

Multi-Range Air Differential Pressure Transmitter



Features

- User adjustable measurement range
- IP65 Housing
- Compact construction
- Easy mounting
- Duct fixing kit included

Specification

Accuracy, total of linearity,

Hysteresis & repeatability & fs:

PA-699-01 to 04 ±1.0 max.

Others ±0.6

Thermal effect TC zero point TC sensitivity

Typical % fs/10K

PA-699-01 ±0.02 ±0.03

PA-699-02 ±0.02 ±0.03

PA-699-03 ±0.02 ±0.02

PA-699-04 ±0.01 ±0.01

Others ±0.01 ±0.01

Rupture pressure 2 x Overload @ ambient temp.

Power supply:

Current output 11 to 33Vdc

Voltage output 13.5 to 33Vdc or 24Vac ±15%

Load impedance:

Current $< \frac{\text{Supply voltage} - 8V}{0.02A}$ ohm

Voltage >10K ohm

Current consumption:

Current 20mA

Voltage <10mA

Pressure connections Push fit for 6.2mm ID tube

Electrical connections Screw terminals for 1.5mm² max.

Housing construction:

Housing Polycarbonate PC

Diaphragm Silicone

Sensor Al₂O₃ (96%) / glass

Temperature:

Medium 0 to 70°C

Ambient 0 to 70°C

Storage -10 to +70°C

Dimensions 92 x 75 x 51mm

Protection IP65

CE Conformity:

EN 61000-6-2, EN 61000-6-3, EN 61326-1

CE Marked, EMC

Country of origin Switzerland

Product Codes

PA-699-01

Bi-directional, 30, 50 & 100Pa 4-20mA multi-range air DP transmitter

PA-699-02

0 to 30, 50 & 100Pa 4-20mA multi-range air DP transmitter

PA-699-03

0 to 50, 100 & 300Pa 4-20mA multi-range air DP transmitter

PA-699-04

0 to 100, 300 & 500Pa 4-20mA multi-range air DP transmitter

PA-699-05

0 to 300, 500 & 1000Pa 4-20mA multi-range air DP transmitter

PA-699-06

0 to 500, 1000 & 1600Pa 4-20mA multi-range air DP transmitter

PA-699-07

0 to 1000, 1600 & 2500Pa 4-20mA multi-range air DP transmitter

PA-699-08

0 to 1600, 2500 & 5000Pa 4-20mA multi-range air DP transmitter

For option's add suffix to the partcode:

-V For 0-10V voltage version

-LCD Integral LCD option

Accessories

PA-699-CAL

Calibration certificate

A 'duct fixing kit' is supplied with the PA-699, consisting of 2m of 6mm ID plastic tubing, 2 x pitot tubes and 4 x fixing screws.

Technical Overview

The PA-699 range of differential pressure transmitters incorporate a proved ceramic fulcrum lever technology. They deliver calibrated, temperature-compensated sensor signals, available as standard voltage or current outputs. They are ideal for registering low air flow in air conditioning systems and for the measurement of fine pressures in environmental, laboratory and clean room application (air and non corrosive gases).

Installation

1. Mount the unit onto the duct or wall by drilling two holes at 80mm centres and fix with self-tapping pan head screws.
2. Push the pressure tubing onto the pressure ports on the unit. Ensure that the Hi and Lo ports have been correctly identified (P1 High, P2 Low).
3. Undo screw on hinged lid, pass cable through the cable gland PG11 and make connections as required.

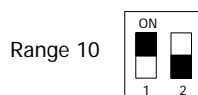
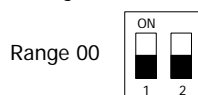


CAUTION

The PA-699 will be damaged if subjected to excessive pressure. Do NOT test the unit by blowing into the inlet ports.

Dipswitch Settings

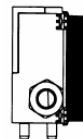
Factory settings



Range 10	Range 01	Range 00
-30 to 30Pa	-50 to 50Pa	-100 to 100Pa
0 to 30Pa	0 to 50Pa	0 to 100Pa
0 to 50Pa	0 to 100Pa	0 to 300Pa
0 to 100Pa	0 to 300Pa	0 to 500Pa
0 to 300Pa	0 to 500Pa	0 to 1000Pa
0 to 500Pa	0 to 1000Pa	0 to 1600Pa
0 to 1600Pa	0 to 2500Pa	0 to 50000Pa

Mounting

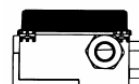
The recommended installation position is vertical, with the pressure connections facing downwards (factory calibration).



With the unit mounted horizontally, cover facing downward this will effect the signal by approximately 10Pa higher than the actual pressure.

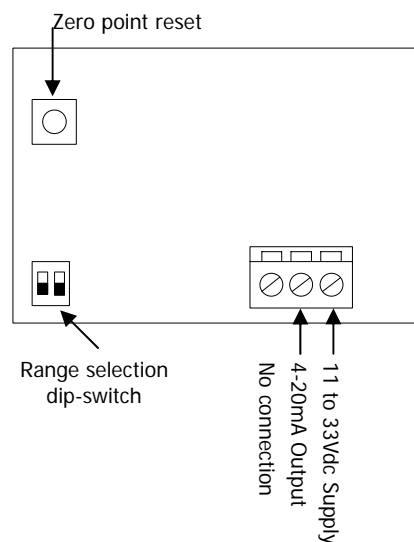


With the unit mounted horizontally, cover facing upward this will effect the signal by approximately 10Pa lower than the actual pressure.



Connections

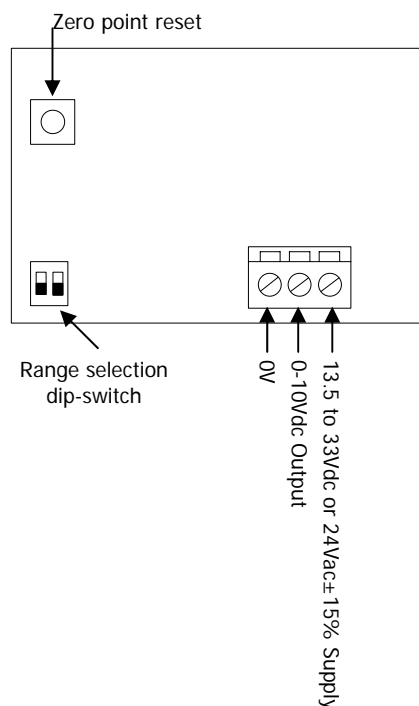
4-20mA output:



Please see next page for 0-10Vdc connections

Connections

0-10Vdc output



Trend Scaling (continued)

0-10Vdc output:

Range	Trange	Brange	Upper	Lower	Exp
-30 to 30Pa	30	-90	30	-30	2
-50 to 50Pa	50	-150	50	-50	3
-100 to 100Pa	100	-300	100	-100	3
0-30Pa	30	-30	30	0	2
0 to 50Pa	50	-50	50	0	3
0 to 100Pa	100	-100	100	0	3
0 to 300Pa	300	-300	300	0	3
0 to 500Pa	500	-500	500	0	4
0 to 1000Pa	1000	-1000	1000	0	4
0 to 1600Pa	1600	-1600	1600	0	4
0 to 2500Pa	2500	-2500	2500	0	4

Trend Scaling

4-20mA output:

Range	Trange	Brange	Upper	Lower	Exp
-30 to 30Pa	30	-120	30	-30	2
-50 to 50Pa	50	-200	50	-50	3
-100 to 100Pa	100	-400	100	-100	3
0 to 30Pa	30	-45	30	0	2
0 to 50Pa	50	-75	50	0	3
0 to 100Pa	100	-150	100	0	3
0 to 300Pa	300	-450	300	0	3
0 to 500Pa	500	-750	500	0	4
0 to 1000Pa	1000	-1500	1000	0	4
0 to 1600Pa	1600	-2400	1600	0	4
0 to 2500Pa	2500	-3750	2500	0	4