PA267 Differential Air Pressure Transmitter

Technical Overview

Features and Benefits

- ±0.4% and ±1% Accuracy Versions
- Over pressure safety margin of 68kPa
- Duct fixing kit included
- Optional LCD Display
- IP65 Housing
- Long term stability

The PA-267 is designed for overpressure, under pressure, and differential pressure measurements of air and other neutral gases. It is recommended that for applications where control is involved, the high accuracy version is used.

The measurement cell uses an advanced design of capacitive element to ensure excellent linearity and zero stability. The differential pressure to be measured induces a movement of the stainless steel diaphragm which is converted to an electronic output signal by a capacitance measurement and a unique electronic circuit

Product Codes

PA-267-25	0 to 25Pa, 4-20mA output
PA-267-50	0 to 50Pa, 4-20mA output
PA-267-100	0 to 100Pa, 4-20mA output
PA-267-300	0 to 300Pa, 4-20mA output
PA-267-500	0 to 500Pa, 4-20mA output
PA-267-1000	0 to 1000Pa, 4-20mA output
PA-267-1600	0 to 1600Pa, 4-20mA output
PA-267-2500	0 to 2500Pa, 4-20mA output
PA-267-3000	0 to 3000Pa, 4-20mA output

Add suffix to the partcode

-V	0-10Vdc voltage output

For options add suffix to the partcode (at extra cost):

-AH	For 0.4% accuracy
-B	For Bi-directional output
-LCD	For integral LCD option

Accessories

Accessories

DFK	Duct fixing kit
TEE	Tee piece air pressure (pack of 10)
PITOT	Aluminium pitot tubes (pair)
PA-TUBE-CLEAR	Clear tube 8mm o/d x 1.5mm wall, 30m reel
PA-TUBE-RED	Red tube 8mm o/d x 1.5mm wall, 30m reel
PA-TUBE-BLUE	Blue tube 8mm o/d x 1.5mm wall, 30m reel
PA-267-CAL	Calibration certificate

A 'duct fixing kit' is supplied with the PA-DPS, consisting of 2m of 6mm i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.

Specification

Accuracy RSS*

	Standard	*High*
(at constant temp)	± 1.00% fsd	± 0.40% fsd
Linearity (BFSL)	± 0.98% fsd	± 0.33% fsd
Hysteresis	± 0.20% fsd	± 0.20% fsd
Repeatability	± 0.10% fsd	± 0.10% fsd
Thermal effect**		
Compensated range	5 to 65°C	
Zero/span shift %FS	±0.06%	
Overpressure	68kPa	
Warm-up shift	±0.1% FS total	
Pressure connections	Push fit for 6mm i/d tube	
Output:		
Current	4-20mA, load = 100 to 800Ω	
Voltage	0-10Vdc (o/p impedance <100kΩ)	
Power supply:		
Current output	9 to 30Vdc	
Voltage output	12-30Vac or 13-42Vdc	
Electrical Connections	Screw terminals for 1.5mm² max.	
Diaphragm	Stainless steel 304	
Housing	Glass-filled Polycarbonate to UL94V-0	
Protection	IP65	
Operating Temp.	-18 to +65°C	
Dimensions	158 x 80 x 60mm	
Country of origin	USA	
Conformity	EMC, CE & UKCA Marked	

* RSS of Non-linarity, non-repeatility & hysteresis
** Units calibrated at nominal 21°C

WEEE Directive:

At the end of the products useful life please dispose as per the local regulations.
Do not dispose of with normal household waste.
Do not burn.

For pricing or any further information, please contact Omni Instruments Ltd.

Measurement and data acquisition solutions

Contact Details:
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Website: www.omniinstruments.co.uk

Installation

Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge.

1. Mount the unit on the duct or wall by drilling two holes at 142mm centres and fixing the unit with self-tapping pan head screws.
2. Push fit the pressure tubing onto the pressure ports on the unit. Ensure that the Hi and Lo ports have been correctly identified.
3. 4-20mA output version:
   Wire to the unit with 2-core cable.

0-10Vdc output version:
Wire to the unit with 3-core cable.

Fig. 1

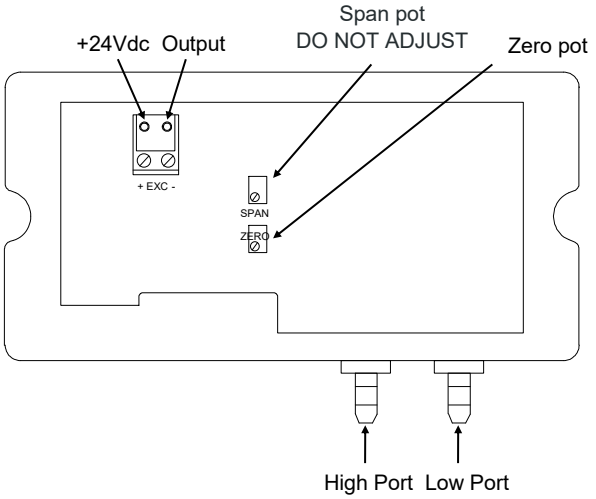
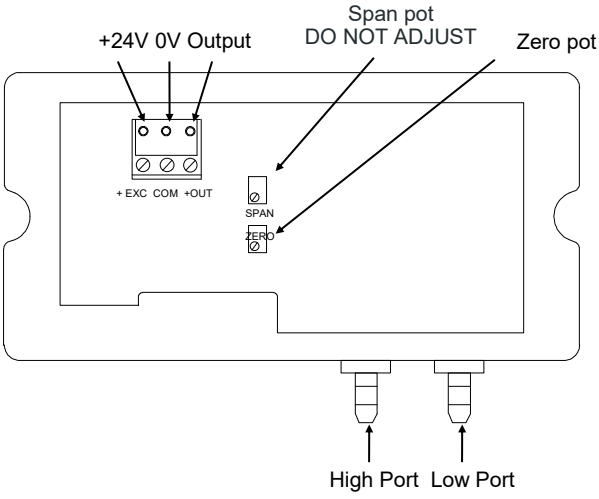


Fig. 2



CAUTION

Velocity Measurement & Tubing

The PA-267 will be damaged if subjected to excessive pressure. Do NOT test the unit by blowing into the inlet ports. Adjustment of the span potentiometer will void warranty.

The PA-267 can be used for accurate air velocity measurement in applications such as variable fan speed control in VAV applications.

NB The units are calibrated with the transducer in the vertical position. The zero adjustment may be used to correct any shift in output resulting in mounting the unit other than vertically. No adjustment of the span potentiometer is required.

It is recommended for best results (shortest response times)

- 6mm i/d tubing lengths up to 30.5m
- 7mm i/d tubing lengths up to 91.5m
- 9.5mm i/d for tubing lengths up to 274m

Bi-Directional

The PA-267 is also available with bi-directional pressure ranges, enabling measurement of both positive and negative pressures. The two output ranges are offered 0-10Vdc and 4-20mA.

Example, PA-267-50-B at -50Pa the output is 4mA, 0Pa the output is 12mA and at +50Pa the output is 20mA. Therefore the output is linear across the range.

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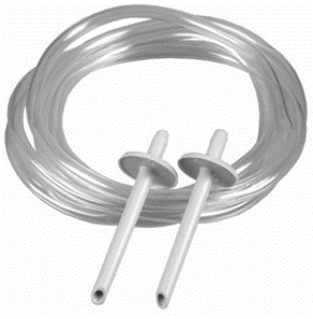
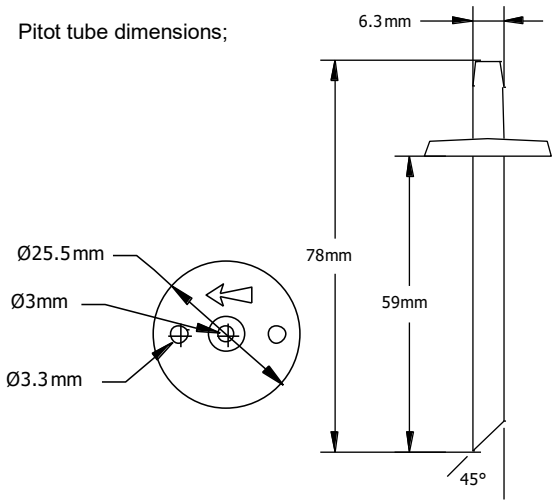
Duct Fixing Kit

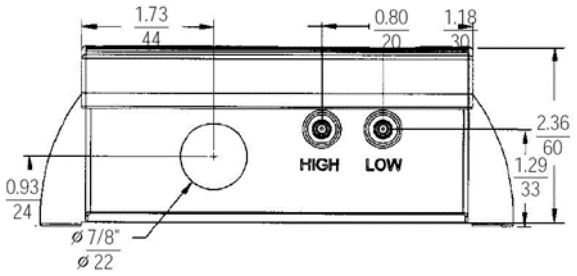
A 'duct fixing kit' is supplied with the PA-267
consisting of 2m of 5mm i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.

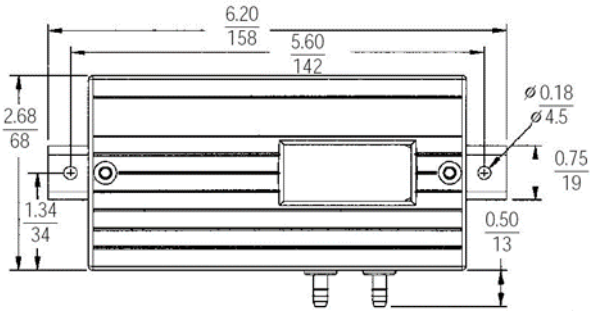


Pitot tube dimensions;



Dimensions





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