HK INSTRUMENTS
USER-FRIENDLY MEASURING DEVICES

AIR HANDLING CONTROLLER
DPT-CTRL-MOD

Multifunctional PID controller with differential pressure or air flow transmitter and Modbus communication

5 YEAR WARRANTY

The DPT-Ctrl-MOD series PID controllers are engineered for building automation in the HVAC/R industry. With the built-in controller of the DPT-Ctrl-MOD it is possible to control the constant pressure or flow of fans, VAV systems or dampers. When controlling air flow, it is possible to select a fan manufacturer or a common measuring probe that has a K-value.

DPT-Ctrl-MOD series devices include:

- PID-controller
  - o Control differential pressure or air flow in duct or across centrifugal fans
  - o All parameters (PID) are adjustable via menu and Modbus
- Multiple field selectable measurement units:
  - o Volume flow: m3/s, m3/h, cfm, l/s
  - o Velocity: m/s, ft/min
  - o Pressure: Pa, inWC, mmWC, kPa, mbar
- Control output: Voltage (0–10 V)
- One external input: voltage, thermistor or binary input

SIMILAR PRODUCTS

- AVT series air velocity transmitters
- DPT-Flow series air flow transmitters
- DPT-R8 series 8-range differential pressure transmitters
- DPT-MOD series differential pressure transmitters with Modbus configuration
- DPT-Ctrl series air handling controller

APPLICATIONS

DPT-Ctrl-MOD series devices are commonly used in HVAC/R systems for:
- Controlling differential pressure or air flow in air handling systems
- VAV applications
- Controlling parking garage exhaust fans

MODEL SUMMARY

	DPT-CTRL-MOD-2500	
Measurement ranges (Pa)	0–2500 Pa	
Description	**Model**	**Product code**
PID controller for differential pressure or air flow with Modbus		
- with display	DPT-CTRL-MOD-2500-D	114.003.009

AIR HANDLING CONTROLLER
DPT-CTRL-MOD

SPECIFICATIONS

Performance
Accuracy (from applied pressure):
Pressure < 125 Pa = 1 % + ±2 Pa
Pressure > 125 Pa = 1 % + ±1 Pa
(Accuracy specifications include: general accuracy, temperature drift, linearity, hysteresis, long term stability, and repetition error)
Thermal effects:
Temperature compensated across the full spectrum of capability
Overpressure:
Proof pressure: 25 kPa
Burst pressure: 30 kPa
Zero point calibration:
Manual pushbutton or Modbus
Response time:
1.0–20 s, selectable via menu or Modbus

Communication
Protocol: MODBUS over Serial Line
Transmission Mode: RTU
Interface: RS485
Byte format (11 bits) in RTU mode:
  Coding system: 8-bit binary
  Bits per byte:
    1 start bit
    8 data bits, least significant bit sent first
    1 bit for parity
    1 stop bit
Baud rate: selectable in configuration
Modbus address: 1–247 addresses selectable in configuration menu

Technical Specifications
Media compatibility:
Dry air or non-aggressive gases
Controller parameter (selectable via menu and Modbus):
Setpoint 0...2500
P-band 0...10 000
I-time 0...1000
D-factor 0...1000
Pressure units (selectable via menu):
Pa, kPa, mbar, inWC, mmWC, psi
Flow units (selectable via menu):
Volume: m3/s, m3/hr, cfm, l/s
Velocity: m/s, ft/min
Measuring element:
MEMS
Environment:
Operating temperature: 10...50 °C
Storage temperature: -20...70 °C
Humidity: 0 to 95 % rH, non condensing

Physical
Dimensions:
Case: 102.0 x 71.5 x 36.0 mm
Weight:
150 g, with accessories 290 g
Mounting:
2 each 4.3 mm screw holes, one slotted
Materials:
Case: ABS
Lid: PC
Pressure inlets: Brass
Duct connectors: ABS
Tubing: PVC
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
    If input is selected, line 2 shows also input information (for example temperature)
Size: 46.0 x 14.5 mm
Electrical connections:
4+4 position spring-loaded terminals
Wire: 0.2–1.5 mm^2 (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 %
Output: 0–10 V
Power consumption: <1.0 W
Resistance minimum: 1 kΩ

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-MOD-2500-D	DPT-Ctrl-MOD	PID controller for differential pressure or air flow with Modbus		
		Highest available measurement range		
		-2500	0...2500 Pa	
			Display	
			-D	With display
Model	DPT-Ctrl-MOD	-2500	-D	