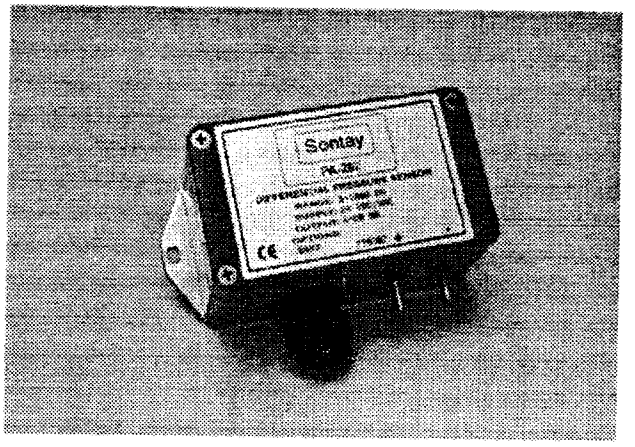
Sontay

PA - 267
AIR DIFFERENTIAL PRESSURE TRANSMITTER

Technical overview

The **PA-267** is designed for overpressure, underpressure, and differential pressure measurements of air and other neutral gases. The unit is especially suited for measurement and control applications in the air-conditioning, ventilation and environmental monitoring industries. It is recommended that, for applications where control is involved, the medium or high accuracy devices are 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.



- 3 accuracy levels to suit the application
- Available in ranges as low as 0-25Pa
- Overpressure safety margin 5 x fsd
- IP65 housing with 20mm cable entry and gland

Specification:

Accuracy	Standard	Medium	High
Overall	± 3.00% fsd	± 1.00% fsd	± 0.40% fsd
Linearity	± 1.50% fsd	± 0.98% fsd	± 0.33% fsd
Hysteresis	± 1.50% fsd	± 0.20% fsd	± 0.20% fsd
Repeatability	± 0.30% fsd	± 0.10% fsd	± 0.10% fsd

Temperature error	<±0.03% across range (from 21°C)
Overload	5 x fsd
Rupture	50kPa
Pressure connections	Push fit for 6mm ID tube
Output:	
Standard	4-20mA, load : 0 to 800 ohms
Voltage option	0-10VDC (o/p impedance <100Ω)
Power supply:	
Standard	Min. = 9 + (0.02 x load resistance)V
	Max. = 30 + (0.004 x load resistance)V
Voltage option	24Vac (19.2-28.8) or 24Vdc (21.6-32)
Electrical connections	Screw terminals for 1.5mm² max. cable
Diaphragm	Stainless steel
Housing	ABS with silicone rubber O ring seal
Fixing	Screw fixing steel backplate
Protection	IP65
Operating temperature	-18 to +65°C
Dimensions	140 x 65 x 58mm (not inc. cable gland)
Country of origin	USA

Connections:

Current output version :

\+ Supply 24VDC

\- Output 4-20mA to 0V via load

Product Codes: **PA-267-R-V**

where **R** = range in Pa

V = voltage output option (if required)

for 1% accuracy add **PA-267-AM** supplement

for 0.4% accuracy add **PA-267-AH** supplement

Ranges:		
	PA-267-25	0 to 25Pa
	PA-267-50	0 to 50 Pa
	PA-267-100	0 to 100 Pa
	PA-267-300	0 to 300 Pa
	PA-267-500	0 to 500 Pa
	PA-267-1000	0 to 1000 Pa
	PA-267-1600	0 to 1600 Pa
	PA-267-2500	0 to 2500 Pa

A **'duct fixing kit'** is supplied with the **PA-267** consisting of 2m of 6mm ID plastic tubing, 2 x pitot tubes, 4 x fixing screws

Data sheet: PA-267 Iss. 2.0 12.3.97

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Common applications:

Fan flow indication: Measure the differential pressure across a variable speed fan to give an indication of performance.

'Filter dirty' indication: Measure the differential pressure across a filter to give an indication of filter condition and flag up-coming maintenance requirements.

Static pressure: Blank off one port to measure static pressure

Air velocity: Measure the differential pressure across a pitot tube assembly to determine velocity pressure and hence air velocity (see AV-MP data sheet)

Pressurised rooms: Measure the internal & external pressures in pressurised rooms (such as operating theatres & clean rooms) to ensure that pressure gradients are maintained.

Air supply: Monitoring air supply to gas-fired boilers

For applications where extremely high precision is required, such as for low air velocity measurement, it may be necessary to use the highest accuracy unit, with an overall accuracy of (±0.4% FSD).

Velocity Measurement:

The **PA-267** can be used for accurate air velocity measurement in applications such as variable fan speed control in VAV applications. If the BEMS control system is not capable of calculating the velocity from the differential pressure reading (performing a square root extraction) then an **IO-VP/AV** module can be used to provide a velocity output to the controller.

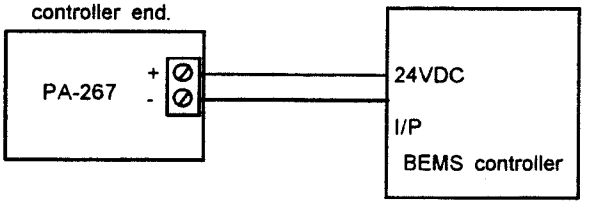
N.B. The units are calibrated with the transducer in the vertical position. The zero adjustment may be used to correct any shift in output resulting in mounting the unit other than vertically.

Installation:

1) Mount the unit on the duct or wall by drilling two holes at 130mm centres and fixing the unit with self-tapping pan head screws.

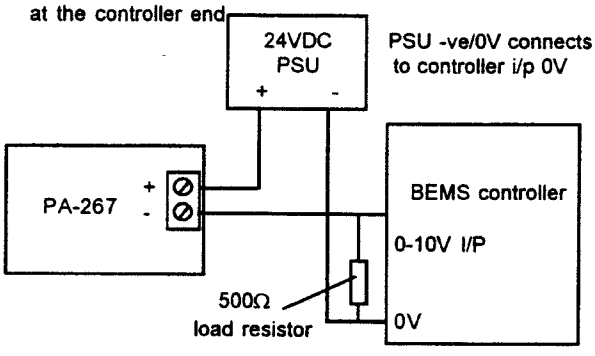
2) Push fit the pressure tubing onto the pressure ports on the unit. Ensure that the + and - ports have been correctly identified, otherwise the unit will not read correctly.

3) PA-267 4-20mA output version
Wire to the unit with 2 core screened cable. Do not connect the screen at the sensor end, but ensure it is earthed at the controller end.



OR

4) PA-267 4-20mA output version used with an external PSU
If the controller has only a voltage input and no 24Vdc power supply an external supply is required, and should be wired as shown. Wire to the unit with 2 core screened cable. Do not connect the screen at the sensor end, but ensure it is earthed at the controller end.



If the 24VDC is provided by a power conversion module connected to a 24Vac transformer the grounding must be checked. If the 24Vac transformer supplying the module is grounded on one side then a PS-24/24DC-E must be used, and if the transformer is floating a PS-24/24DC-1A must be used.

OR

5) PA-267-V 0-5V output version
Wire to the unit with 3 core screened cable. Do not connect the screen at the sensor end, but ensure it is earthed at the controller end.