DPT-Ctrl - Differential pressure or airflow controller

DPT-Ctrl differential pressure or airflow controllers are designed for building automation systems. Controller can control 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.

The devices include several properties and selectable functions:

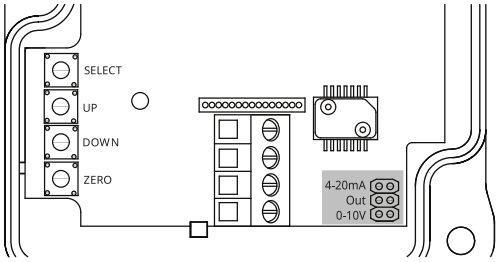
- PID controller that can, for example, control differential pressure or air flow in duct or across centrifugal fan
- Measuring and monitoring differential pressure or air flow in duct or across centrifugal fans
- Multiple selectable measurement units
- Voltage or current output
- Automatic zeroing as an option (with automatic zeroing the transmitter zero point is kept accurate by automatically eliminating the possible zero point drifting. No re-calibration is normally needed.

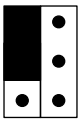
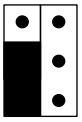
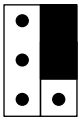
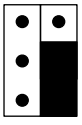
Technical specifications

Property	Value
Supply	24 Vac/dc (22...26 V)
Power consumption	< 1 VA
Power consumption (-40C models)	< 4 VA (when temperature is below 0 °C)
Pressure measurement	
Range	
-2500 models	*0...2500 Pa / custom setting
-7000 models	*0...7000 Pa / custom setting
Accuracy (25 °C)	
-2500 models	• pressure < 125 Pa = ±1 % ±2 Pa • pressure > 125 Pa = ±1 % ±1 Pa
-7000 models	• pressure < 125 Pa = ±1.5 % ±2 Pa • pressure > 125 Pa = ±1.5 % ±1 Pa
Time constant	1...20 s
Zeroing	manual with push button
Zeroing (-AZ models)	automatic
Max. over pressure	30 kPa

Property	Value
Connection	Ø5.2 mm
Medium	dry air or non-aggressive gas
Output	0...10 Vdc, > 1 kΩ
	4…20 mA, load 20...500 Ω
Display	backlit dot matrix display
Wiring terminals	1.5 mm^2
Appliance class (IEC 60664-1)	III
Operating conditions	
Temperature	-20...50 °C
Temperature (-AZ models)	-5...50 °C
Temperature (-40C models)	-40...50 °C
Humidity	0...95 %rH (non condensing)
Housing	
Material	ABS and PC plastic
Protection class	IP54
Cable gland	M16
Mounting	2 x Ø4.3 mm screw holes, one slotted
Dimensions (w x h x d)	90 x 95 x 36 mm
Weight	150 g
	* factory default

Output settings



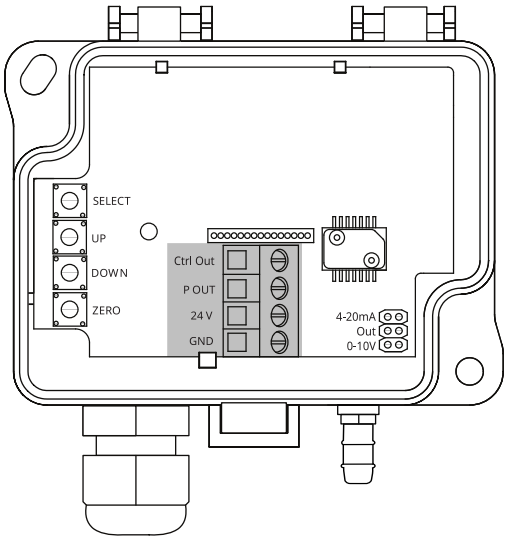
	Current output (4...20 mA) selected for control
	*Voltage output (0...10 V) selected for control
	Current output (4...20 mA) selected for pressure
	*Voltage output (0...10 V) selected for pressure
	* factory default

Wiring

WARNING: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.

WARNING: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (safety extra low voltage) electricity network.

CAUTION: The product may only be connected to overvoltage category III electricity network according to IEC 60664-1.



Ctrl Out	Control output (0...10 V / 4...20 mA)
P Out	Pressure output (0...10 V / 4...20 mA)
24V	24 Vac/dc supply
GND	0 V

The nominal wire terminal screw tightening torque is 0.6 Nm.

Important: Don't use excessive force when tightening the wiring terminal screws.

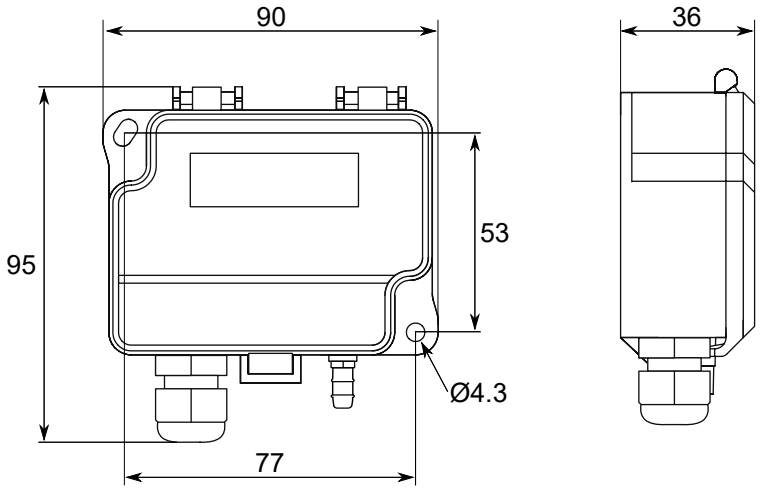
CAUTION: Ensure that all covers are closed before connecting supply voltage to the product. Don't remove the covers when the supply voltage is connected.

Ordering information

	Type	Product number	Description
	DPT-Ctrl-2500-D	103.007.232	Differential pressure or airflow controller, range 0...2500 Pa, manual zeroing
	DPT-Ctrl-2500-AZ-D	103.007.233	Differential pressure or airflow controller, range 0...2500 Pa, automatic zeroing
	DPT-Ctrl-2500-D-40C	103.007.234	Differential pressure or airflow controller, range 0...2500 Pa, extended ambient temperature range (-40...50 °C)
	DPT-Ctrl-7000-D	103.016.108	Differential pressure or airflow controller, range 0...7000 Pa, manual zeroing

	Type	Product number	Description
	DPT-Ctrl-7000-AZ-D	103.016.109	Differential pressure or airflow controller, range 0...7000 Pa, automatic zeroing
	DPT-Ctrl-7000-D-40C	103.016.110	Differential pressure or airflow controller, range 0...7000 Pa, manual zeroing, extended ambient temperature range (-40...50 °C)

Dimensions



Supported standards and directives

Standard	Description
2014/30/EU	Electromagnetic Compatibility (EMC).
2011/65/EU	Restriction of Hazardous Substances (RoHS2) Directive.
(EU) 2015/863	Commission Delegated Directive, amending Annex II to Directive 2011/65/EU.
2012/19/EU	Waste electrical and electronic equipment (WEEE).
EN 61326-2-3:2021	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
EN 61326-1:2021	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
EN 61000-6-3:2021	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
EN 61000-4-2:2009	Electromagnetic compatibility (EMC). Testing and measuring techniques - Electrostatic discharge immunity test.
EN 61000-4-3:2006/ AMD2:2010	Electromagnetic compatibility (EMC). Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test.
EN 61000-4-4:2012	Electromagnetic compatibility (EMC). Testing and measurement techniques - Electrical fast transient/burst immunity test.
EN 61000-4-5:2012	Electromagnetic compatibility (EMC). Testing and measurement techniques - Surge immunity test.

Standard	Description
EN 61000-4-6:2007/ IS1:2009	Electromagnetic compatibility (EMC). Testing and measurement techniques. Immunity to conducted disturbances, induced by radio-frequency fields.
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances