

# Differential Pressure Transmitter

FCO442



- Accuracy 0.25% of reading
- Ultra low pressure measurement
- Wide span adjustment
- 2-wire mA or 4-wire voltage output
- LCD display or high brightness OLED
- Two configurable relays
- Square-root output for flow/velocity
- Auto zero and remote zero options
- Robust IP64 stainless steel enclosure

Suitable for a variety of clean environment applications, the FCO442 low differential pressure transmitter is available in a variety of voltage or current loop configurations.

The output is scalable as linear to differential pressure or as a square-root function to facilitate the use of Pitot Static Tubes or other primary flow elements.

Optional OLED or LCD may display a variety of engineering units, and two independent relays can provide alarm signals.

## Features

Models/Ranges	Model 1: $\pm 50\text{Pa}$ Model 2: $\pm 150\text{Pa}$ Model 3: $\pm 500\text{Pa}$	Model 4: $\pm 2500\text{Pa}$ Model 5: $\pm 10\text{kPa}$ Model 6: $\pm 20\text{kPa}$	Model 7: $\pm 30\text{kPa}$ Model 8: $\pm 1\text{bar}$ Model 9: -1 to +2bar	Model 10: -1 to +6bar Model 11: -1 to +10bar Model 12: 0 to +1500mbar abs
Output Options	2-Wire 4-20mA (only available for models 1 to 7) 4-Wire isolated 4-20mA: (only available for models 1 to 7) 4-Wire isolated voltage: 0-1 Vdc to 0-10 Vdc full scale 4-Wire isolated voltage: $\pm 1\text{ Vdc}$ to $\pm 10\text{ Vdc}$ full scale			
Display Options	Low power LCD High brightness blue OLED (requires local 24Vdc power)			
Adjustable Damping	0.0 to 60.0 seconds			
Measurement Functions	Linear, square-root, custom linearisation, various selectable engineering units			
Trip Level Relays	Optional: 2 relays, rated 2A @ 55Vac, 30Vdc			
Zero Control	Optional: Automatic or Remote			
Pneumatic Ports	Barbs with locknuts for 6mm OD x 4mm ID flexible tubing Options for 4mmOD x 3mm ID tube fittings, $\frac{1}{8}"\text{BSPF}$ or $\frac{1}{4}"\text{BSPF}$			
Communications	Internal Micro-USB for instrument configuration (free utility software)			
Communication Protocols	Fbus 300 series Legacy			

## Performance

Enhanced Accuracy @ 20°C	10% to 100% range: $< \pm (0.25\% \text{ reading} + 1 \text{ digit})$ 0 to 10% range: $< \pm (0.025\% \text{ range} + 1 \text{ digit})$	
Standard Accuracy @ 20°C	10% to 100% range: $< \pm (0.5\% \text{ reading} + 1 \text{ digit})$ 0 to 10% range: $< \pm (0.05\% \text{ range} + 1 \text{ digit})$	
Span Adjustment	10% to 100% of range	Note: Span can be set anywhere within instruments range. For span <20% of range, accuracy is reduced to the standard specification
Long Term Drift	Typically 0.2% per annum	
Temperature Coefficients	<b>Standard</b> Zero: $< 0.2\%/^{\circ}\text{C}$ Range: $< 0.4\%/^{\circ}\text{C}$	<b>Enhanced</b> Zero: $< 0.02\%/^{\circ}\text{C}$ Range: $< 0.02\%/^{\circ}\text{C}$
Working Temperature	$-10^{\circ}\text{C}$ to $60^{\circ}\text{C}$	
Output Resolution	0.3 $\mu\text{A}$ for output 4-20mA 0.1mV for outputs 0-1V, $\pm 1\text{V}$ , 0-2V, $\pm 2\text{V}$ 0.35mV for outputs 0-5V, $\pm 5\text{V}$ , 0-10V, $\pm 10\text{V}$	
Overload	Models 1 to 7: 20 x DP range	Models 8 to 12: 1.5 x range
Static Pressure	Models 1 to 7: $\pm 1\text{ bar Gauge}$	Models 8 to 12: Do not exceed instrument range
Minimum Step Response	100ms	
Output Update	50ms	
Power supply	<b>Configuration</b>	<b>Supply Voltage</b>
	2-Wire 4 to 20mA	9 to 40Vdc, 22mA
	4-Wire isolated	24Vdc $\pm 10\%$ , 30mA
	Relays, OLED Display or Autozero	24Vdc $\pm 10\%$ , 100mA

## Construction

Enclosure	IP64 rated stainless steel enclosure Choice of flush mounting or wall mounting
Dimensions	Flush mount W160mm x H160mm x D54mm Wall mount W156mm x H162mm x D56mm
Materials in Contact with Media	Copper, brass, nickel, mica & PVC
Media Compatibility	Air and non-corrosive gases max 95% humidity non-condensing
Weight	1.6kg

All information in this document is provisional and is subject to change without notice.

Furness Controls has a UKAS accredited laboratory which offers pressure calibration from 0 to 40 kPa and flow calibration from 0.1 ml/min to 2000 litres/min