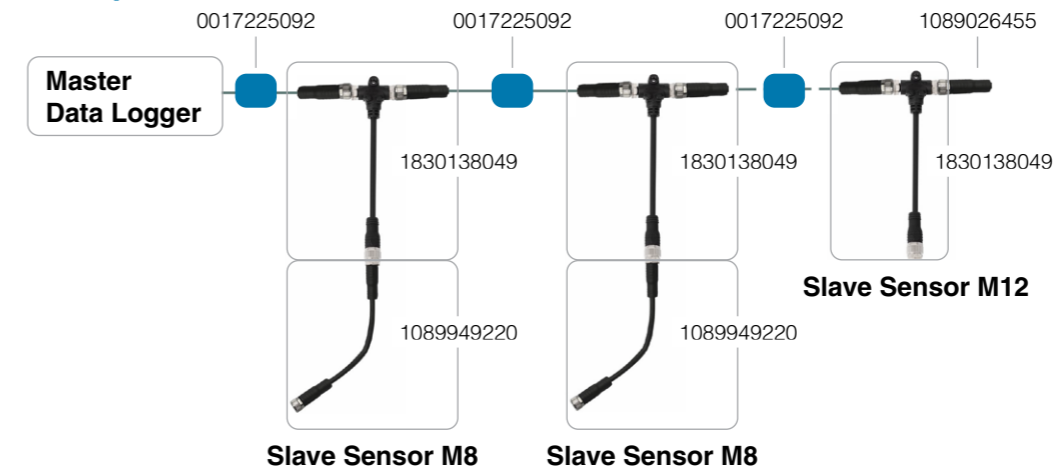
| Order number | Name | Dew point range | Pressure measurement |
|--------------|-----------------|-----------------|----------------------|
| 1830178088 | PDP sens T20 | -20...+50 | N |
| 1830178089 | PDP sens T20 P | -20...+50 | Y |
| 1830178090 | PDP sens T60 | -60...+20 | N |
| 1830178063 | PDP sens T60 P | -60...+20 | Y |
| 1830178064 | PDP sens T100 | -100...+20 | N |
| 1830178065 | PDP sens T100 P | -100...+20 | Y |

| Order number | Accessories |
|--------------|--|
| 1830154918 | Measuring chamber Bypass Type - 6mm hose |
| 1830154919 | Measuring chamber – Quick connector PM20 |
| 0605870244 | NPT thread adapter |

Notes

- For sensors with output type 4...20 mA, **2 cables** with M12 connector are needed.
- For sensors with output type Modbus RTU, **1 cable** with M12 connector is needed.
- The sensors can be easily connected in Modbus RTU daisy chain using the M12 RS-485 splitter and placing the termination resistor as the last splitter in the bus chain. See example below:

Example





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