



I/P Transducer 500FC

Description

The Flucon 500 FC Transducers converts current or voltage input signal to a linearly proportional pneumatic output pressure. This versatile instrument is designed for control applications that require a high degree of reliability and repeatability at an economical cost. Optional NEMA 4X (IP65) version allows for splashdown and outdoor installation.

The Flucon 500 FC is available in two different versions. The lower range model is designed for standard process control applications which typically utilise 3 to 15 psig output. The extended range unit provides up to 120 psig output for higher pressure industrial pneumatic and process control system requirements.

Salient Features

- Compact size.
- Low Air Consumption.
- Integral Volume Booster - flow capacity up to 20 SCFM is boosted by built in volume booster.
- Field Reversible - Output provides inversely proportional to input signal.
- Flexible adjustments of Zero & Span.
- Standard Process Inputs.
- Split Ranging.
- NEMA 4X (IP65) Enclosure - Optional.
- Savings in investments.

Application

These units are used for applications that require operation of final control elements like Pneumatic Valve, Valve-Actuators, Positioners, Damper, Louver Actuators, Air-cylinders, Relays, Clutches, Web Tensioner and Brakes. The major Industries utilize the Flucon 500 FC include Petrochemical, Energy Management, HVAC, Textile, Food and Drug, Pulp & Paper Industries and many more.

Principle of Operation

The Flucon 500 FC Transducer is a force balance device in which a coil is suspended in the field of a magnet by a flexure. Current flowing through the coil generates axial movement of the coil and flexure. The flexure moves towards the nozzle and creates back pressure which acts as a pilot pressure to an integral booster relay. Input signal increases (or decreases for reverse acting) cause proportional output pressure increases.

Zero and Span are calibrated by turning adjust screws on the front face of the unit. Adjustment of the zero screw repositions the nozzle relative to the flexure. The span adjustment is a potentiometer that controls the amount of current through the coil.

Mounting

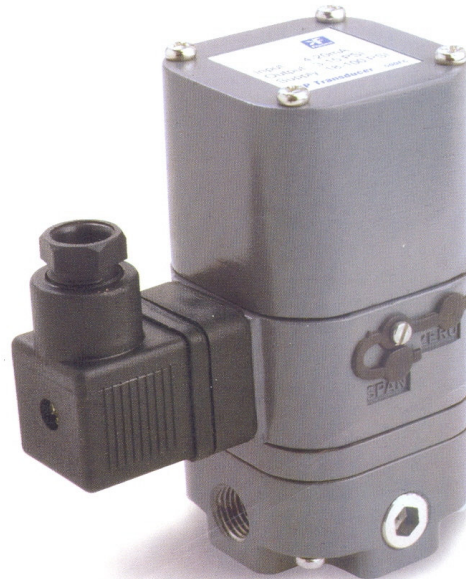
The Flucon 500 FC may be mounted on pipe, panel or bracket. Field adjustment of zero may be required if mounted in a non-vertical position. High external vibration may cause output fluctuations. Mounting in a vibration-free area is recommended.

Split Ranging

If split ranging is required the 4-20 mA input and 3-15 psig output version (Flucon part no. FC-501) can be recalibrated to provide 3-9 psig or 9-15 psig output.

Field Reversible

In the reverse acting mode the output is the opposite of the direct acting mode (i.e. 4-20 mA input creates a 15-3 psig output). To change from direct acting to reverse acting simply reverse the polarity of the signal leads and recalibrate. Input signal failure causes output pressure to reach minimum value (i.e. 3 psig)



| Specifications | Low Output Range (Up to 30 psig) | High Output Range (Up to 120 psig) |
|-----------------------------|---|---|
| Min./Max. Supply Pressure | Minimum - 3 psig (20 kPa) above maximum output Maximum -100 psig (700 kPa) | Minimum - 5 psig (35 kPa) above maximum output Maximum -150 psig (1050 kPa) |
| Supply Pressure Sensitivity | <± 0.1% of span per psig (<± 0.15% of span per 10 kPa) | <± .004% of span per 1.0 psig (7.0 kPa) |
| Terminal Based Linearity | <± 0.75% of span | <± 1.5% of span type., ±2.0% max. |
| Repeatability | < ± 0.5% of span | < ± 0.5% of span |
| Hysteresis | < ± 1.0% of span | < ± 0.5% of span |
| Response Time | Dependent on pressure range - typically less than 0.25 sec. for 3-15 psig units | |
| Flow Rate | 4.5 SCFM (7.6 m3/hr ANR) at 25 psig (175 kPa) supply 12.0 SCFM (20.0 m3/hr ANR) at 100 psig (700 kPa) supply | 20.0 SCFM (34.0 m3/hr) at 150 psig (1050 kPa) supply |
| Relief Capacity | 2 SCFM (3.4 m3/hr) at 5 psig (35 kPa) above 20 psig (140 kPa) set point | 7 SCFM (3.4 m3/hr) at 10 psig (35 kPa) above 20 psig (140 kPa) set point |
| Maximum Air Consumption | .03 SCFM (.07 m3/hr) midrange typical | .06 SCFM (.14 m3/hr) midrange typical |
| Media | Oil free, clean dry air filtered to 40 micron | |
| Temp. Range (Operating) | -30°C to 60°C (-20°F to 140°F) | |
| Port Sizes | 1/4" NPT (Pneumatic) 1/2" NPT/DIN - 43650 (Electric) | 1/4" NPT (Pneumatic) 1/2" NPT/DIN - 43650 (Electric) |
| Weight | 2.1 lbs. (0.94 kg) | 2.1 lbs. (0.94 kg) |

NEMA-4X (IP65) Enclosure

Optional Factory Mutual NEMA 4X enclosure rating allows for installation in splashdown or outdoor environments. Unit also meets the requirements of IEC standards IP65.

Intrinsically Safe

The Flucon-500FC has been tested and approved by Factory Mutual as Intrinsically Safe Class I, II, and III, Division 1, Groups C, D, E, F, and G when used with an apparatus meeting the entity requirements as mentioned hereunder.

$$V_{max} = 29.9v \quad C_1 = 0 \quad C_1 \text{ is capacitance}$$

$$I_{max} = 65mA \quad L_1 = 35mH \quad L_1 \text{ is inductance}$$

Installation should be in accordance with Flucon interconnection drawing. This drawing is available on request. The Intrinsically safe approval is a standard feature of the Flucon-500 FC and applies only to units with a 4-20 mA input signal that are installed with the following barriers:

| | |
|---------------------------------|----------------------------|
| R. Stahl, Inc. barriers: | MTL, Inc. barriers: |
| 9001/01 -280- 100- 10 | 728 |
| 9002/13-280-110-00 | 787S+ |
| | 4045 |

The Flucon-500 FC is also Factory Mutual Approved as Nonincendive for Class I, Division 2, Groups A, B, C, and D, and suitable for Class II and III, Division 2, Group F and G. Barriers are not required for Nonincendive rating.

| Ordering Information | | I/P Transducers 500FC | | |
|----------------------|---------|-----------------------|--------|-----------|
| Output Range | | | | |
| Part No. | Input | psi | kPa | Impedance |
| FC 501 | 4-20mA | 3-15 | 20-100 | 180 Ω |
| FC 502 | 4-20mA | 9-15 | 60-100 | 90 Ω |
| FC 503 | 4-20mA | 3-9 | 20-60 | 90 Ω |
| FC 504 | 4-20mA | 3-27 | 20-185 | 220 Ω |
| FC 505 | 4-20mA | 6-30 | 40-200 | 220 Ω |
| FC 506 | 4-20mA | 1 -17 | 7-117 | 250 Ω |
| FC 507 | 10-50mA | 3-15 | 20-100 | 70 Ω |
| FC 508 | 10-50mA | 3-27 | 20-185 | 85 Ω |
| FC 509 | 10-50mA | 6-30 | 40-200 | 85 Ω |
| FC 510 | 4-20mA | 2-60* | 14-420 | 225 Ω |
| FC 511 | 4-20mA | 3-120* | 20-830 | 260 Ω |
| FC 512 | 0-60mA | 2-120* | 15-830 | 220 Ω |

* Output shown is as calibrated at the factory. Large span adjustment capability allows recalibration to achieve output ranges from 3-35 psig (20-240 kPa) to 3-145 psig (20-1000 kPa).

OPTIONS : Add proper letter onto end of part number.
 G- Pressure Gauge : 2" face, back mounted, Dual scale.
 W- NEMA 4X : Enclosures for splashdown/outdoor use.
 2" Pipe mounting / DIN Rail mounting available on request.

Note : Consult factory for E/P Transducer (voltage input), Valve Positioners and Position Indicators.

S A ELECTRONIC

15 D, 4th Floor, Sagar Corner, Near Nashik Phata, Kasarwadi,
 Pune - 411034 Tel. : 27111582 Telefax : 020 - 27111583

E-mail : saelectronics@vsnl.net

Visit us at : www.saelectro.com