

PA-600

Multi-Range Air Differential Pressure Transmitter



Features:

- User selectable measurement range and output type
- IP65 Housing
- High overpressure
- Duct fixing kit included

Benefit:

- 4 Field selectable ranges to cover many applications

Technical Overview

The PA-600 differential pressure transmitter is ideal for measuring filter conditions, as well as many other applications in ventilation/air conditioning systems in buildings, laboratory's and clean rooms (air and non-corrosive gases).

Featuring field-selectable output types and 4 pressure ranges, which are easily defined by user selection switches inside the rugged IP65 housing. Also available are an optional LCD display & ModBus/BACnet outputs.

Along with these features the MEMS-based thermo-anemometer on a monolithic silicon chip, combined with CMOS circuitry which provides on-chip-integrated analogue-only compensation and conditioning electronics.

Specification:

Power supply:	
Current output	24Vdc $\pm 10\%$ (3-wire)
Voltage output	24Vac/dc $\pm 10\%$
Power consumption	1VA
Measurement ranges	See Part Code
DP Resolution:	
0-500Pa (2" w/c)	0.2% fs
Others	0.1% fs
Pressure non-linearity:	
0-500Pa (2" w/c)	0-20% fs = $\pm 2\%$ 20-100% = $\pm 5\%$
Others	$< \pm 1.5\%$ fs
Overall accuracy	
Standard	$\pm 3\%$ fs, 0-70°C (32-158°F)
-HA	$\pm 1\%$ fs, 0-70°C (32-158°F)
Long term stability:	
0-500Pa (2" w/c)	Max $\pm 5\%$ fs
Others	Max $\pm 1.5\%$ fs
Burst pressure	$> 5\text{bar}$ (72.5psi)
Sensitivity shift over temp:	
0-500Pa (2" w/c)	$\pm 15\%$ fs, 5-50°C (41-131°F)
Others	Typ $\pm 1\%$ max $\pm 1.5\%$, 5-55°C (32-131°F) Typ $\pm 1.5\%$ max $\pm 2.25\%$, 0-70°C (32-158°F)
Pressure connections	6mm (0.24") ID tubing
Housing:	
Material	ABS (flame retardant type VO)
Dimensions	116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Ambient:	
Temp	0-40°C (32-104°F)
RH	0-85% non-condensing
Protection:	
Snap-shut lid	IP54 IP65 (see page 3 note 6)
Country of origin	UK



The products referred to in this data sheet meet the requirements of EU Directive 2004/108/EC

Part Codes:

PA-600

Air DP transmitter with multi selectable ranges and user selectable 4-20mA (3-wire) or 0-10Vdc outputs;
0 to 50Pa (0 to 0.2" w/c)
0 to 100Pa (0 to 0.4" w/c)
0 to 300Pa (0 to 1.2" w/c)
0 to 500Pa (0 to 2" w/c)

Suffixes

-HA

High accuracy

-LCD

Integral LCD display

-COM

ModBus/BACnet output

Accessories

DFK

Duct fixing led

TEE

Tee piece air pressure (pack of 10)

PA-TUBE-8MM

PVC tube 8mm o/d x 1.5mm wall, 30m reel

A 'duct fixing kit' is supplied with the PA-600, consisting of 2m (6.56ft) of 6mm (0.24") ID plastic tubing, 2 x pitot tubes and 4 x fixing screws (see page 4).



Please Note:

Current versions are NOT loop powered and will require a common 0V connection.

Installation:



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

1. If the sensor is to be mounted outside, it is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.
2. In a suitable location, drill two holes at 92mm Ø and fix the housing with appropriate screws.
3. Release the snap-fit lid by gently squeezing the locking tab and feed the cable through the waterproof gland & terminate the cores at the terminal block (see below & page 4 for details). Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.
4. Select the pressure range and output type according to the table on page 4.
5. Push the pressure tubing onto the pressure ports on the unit. Ensure that the Hi and Lo ports have been correctly identified. The ports can be identified by markings on the pcb inside the lid of the transmitter.
6. Power the unit with either 24Vac/dc depending output signal type and after a stabilising period of 2-3 minutes functionality checks can be made. Snap shut the lid after the connections have been made if IP65 protection is required, secure the lid with two screws provided.
7. It is recommended that screened cable be used and that the screen should be earthed at the controller only. Care should be taken not to lay control signal wiring in close proximity to power or other cables which may produce significant electromagnetic noise.



CAUTION

The PA-600 will be damaged if subjected to excessive pressure. Do NOT test the unit by blowing into the inlet ports.

Connections:

Current output:

- | | |
|------------------------|-------------------------------|
| • Terminal 1-GND | 0V (common) |
| • Terminal 2-24V | 24Vdc $\pm 10\%$ |
| • Terminal 3-PRESS.OUT | 4-20mA / 0-20mA output signal |

Voltage output:

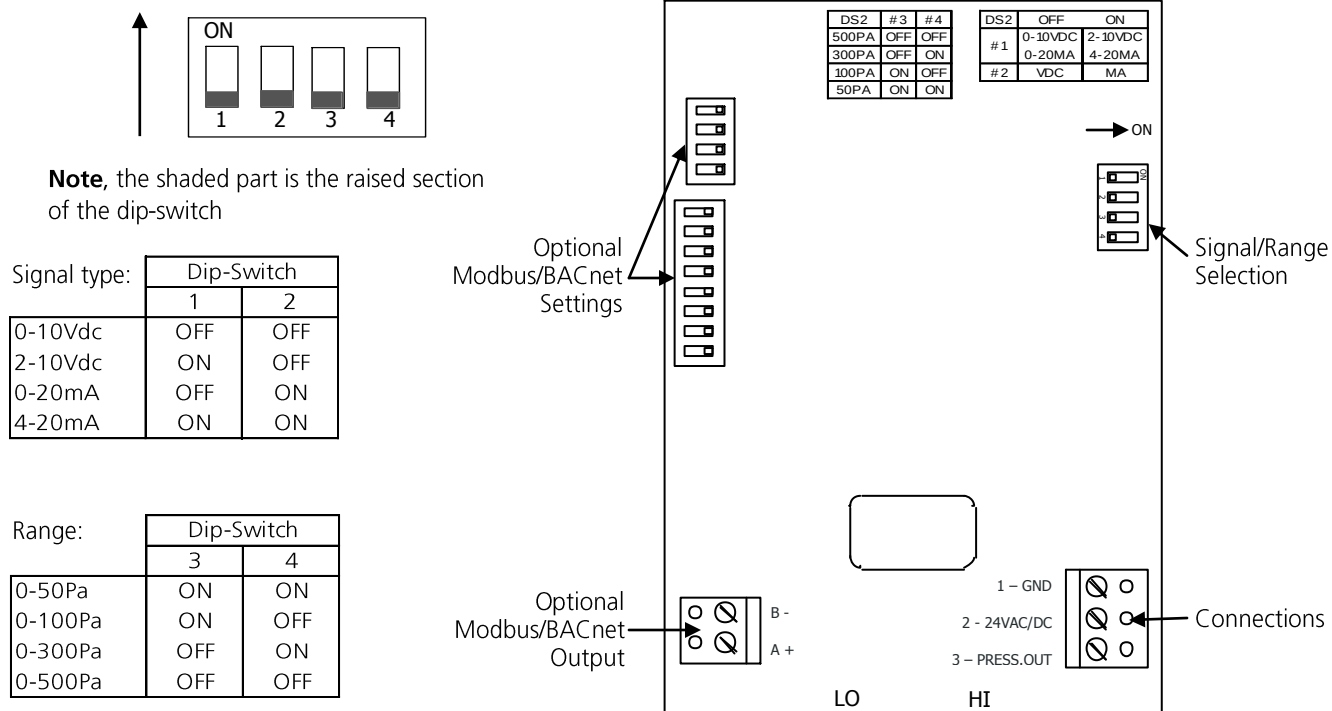
- | |
|-------------------------------|
| 0V (common) |
| 24Vac/dc $\pm 10\%$ |
| 0-10Vdc/2-10Vdc output signal |



NOTE

Current versions are NOT loop powered and will require a common 0V connection.

Dipswitch Setting and PCB Layout:



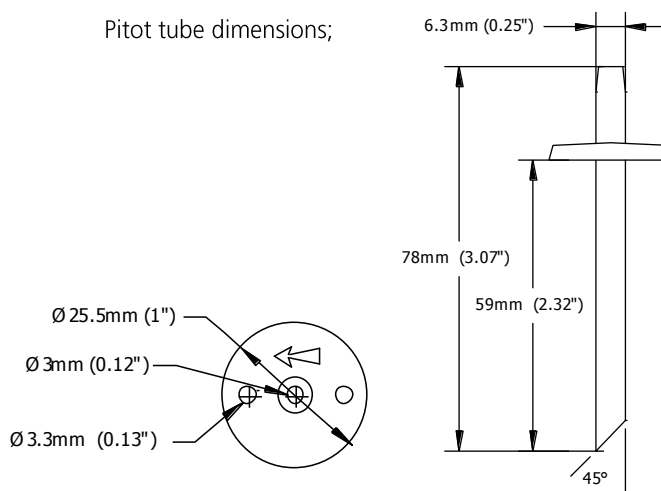
NOTE Contact Sontay for more information regarding the optional ModBus/BACnet output.

Duct Fixing Kit:

A 'duct fixing kit' is supplied with the PA-600, consisting of 2m (6.56ft) of 6mm (0.24") ID plastic tubing, 2 x pitot tubes and 4 x fixing screws.



Pitot tube dimensions;



Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.