

PROGRAMMABLE 2-WIRE DEWPOINT TRANSMITTER

type DPT-21, type DPT-22



Typ	M
DPT-21	5/8-18 UNF
DPT-22	G1/2"

- ☐ dew point temperature measurement
- ☐ measurement range: **-100 ... +20 °Cdp**, scalable
- ☐ operating temperature range: -40 ... +60 °C
- ☐ ceramic capacitive sensor
- ☐ fast response to humidity changes
- ☐ fault indication (sensor failure)
- ☐ powered via 4–20 mA current loop
- ☐ programmable in: **°Cdp**, **°Fdp**, **ppm** (volumetric), and **%RH**

The DPT-21_22 is a microprocessor-based electronic device that converts the capacitance of an integrated humidity sensor into a standard 4...20 mA current signal. It also measures the temperature of the gas surrounding the sensor.

The transmitter is factory-calibrated and pre-configured, but the user can modify certain parameters - primarily the physical unit and measurement range - to suit the requirements of the measurement system. Programming is carried out using the DPT-IF2013U interface, which connects to the computer via a USB port.

TECHNICAL DATA

Dew point temperature measurement range
Relative humidity measurement range
Dew point temperature measurement accuracy
Temperature error
Processing range (programmable)
Response time to step change in measured value (T95)
Output signal (programmable)
Linear output signal range
Output signal delay after power-up
Sensor fault indication (programmable)
Power supply U_s (via current loop)
Maximum load resistance [W]
Operating temperature range
Maximum operating pressure
Housing / filter material
Enclosure protection rating
Dimensions with connector (diameter x length) / weight
Accessories (ordered separately):

(Default values are highlighted by underlining)

-100 ... +20 °Cdp or -148 ... +68 °Fdp or 0,01 ... 49000 ppm(v)
0 ... 100 % (calculated based on dew point and gas temperature)
± 2 °Cdp
compensated within the operating temperature range
10 % ... 100 % of the measurement range
1 minute (dry/wet)
4 ... 20 mA or 20 ... 4 mA
3.8 ... 20.5 mA
approx. 5 s
23 mA or 3.5 mA
8 ... 36 V DC / 24 mA
($U_s[V]$ - 8) / 0.024
-40°C ... +60°C
40 MPa
stainless steel 1.4305 / 5 μ m sintered stainless steel
IP65
Ø31 x 129 mm / 150 g
DPT-IF2013U interface (with GDSN307 connector cable)
DPT-SB sampling block (with two 1/8" NPT threaded ports)
DPT-CA-G1/2" process connection adapter

ORDERING CODE

(1) (2) (3) (4) (5) (6)
DPT — / / / / /

- (1) Process connection
(2) Lower range limit (for 4 mA output)
(3) Upper range limit (for 20 mA output)
(4) Physical unit of measurement range
(5) Pressure value (when unit is ppm)
(6) Sensor fault indication:

5/8"-18 UNF (21), G1/2" (22)
value in units specified in item (4), default -100
value in units specified in item (4), default +20
°Cdp, **°Fdp**, **ppm**, **%RH**, default °Cdp
value in [hPa], range: **500...40000**, default 1013.25
H - output 23 mA, **L** - output 3.5 mA, default H

Ordering example:

DPT-21 denotes a humidity transmitter with a 5/8"-18 UNF male thread, 4...20 mA output, powered via current loop, with a measurement range from -100 to +20 °Cdp.
DPT-21/0.01/23000/ppm denotes a humidity transmitter with the same thread, 4...20 mA output, powered via current loop, with a measurement range from 0.01 to 23000 ppm (at 1013.25 hPa).