

MANUAL

T60

Proportional Pressure Control Valve



*** VERSION 1.0 ***

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CHARACTERISTICS

- Electro Pneumatic Transducer
- Pressure Control with Air and Gases
- Pressure control ranges from 1 to 8 bar
- Stepless sensible analogue controlling
- Open 3/2-way controller with unload

SPECIFICATIONS

Measure and Control Range (Standard Range)

Output	Supply	Min. Span
0,2 – 1 bar	1,4 – 8,0 bar	0,35 bar
0,2 – 1,8 bar	2,2 – 8,0 bar	0,7 bar
0,4 – 2,0 bar	2,4 – 8,0 bar	0,7 bar

Measure and Control Range (Extended Range)

Output	Supply	Min. Span
0 – 2 bar	2,4 – 10 bar	0,8 bar
0 – 4 bar	4,4 – 10 bar	1,5 bar
0 – 8 bar	8,4 – 10 bar	3,5 bar

Accuracy

	Standard	Extended
Linearity:	±0,5 %F.S.	±1 %F.S.
Hysteresis & Repeatability:	±0,25 %F.S.	±1 %F.S.
RFI/ EMI Effect:	< ± 0,5 %F.S.	
Pressure dependency:	2 % per bar inlet pressure change.	

Temperature

Storage and operation: -20 to 60°C

Media Compatibility

Air and inert gases

Pressure Limits

Max. 8 and respectively 10 bar, dependent on the model

Enclosure

Housing: Aluminium

Nozzle: Stainless steel

Control unit: Stainless steel, brass, plated steel

Explosion-Proof NEMA 4X, IP65, Type 4 Enclosure available for outdoor and indoor installations

Mounting Options

Pipe mount, DIN top-hat rail

Connections Pneumatical

1/4" NPT-F

Connections Electrical

Hirschmann (DIN 43650), clamping block

Supply

U_{max}: 28 VDC,

I_{max}: 93 mA

Input Signal

0 – 10 VDC*

10 – 50 mA

4 – 20 mA (standard)

1 – 5 VDC*

0 – 5 VDC*

1 – 9 VDC*

*No ATEX-Protection possible

TECHNICAL DESCRIPTION

The Electro Pneumatic Transducer T60 transforms a electrical controlling signal to a proportional pneumatic pressure signal. In the first level the electrical signal is transformed by a inductor in a magnetic field. The corresponding force of this field adjusts a distance in a nozzle-deflector system which controls the pressure. In the second level the pressure signal controls an amplifying relays, which increases the air flow. If desired there's third level (extended control range) which amplifies the pneumatic output signal on higher pressures.

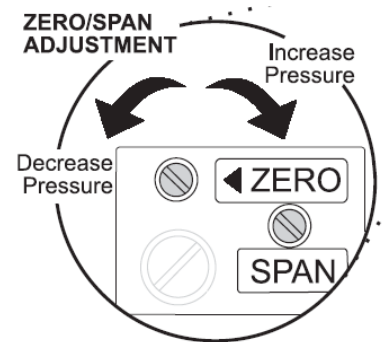
Because of the internal minus-spring constant (-0,2 bar) the pressure output starts then at zero. The modular construction allows the mounting as well in pipes as in DIN rails.

INSTALLATION

Clean all pipelines to remove dirt and scale before installation. Apply a minimum amount of pipe compound to the male threads of the fitting only. Do Not use teflon tape as a sealant. Start with the third thread back and work away from the end of the fitting to avoid contaminating the transducer. Install the transducer in the air line. The inlet and outlet ports are labeled on the ends of the transducer. Tighten connections securely. Avoid undersized fittings that will limit the flow through the transducer and cause pressure drop down stream.

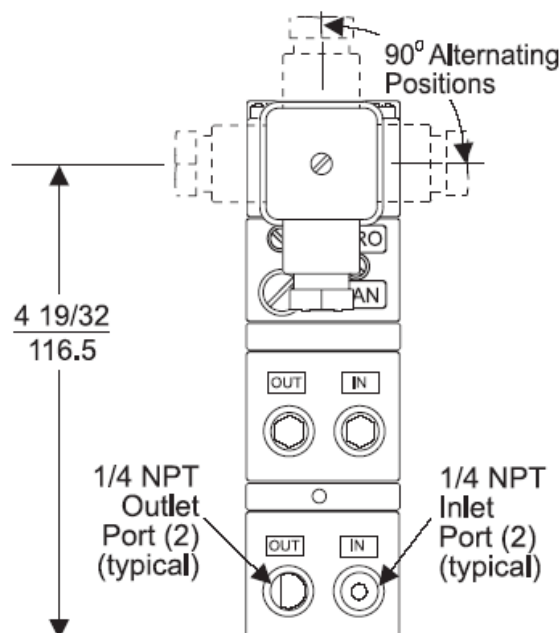
ADJUSTMENT

- Step 1 Adjusting the minimum of output pressure for the minimum set-point value with the potentiometer „Zero“ (zero point)
- Step 2 Adjusting the maximum of output pressure for the maximum set-point value with the potentiometer „Span“ (final value)

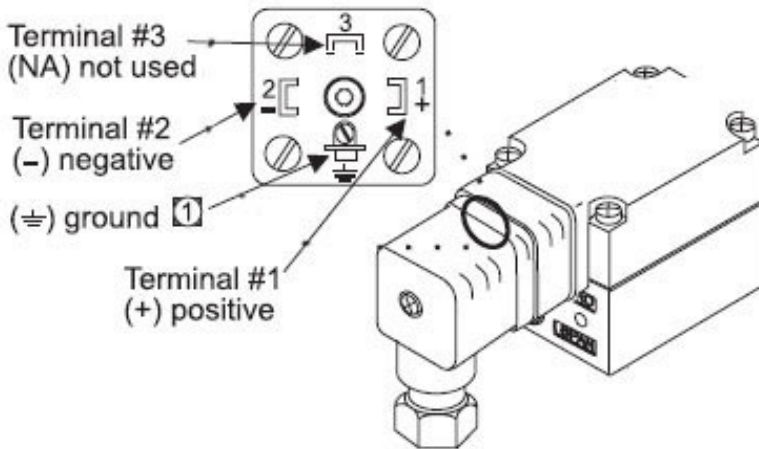


VARIATIONS OF CONNECTION

The connector (DIN 43560) in combination with the clamping block allows a variation of the position of the connector in 90° steps.

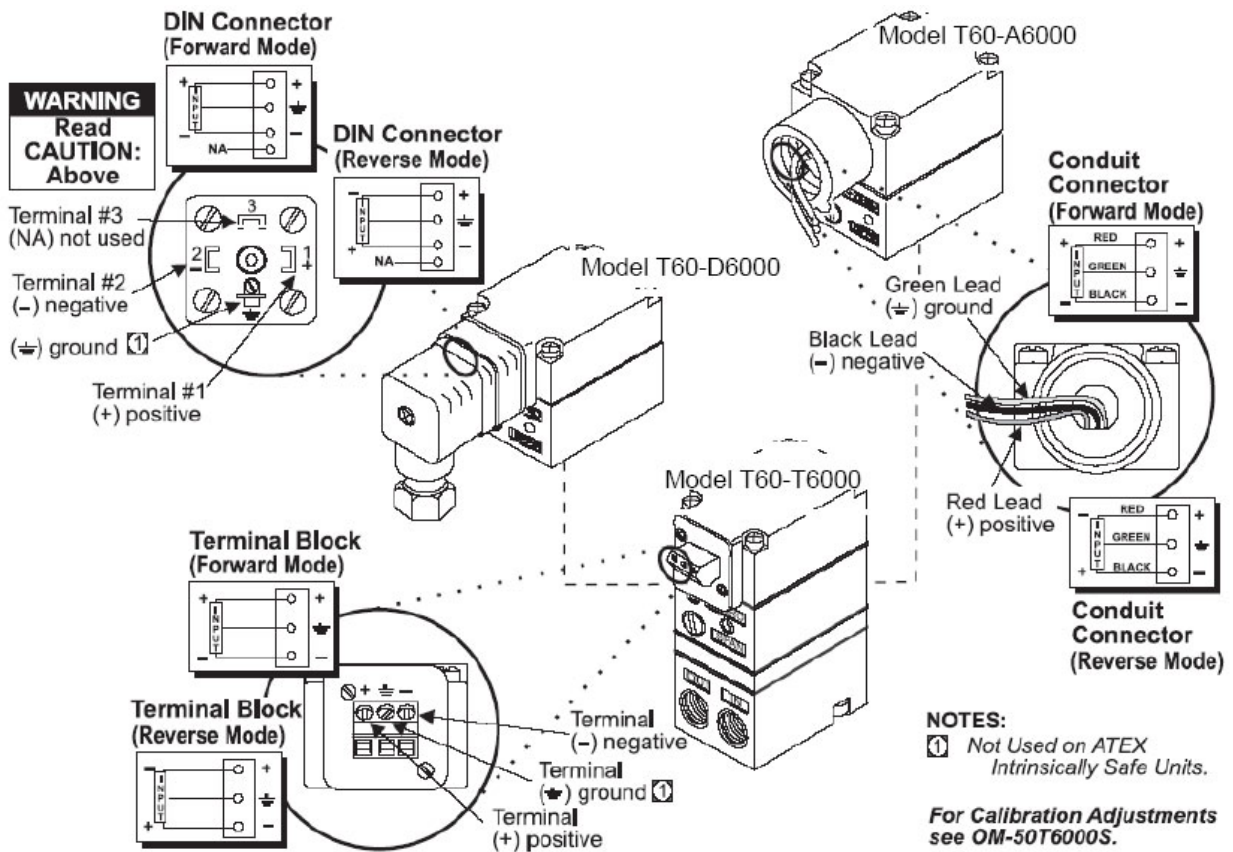


PIN ASSIGNMENT

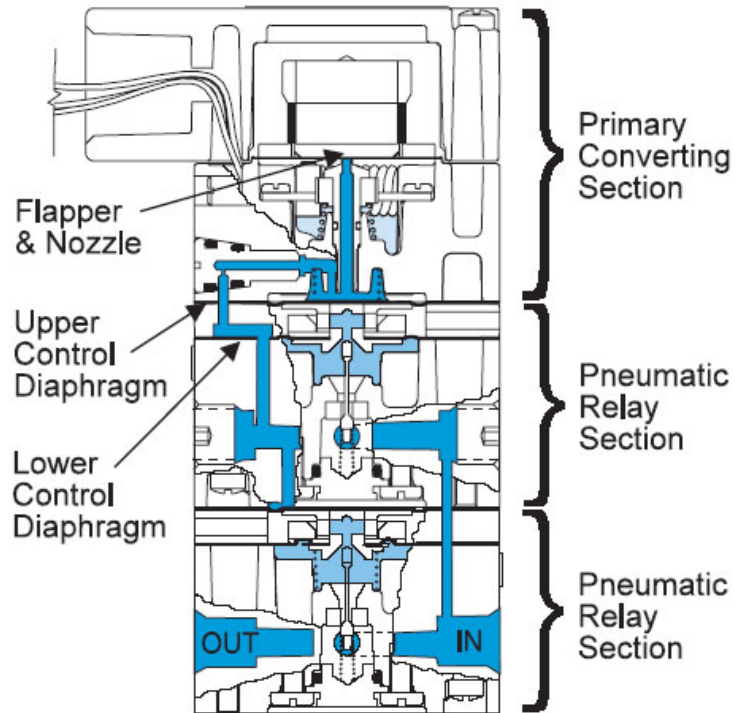


Connection: 4 - pole Block Connector according DIN43650

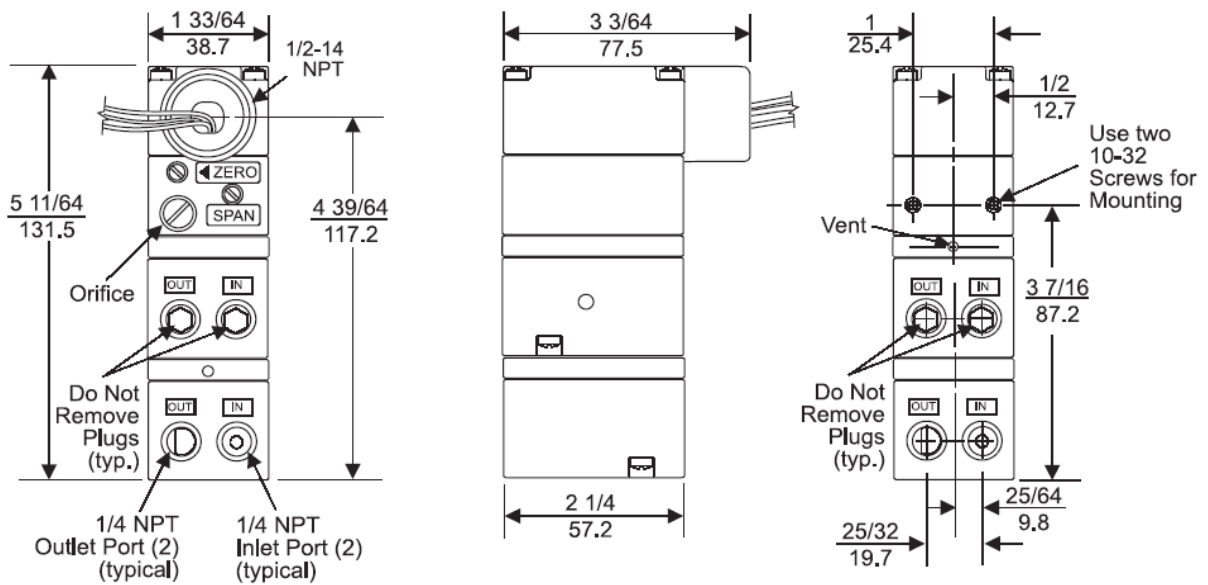
Signal:	0-10 V	4-20 mA
Pin 1	Signal (+)	Signal (+)
Pin 2	Signal (-)	Signal (-)
Pin 3	---	---
Pin 4	Ground	Ground



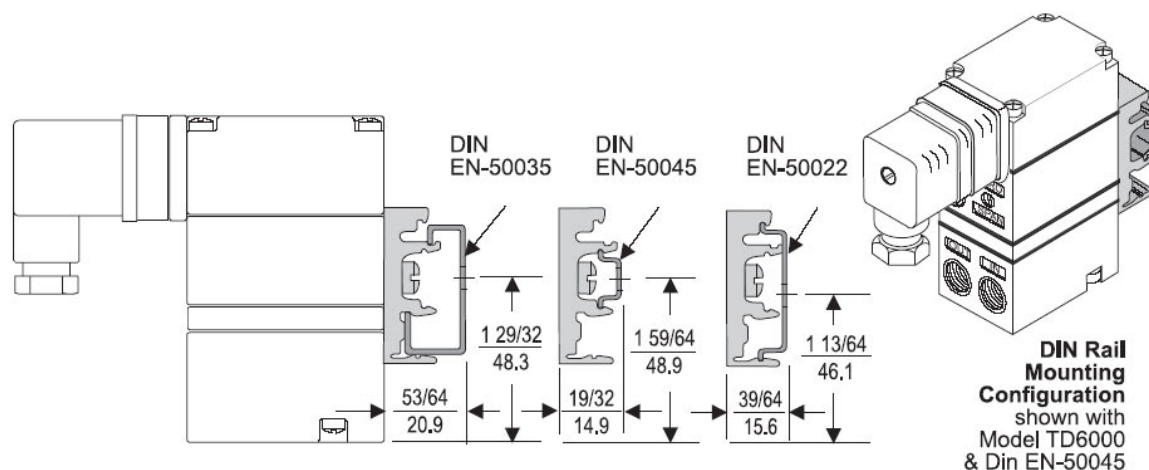
FUNCTIONAL DRAWING



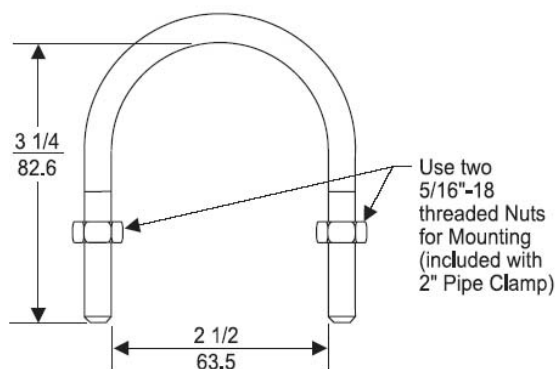
DIMENSIONS



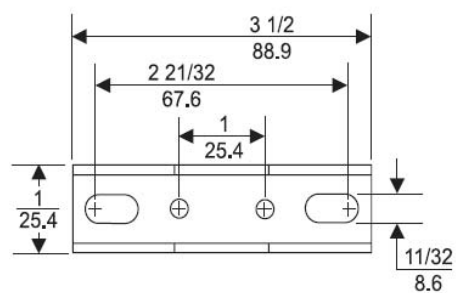
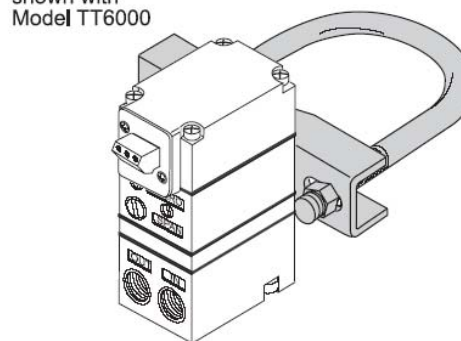
RAIL MOUNTING



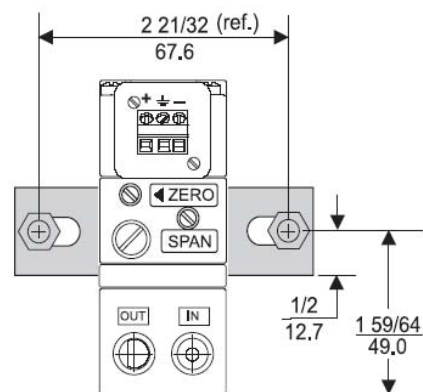
PIPE MOUNTING



2" Pipe Mounting Configuration
shown with Model TT6000



Mounting Kit 19254-1
includes the following:
Mounting Bracket • 2" Pipe Clamp
Two 10-32 x 5/16" Screws



TROUBLE SHOOTING

Problem

No output pressure

Solution

- Check power supply
- No Input pressure
- Blocked pressure supply
- Pressure sensor out of order, because of a too high input pressure connected to „OUT“.

Output pressure too low

- Input pressure too low
- Too high resistance of the electric cable

Alternating output pressure

- Too small pipe diameters
- Effects of natural frequency

Slow reaching of the final value

- Too small valve diameter
- Slow pressure build-up
- Amplifying too small

Stepwise change of output pressure

- Signal voltage has current pulses
-

Valve constantly blows off

- Valve isn't tight
- Swarfs on the seal face