

AIR FLOW AND VELOCITY TRANSMITTERS

AI.DPTFLOW



DESCRIPTION

The DPT-Flow series air flow transmitters are engineered for building automation in the HVAC/R industry. The most technologically advanced transmitters on the market, measuring volume flow, velocity, and static and differential pressure. The DPT-Flow series devices can be connected directly to the pressure measurement points in a centrifugal fan, providing accurate flow measurement of the fan. The smart user interface enables easy selection of settings according to the selected fan or in-duct measurement probe.

TECHNICAL DATA

DPT-Flow series devices include:

- Two field selectable functions:
 - Measure and monitor in-duct volume flow, velocity or differential pressure
 - Measure and monitor air flow across centrifugal fans
- Multiple field selectable measurement units:
 - Volume flow: m³/s, m³/h, cfm, l/s
 - Velocity: m/s, ft/min
 - Pressure: Pa, inWC, mmWC, kPa, mbar, psi
- Unique proportional output options:
 - Volume flow or velocity: voltage (0–10 V) or current (4–20 mA)
 - Pressure: voltage (0–10 V) or current (4–20 mA)

DPT-Flow series device options offer:

AZ (autozero) function for automatic zero point calibration, eliminating the need for periodic manual autozeroing to ensure long term Accuracy.

APPLICATIONS

DPT-Flow series devices are commonly used in HVAC/R systems for:

- air flow monitoring across centrifugal fans and blowers
- in-duct air flow monitoring
- VAV applications

SIMILAR PRODUCTS

- AVT series air velocity transmitters
- DPT-R8 series 8-range differential pressure transmitters
- DPT-MOD series differential pressure transmitters with Modbus configuration

SPECIFICATIONS

Performance

Accuracy (from applied pressure):

Models 1000 and 2000:

Pressure < 125 Pa = 1 % + ± 2 Pa

Pressure > 125 Pa = 1 % + ± 1 Pa

Models 5000 and 7000:

Pressure < 125 Pa = 1.5 % + ± 2 Pa

Pressure > 125 Pa = 1.5 % + ± 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:

Automatic autozero or manual pushbutton

Response time:

1.0–20 s, selectable via menu

Measuring element: MEMS

Environment:

Operating temperature:

-10...50 °C, with autozero (-AZ) calibration - 5...50 °C

Storage temperature: -20...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

Duct connectors: ABS

Tubing: PVC

Protection standard:

IP54

Display 2-line display (12 characters/line)

Line 1: Volume or velocity measurement

Line 2: Pressure measurement

Size: 46.0 x 14.5 mm

Technical Specifications

Media compatibility:

Dry air or non-aggressive gases

Pressure units (select via menu):

Pa, kPa, mbar, inWC, mmWC, psi

Pressure output scale (select via menu):

	DPT- Flow-1000	DPT- Flow-2000	DPT- Flow-5000	DPT- Flow-7000
Pa	100-1,000	200-2,000	500-5,000	700-7,000
kPa	0.1-1.0	0.2-2.0	0.5-5.0	0.7-7.0
mbar	1-10	2.0-20	5.0-50	7.0-70
mmWC	10-100	20-200	50-500	70-700
inWC	0.4-4.0	0.8-8.0	2.0-20	2.5-30

Flow units (select via menu):

Volume: m³/s, m³/hr, cfm, l/s,
none

Velocity: m/s, ft/min

Flow output scale (select via
menu):

Units	Range
m ³ /s	0.025-50
m ³ /hr	100-200,000
cfm	50-100,000
l/s	25-50,000
m/s	1-100
f/min	200-20,000

Electrical connections:

4-screw terminal block

Wire: 0.2–1.5mm² (12–24 AWG)

Cable entry:

Strain relief: M16

Knockout : 16 mm

Pressure fittings

Male $\varnothing$ 5.0 mm and 6.3 mm

Electrical

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

Input: 24 VAC or VDC, ± 10 %

Output: 0–10 V, selectable via jumper

Power consumption: <1.0 W

Resistance minimum: 1 k Ω

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

Input: 24 VAC or VDC, ± 10 %

Output: 4–20 mA, selectable via jumper

Power consumption: <1.2 W

Maximum load: 500 Ω

Minimum load: 20 Ω

Conformance Meets requirements for CE marking:

EMC Directive 2014/30/EU

RoHS Directive 2011/65/EU

WEEE Directive 2012/19/EU

MODEL SUMMARY

	DPT-FLOW-1000		DPT-FLOW-2000		DPT-FLOW-5000		DPT-FLOW-7000	
Measurement ranges (Pa)	0-1000 Pa		0-2000 Pa		0-5000 Pa		0-7000 Pa	
Description	Model	Product code	Model	Product code	Model	Product code	Model	Product code
Flow meter for measuring air flow in duct and on centrifugal fans								
- with display	DPT-Flow-1000-D	102.001.012	DPT-Flow-2000-D	102.002.009	DPT-Flow-5000-D	100.004.012	DPT-Flow-7000-D	102.006.013
- with autozero and display	DPT-Flow-1000-AZ-D	102.001.002	DPT-Flow-2000-AZ-D	102.002.002	DPT-Flow-5000-AZ-D	102.004.003	DPT-Flow-7000-AZ-D	102.006.002

ORDERING CODE

Example: DPT-FLOW-1000-AZ-D	Product series				
	DPT-FLOW	Air flow transmitter			
		Highest available measurement range			
		-1000	0...1000 Pa		
		-2000	0...2000 Pa		
		-5000	0...5000 Pa		
		-7000	0...7000 Pa		
		Zero Point Calibration			
		-AZ	With autozero calibration		
			Standard with pushbutton manual zero point calibration		
		Display			
			-D	With display	
				Without display	
Model	DPT-FLOW	-1000	-AZ	-D	



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System ISO 9001:2015
Cert n°38785/19/S