

PID CONTROLLERS

DPT-CTRL-2SP

Multifunctional stand-alone PID controller with two setpoints for building automation



The DPT-Ctrl-2SP series PID controllers are engineered for stand-alone building automation in the HVAC/R industry. With the built-in controller of the DPT-Ctrl-2SP it is possible to control the constant pressure or flow of fans, VAV systems or dampers. The device has a binary input to select between two preset setpoints. When controlling air flow, it is possible to select a fan manufacturer or a common measuring probe that has a K-value. The device also includes a temperature sensor input which enables compensation of flow or pressure according to outside temperature.

DPT-Ctrl-2SP series devices include:

- PID-controller
 - o Control differential pressure or air flow in duct or across centrifugal fans
 - o Two independent setpoints, switchable via binary input
 - o Flow or pressure compensation according to temperature input
 - o All parameters (such as PID, setpoints) are adjustable via menu
- Multiple field selectable measurement units:
 - o Volume flow: m³/s, m³/h, cfm, l/s
 - o Pressure: Pa, inWC, mmWC, kPa, mbar, psi
- Unique input/output options:
 - o Setpoint switch binary input
 - o Outside temperature sensor input
 - o Only control voltage output (0–10 V)



SIMILAR PRODUCTS

- DPT-Ctrl air flow/pressure controllers
- DPT-Ctrl-MOD air flow/pressure controllers

APPLICATIONS

DPT-Ctrl-2SP series devices are commonly used in HVAC/R systems for:

- Controlling building ventilation exhaust fans based on a week clock
- Controlling exhaust fans based on user-demand

MODEL SUMMARY

	DPT-CTRL-2SP-2500	
Measurement ranges (Pa)	0–2500 Pa	
Description	Model	Product code
PID controller, two setpoints	DPT-Ctrl-2SP-2500-D	103.007.187

PID CONTROLLERS

DPT-CTRL-2SP

SPECIFICATIONS

Performance

Accuracy (from applied pressure):

Model 2500:

Pressure < 125 Pa = 1 % + ±2 Pa

Pressure > 125 Pa = 1 % + ±1 Pa

(Accuracy specifications include: general accuracy, linearity, hysteresis, long term stability, and repetition error)

Thermal effects:

Temperature compensated 0...50 °C

Overpressure:

Proof pressure: 25 kPa

Burst pressure: 30 kPa

Zero point calibration:

Manual pushbutton

Response time:

1.0–20 s, selectable via menu

Technical Specifications

Media compatibility:

Dry air or non-aggressive gases

Controller parameter (selectable via menu):

Setpoints 0...2500 Pa

P-band 0...100 000

I-time 0...1000 s

D-factor 0...100

Pressure units (select via menu):

Pa, kPa, mbar, inWC, mmWC, psi

Flow units (select via menu):

Volume: m³/s, m³/hr, cfm, l/s

Velocity: m/s, ft/min

Measuring element:

MEMS, no flow through

Environment:

Operating temperature: -20...50 °C

Storage temperature: -40...70 °C

Humidity: 0 to 95 % rH, non condensing

Physical

Dimensions:

Case: 90.0 x 95.0 x 36.0 mm

Weight:

150 g

Mounting:

2 each 4.3 mm screw holes, one slotted

Materials:

Case: ABS

Lid: PC

Protection standard:

IP54

Display

2-line display (12 characters/line)

Line 1: Direction of control output

Line 2: Pressure or air flow measurement, selectable via menu

Size: 46.0 x 14.5 mm

Electrical connections:

4-screw terminal block

Wire: 0.2–1.5 mm² (12–24 AWG)

Cable entry:

Strain relief: M16

Knockout : 16 mm

Pressure fittings

5.2 mm barbed brass

+ High pressure

– Low pressure

Electrical

Voltage:

Circuit: 3-wire (V Out, 24 V, GND)

Input: 24 VAC or VDC, ±10 %

Control output: 0–10 V, selectable via jumper

Power consumption: <1.0 W

Resistance minimum: 1 kΩ

Temperature input:

Sensor type: NTC10, NTC20, Pt1000, Ni1000

Conformance

Meets requirements for CE marking:

EMC Directive 2014/30/EU

RoHS Directive 2011/65/EU

WEEE Directive 2012/19/EU

COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 = ISO 14001 =



HOW TO GENERATE A MODEL?

Example: DPT-Ctrl-2SP-2500-D	Product series				
	DPT-Ctrl	Pressure and flow controller			
		Model type			
		-2SP	Two setpoints (switchable via binary input)		
			Measuring ranges (Pa)		
			-2500	-250...2500	
				Display	
-D	With display				
Model	DPT-Ctrl	-2SP	-2500	-D	