HK INSTRUMENTS
USER-FRIENDLY MEASURING DEVICES

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: m^3/s, m^3/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 =**

CE

RoHS 2
2011/65/EU

HOW TO GENERATE A MODEL?

Example:	Product series				
DPT-Ctrl-2SP-2500-D	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	