

# Transducers

Series FC600

Explosion - Proof (I/P)  
 Current to Pressure

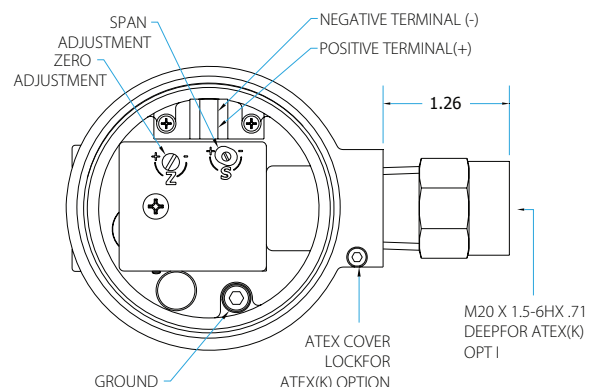


## Description

The Flucon Series FC600 Explosion-Proof I/P (Current to Pressure) transducer converts a 4–20mA electrical current signal to a proportionally linear pneumatic output. The unique conversion technology utilizing open loop control provides a high level of accuracy and repeatability for the operation of actuated valves. A low mass control circuit provides consistent output in high vibration applications. This compact unit is housed in an explosion-proof enclosure that is designed for 2" pipe mounting bracket or direct manifold mounting. This explosion-proof and intrinsically safe field device is available with an integral volume booster or as a low-flow signal converter that directly mounts to a pneumatic valve positioner.

## Integrated Characteristics

- Compact Design.
  - Low Air Consumption.
  - Low Power Consumption.
  - Integral Volume Booster.
  - Flexible Adjustments of Zero & Span.
  - Standard Process Inputs.
  - Vibration and Position Insensitive.
- Unit can be mounted in any plain and is stable in high vibration environment.
- Safety Approvals : Factory Mutual (FM), Canadian Standard Association (CSA) and ATEX.\*



\* Approval Pending

## Specifications

Functional	P Connection (with Flow Booster)	M & N Connection (without Flow Booster)
Input	4-20 mA Dc	
Outputs	3-15 psig 0.20-1.0 BAR 3-27 psig 0.20-1.8 BAR 6-30 psig 0.40-2.0 BAR	
Air Consumption	0.1 scfm (0.17m <sup>3</sup> /hr)	2.00 scfh (0.06 m <sup>3</sup> /hr) @ 20 psig supply (1.4 BAR) 4.94 scfh (0.14 m <sup>3</sup> /hr) @ 85 psig supply (6.0 BAR) 8.36 scfh (0.24 m <sup>3</sup> /hr) @150 psig supply (10.0 BAR)
Supply Pressure Note: Supply pressure must be a minimum of 5 psig (0.3 BAR) above maximum output	3-15 : 22 psig (1.5 BAR) max 3-27, 6-30: 42 psig (2.8 BAR) max	150 psig (10.0 BAR) max.
Flow Capacity	2.4 scfm (4.1 m <sup>3</sup> /hr) max.	Same as Air Consumption
Temperature Limits	-67°F to 185°F (-55°C to 85°C)	
Relative Humidity	75% average - 95% short time non-condensing	
Impedance	260 Ohms ± 5% @ 70°F	
Loop Load	5.2 Volts @ 70°F	

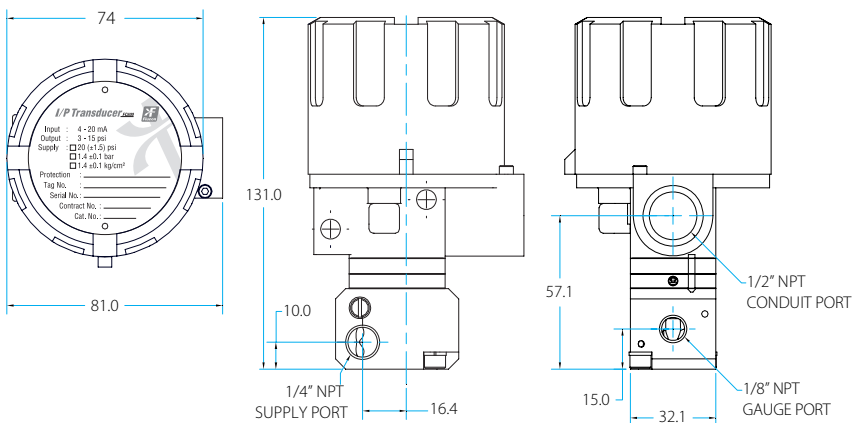
## Performance

Linearity (Independent)	<±0.5% of span	
Hysteresis	<±0.3% of span	
Deadband	<±0.1% of span	
Repeatability	<±0.3% of span; <±0.15% of span typical	
Mounting Orientation Effect	<±0.5% / 90 degree change	
Air Supply Sensitivity	< .3% / 1.5 (0.10 BAR) psig change	<±0.6% / 25 (1.72 BAR) psig change
Vibration Effect	<±1% up to 10g and 20-80 Hz	
Temperature Effect	<±0.75% / 10°F (5.6°C) change	

## Physical

Housing	NEMA 4X (IP 65)
Port Sizes	Pneumatic : 1/4" NPT (P & N versions); 1/16" manifold mount ( M version ) 1/8" NPT Gauge Port (P version) Electric : 1/2" NPT, M20-1.5 (ATEX)
Media	Clean, dry, oil-free, instrument air, filtered to 40 micron
Electrical Connections	Terminal block
Mounting	Direct (standard) or 2" pipe (optional)
Materials	Housing : Chromate-treated aluminum with epoxy paint. NEMA 4X (IP65) Elastomers : Buna-N Trim : Stainless steel; brass; zinc-plated steel
Weight	P Version = 1.4 lbs. (0.64kg.) N Version = 1.25 lbs. (0.57kg.) M Version = 1.20 lbs. (0.54kg.)

## Dimensional drawings, conn. diagrams



## Intrinsically Safe /Explosion Proof

The Flucon Series FC600 has been tested and approved by CMRI, Dhanbad, India, FM, CSA for intrinsically safe Class I, II, and III, gas Groups A, B, C, D, E, F, & G when used with an apparatus meeting the entity requirements as mentioned hereunder.

### Entity Parameters :

V<sub>max</sub> = 40VDC C<sub>i</sub> = 0 uF C<sub>i</sub> is capacitance  
I<sub>max</sub> = 150mA L<sub>i</sub> = 0 mH L<sub>i</sub> is inductance

### Explosion Proof :

Class I, Div. 1, Groups A, B, C & D  
Enclosure Nema 4X (IP65)  
Temp. Code T6

Installation should be done in accordance with Flucon interconnection drawing. This drawing is included in the Flucon-600FC series installation, operation and maintenance manual. The intrinsically safe NEMA 4X (IP65) approval is a standard feature of the Flucon-FC600 series and applies only to units with a 4-20 mA input signal that are installed with the following barriers.

### Barriers:

Leeds & Northrups  
P/N. 316569 & 316747

R. Stahl, Inc.  
P/N. 8901/33-293/000/79  
9001/01-280-100- 10  
9002/13-280-110-00

MTL, Inc.  
P/N. 728, 787S, 4045

Pepperl & Fuchs, Inc. C&D  
P/N. KHD3-ICD/Ex132

Class I, Division I, Groups B, C & D is Pending.

## Ordering Information

Use this coding system to order



### Input Signal

A 4-20mA

### Connection

M Manifold Mount without Booster  
N 1/4" NPT Port without Booster  
P 1/4" NPT Port with Booster

### Output Pressure

C 3-15 psig  
D 3-27 psig  
E 6-30 psig

### Accessories

Optional - 2" Pipe mounting Bracket kit.

PG 13.5 cable gland or thread M20 x 1.5 or thread 1/2 NPT (depending on model)

Stainless steel housing unit as add-on module for OEM applications.



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