

# ADPT-PTH

Multi Range Air Differential Pressure Transmitter - Low DP



## Product overview

The ADPT-PTH ultra low differential pressure transmitter is a cost effective solution for air flow monitoring applications. The unit has 8 jumper selectable pressure ranges and can be used for positive, negative or differential pressure monitoring applications. ADPT-PTH units are suitable for use with air, non aggressive and non-combustible gases. They have jumper selectable Voltage or Current outputs.

## Features

- 8 selectable pressure ranges
- Small profile
- IP54 Protection
- 4 Selectable Outputs, including 0-10Vdc and 4-20mA
- LED Indication

## Product specifications

Range: selectable	-50 to +50Pa, 0-100Pa, 0-150Pa, 0-300Pa, 0-500Pa, 0-1000Pa, 0-1600Pa, 0-2500Pa
Maximum Pressure:	20,000 Pa
Pressure Connection:	Tapered ports suitable for 6.2mm plastic tube
Electrical Connection:	Screw Terminals Suitable for use with cable up to 1.5mm <sup>2</sup>
Output: selectable	4(0~)-20mA 0(2)-10Vdc
Power Supply:	24Vac 50/60Hz or 13.5 to 28Vdc
Supply Current:	Max 4VA
Accuracy:	1.5%xMV+0.3 %xSR+2.5 Pa (MV = measured value, SR = set measuring range)
Dampening:	0.4 secs or 10 secs
Linearity:	< ±1% of Full scale
Stability:	< ±1% F.S.O. Per year
Mounting:	Wall mounted
Material:	ABS
Protection:	IP54
Ambient Temperature Range:	-20°C to +40°C
Dimensions:	75(W) x 92(H) x 36(D)mm (maximum)
Weight:	87gms
CE:	EMC: 92/31/EEC :LVD; 72/23/EEC EN61000-6-2 :EN61000-6-3

## Order codes

ADPT-PTH

Multi Range Air Differential Pressure Transmitter

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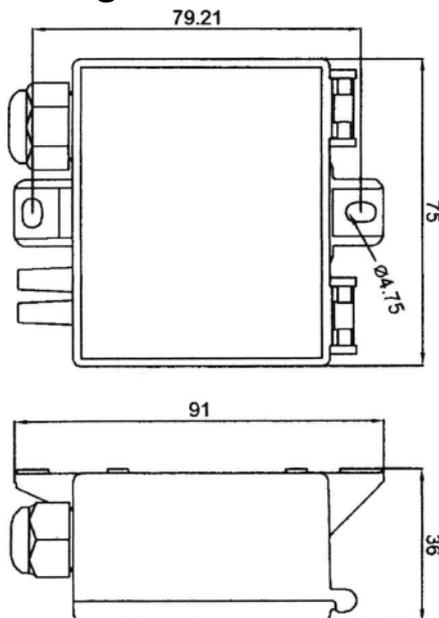
## Installation

The ADPT-PTH should be installed by a suitably qualified technician in accordance with prevailing regulations and any guidelines for the equipment to which it is to be connected. The ADPT-PTH is not suitable for use with mains voltage.

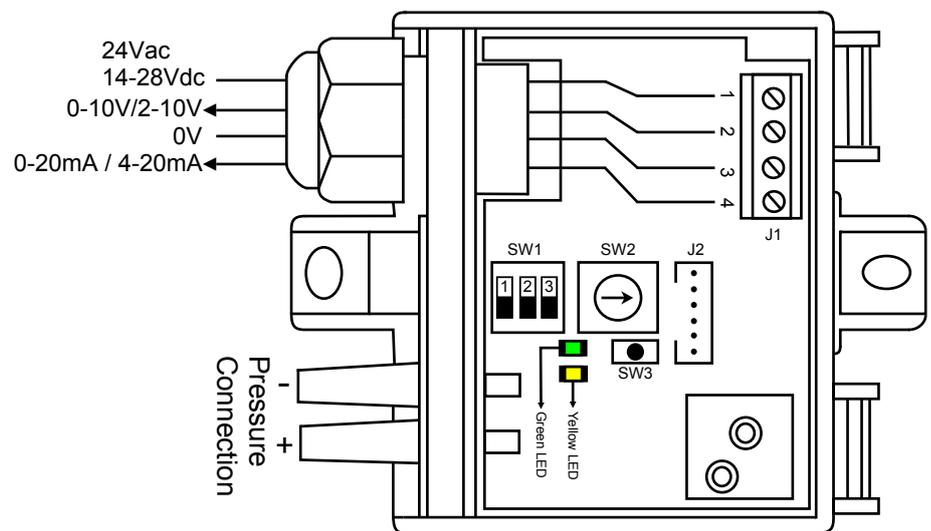
The ADPT-PTH has two fixing lugs moulded into the base for use with screws up to 4mm in diameter. When fixing the switch, care should be taken not to stress the unit. The unit is not sensitive to mounting orientation, however to maintain the enclosure specification, tubes must be fitted to both tube connectors if the connectors point upwards. The enclosure is opened without the use of tools by pressing the snap lock at the side of the connectors. To obtain the best possible results, pressure must be measured where there is the least risk of turbulence, i.e. in the centre of the duct and at a suitable distance from bends and branches. The transducer cable must be kept separate from mains carrying cables as this may affect results.

The pressure range is set by the dip switches. If the pressure range is unintentionally set for a lower range than the pressure to be measured the green LED will flash.

**Fig.1 Dimensions**



**Fig.2 Connections & Switch Positions**



## Setting a PTH Transducer: -

1. Connect the mains pressure: Terminal 1 = Supply Voltage  
Terminal 2 = Output Voltage  
Terminal 3 = Common  
Terminal 4 = Milliamp Output  
Check Green LED is ON
2. Press the Zero Reset Button, Yellow light should flash for 3 seconds (see Section 'Zeroing for more information')
3. Pressure Range is set via SW2 Positioning (see Fig.2 and Fig.4)
4. Select damping required; either 0.4 to 10 seconds. See Damping (fig.7) for more information
5. Select required output via SW1 DIP2, default is 0 to 10Vdc. See Output Signal (fig.3) for more information
6. Connect the high and low pressure to correct nipples marked on the underside of box.

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## Configuring Outputs

### Output Signal (fig.3)

The unit has 4 DIP switch selectable outputs. To select the desired output, set Dipswitch 1 and connect to the appropriate terminal. Please see below for a table of reference, and fig.2 (Connections and Switch Positions).

Pressure Range	SW1-1	Terminal
0-10Vdc	OFF	Terminal 2
2-10Vdc	ON	
0-20mA	OFF	Terminal 4
4-20mA	ON	

### Output Range (fig.4)

The output range is set via the dial SW2, please refer to the table below for ranges, and fig.2 for positioning.

Pressure Range	SW2 Position
-50.. +50 Pa	0
0.. +100 Pa	1
0.. +150 Pa	2
0.. +300 Pa	3
0.. +500 Pa	4
0.. +1000 Pa	5
0.. +1600 Pa	6
0.. +2500 Pa	7

## LED Indication (fig.5)

Green: - When mains supply is connected this will become a solid green

If pressure applied to transducer is outside the selected range then the light will flash or if the transducer high and low pressure connections are wrongly connected.

Yellow: - The light will be lit if the pressure exceeds 50Pa

The light will flash for 3 seconds while zero reset is in operation

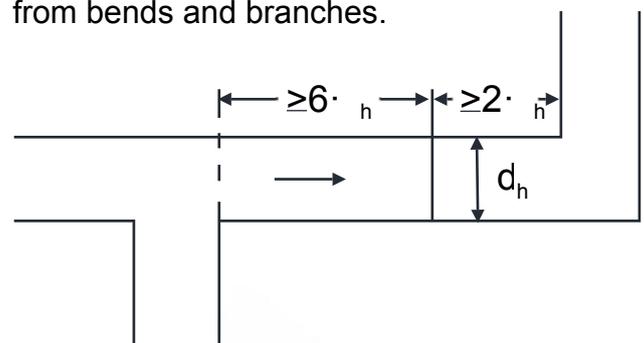
LED	On	Flashing	Off
Green	OK	Pressure Outside Set Range	No Supply
Yellow	>50 Pa	Zeroing in Progress	<50 Pa

## Zeroing

The transmitter can be zeroed after it has been mounted and the power supply connected. Before zeroing the transmitter, it is important to ensure that the pressure on the + and - connectors is equal (eg. by stopping the ventilation system). If the yellow LED is constantly lit, the transmitter is measuring a differential pressure of more than 50 Pa. This may be caused by unintended pressure within the system (draughts or compressed tubing). It is recommended that tubes be removed from the + and - connectors during zeroing. Zeroing is activated by pressing the integrated zero-set switch SW3 (see fig.2), after which the yellow LED will continue to flash until zeroing has been completed.

## Mounting Relative to Bends (fig.6)

To obtain the best possible results, pressure must be measured where there is least risk of turbulence, i.e. in the centre of the ventilation duct and at a suitable distance from bends and branches.



## Damping (fig.7)

Output signal damping time can be set to 0.4 seconds or 10 seconds using DIP2 of SW1 (see fig.2 Connections & Switch Positions). The transmitter measures the pressure several times within the set time and the output signal consists of the average of these measurements. This allows any pressure fluctuations within the ventilation system to be dampened in the transmitter output signal.

Damping	SW1-2
0.4 seconds	OFF
10 seconds	ON

### Disclaimer

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