

2-WIRE DIFFERENTIAL PRESSURE TRANSMITTERS CURRENT OUTPUT

SPECIFICATION DATA & MOUNTING INSTRUCTIONS



GENERAL

The differential pressure transmitters of the DPIA series are used for measuring differential pressure, positive pressure, and vacuum. For over-pressure (static pressure) connect the + pressure port to the pressure supply, and leave the - port open to the air. For vacuum pressure connect the - port to the pressure supply and leave the + port open to the air. The transmitters are suitable for:

- air-conditioning,
- building automation,
- environmental protection,
- valve and damper control,
- filter and blower monitoring,
- control of air flows.

Models

order no.	pressure range		overload capacity	bursting pressure
	1	2		
DPIA-100-250	0...100 Pa ¹⁾	0...250 Pa	20 kPa	40 kPa
DPIA-250-500	0...250 Pa ¹⁾	0...500 Pa	20 kPa	40 kPa
DPIA-500-1000	0...500 Pa ¹⁾	0...1 kPa	20 kPa	40 kPa
DPIA-1000-2500	0...1 kPa ²⁾	0...2.5 kPa	40 kPa	70 kPa

¹⁾ $\leq \pm 5\%$ of FS; ²⁾ $\leq \pm 2.5\%$ of FS

Supplied complete with connection kit comprising 2 m (2yds 7") tubing, 2 connection tubes, and 4 screws

FEATURES

- Monitoring gaseous, non-aggressive media
- Piezo-resistive pressure transducer
- Up to 40 kPa overload capacity
- Rugged design; protection class IP54
- Easy installation and wiring connection
- Measurement range adjustable by jumper
- Response time adjustable by jumper
- Pushbutton zero adjustment

SPECIFICATION

Supply voltage	15 to 30 Vdc
Output signal	4...20 mA, two-wire
Maximum load	$\leq 500 \Omega$
Pressure medium	Air and non-aggressive gases
Working temperature	0...50 °C
Linearity and hysteresis error	$\leq \pm 1.0\%$ of FS
Temperature error at 0...50°C	$\leq \pm 1.0\%$ of FS ¹⁾ $\leq \pm 5.0\%$ of FS ²⁾ $\leq \pm 2.5\%$ of FS
Storage temperature	-10 to +70 °C (14 to 158 °F)
Humidity	0...95% rh, non-condensing
Long-term stability, typical	DPIA-100-250 to DPIA-500-1000 $\leq \pm 2.5\%$ of FS per year DPIA-1000-2500 $\leq \pm 1.5\%$ of FS per year
Repetition accuracy	$\leq \pm 0.2\%$ of FS
Position dependence	$\leq \pm 0.02\%$ of FS per g
Response time	1s (switchable to 100 ms)
Process connection	6 mm (0.24") hose pipe
Electrical connection	Screw terminal block for wire up to 1.5 mm ² (16 AWG)
Housing material	ABS and POM
Cable entry	M20x1.5 (polyamide)
Protection class	IP54 as per EN60529
EMC	EN60770, EN61326
Weight	approx. 130 g (4.57ozs)

FUNCTION

The DPIA Two-Wire Differential Pressure Transmitters are equipped with an integrated piezo-resistive pressure transducer designed so that the pressure to be measured is applied to a thin membrane made of monosilicon, thus deflecting it. The semiconductor resistors on the membrane detect this mechanical deflection and generate an electrical output signal. The arrangement of the resistors simultaneously compensates for the temperature response. The signal of the pressure transducer is converted into the output signal by high-gain operation amplifiers.

The electrical output signal changes within the specified error limits in proportion to the applied pressure.

NOTE: All DPIA Two-Wire Differential Pressure Transmitters are factory pre-set to a response time of 1s (slow).

NOTE: All DPIA Two-Wire Differential Pressure Transmitters are factory pre-set to the lower pressure range 1.

WIRING

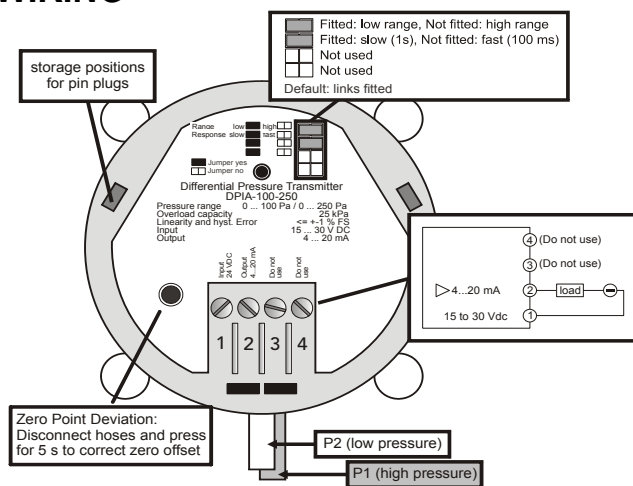


Fig. 1. Wiring details

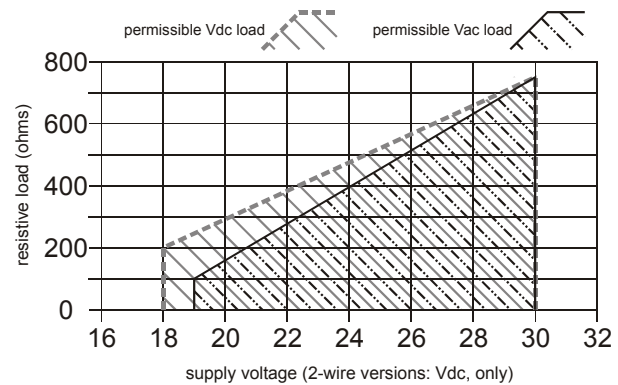


Fig. 2. Permissible load vs. supply voltage

MOUNTING

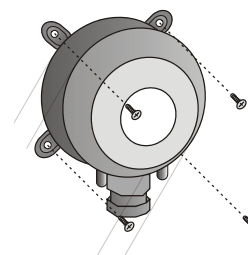


Fig. 3. Mounting

It is sufficient to use two screws to mount the unit.

DIMENSIONS

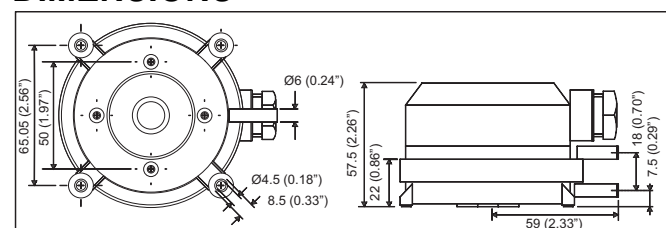


Fig. 4. Dimensions in mm (inches)

DISPOSAL

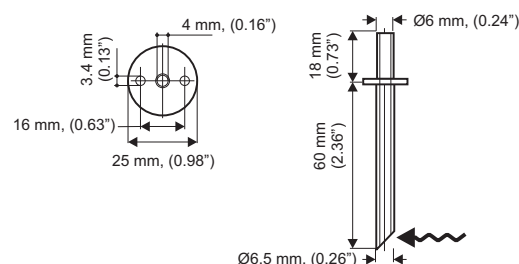
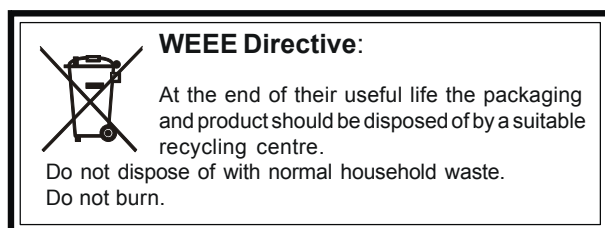


Fig. 5 Connection tube

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