

# Model T5400 Digital-Pneumatic Transducer

**B**

**Model T5400**



## Features

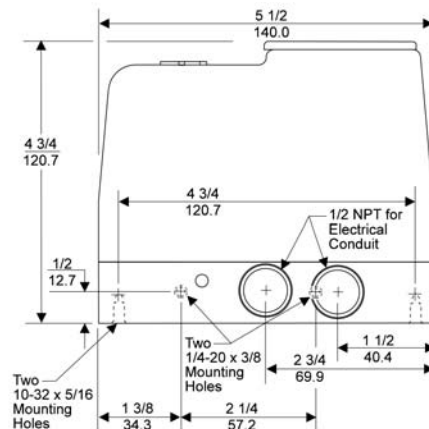
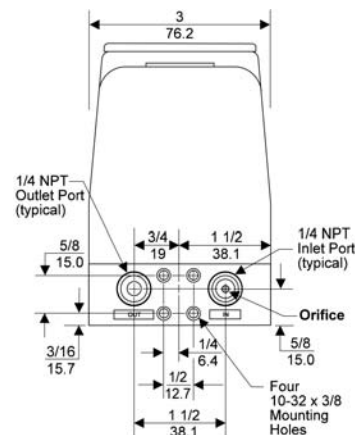
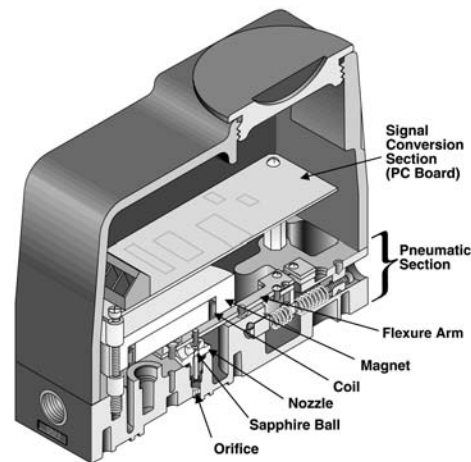
- Fail Safe High or Low will return the output to 3 psig for Direct Acting Mode or to 15 psig for Reverse Acting Mode if the power is lost, regardless of the logic selected.
- Field Reversible Feature provides output which is directly or inversely proportional to the input signal.
- 115 VAC, 230 VAC, and 24 VDC Power Options permit use with most power sources.
- Temperature Compensation provides stable operation during temperature changes.
- 5VDC or 15VDC Logic assures compatibility with most digital input systems.
- Vibration Resistance maintains set points, under adverse vibration conditions.
- Various Mounting Configurations allow installation flexibility for most applications.
- External Zero Adjustment provided for ease of calibration.

## Operating Principles

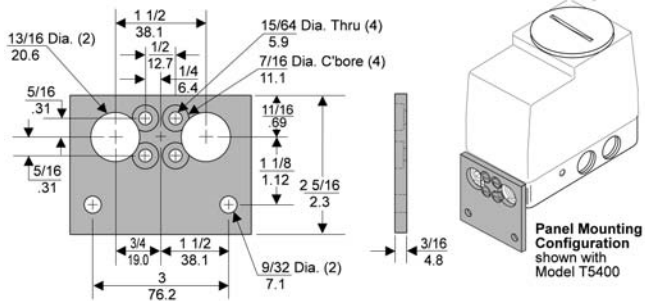
The T5400 Transducer is a digital-pneumatic device that provides a pneumatic output signal controlled by 8 bit digital data instructions from a central control room, a remote control location, or a local control station. This device is made up of two sections, the Signal Conversion Section and the Pneumatic Section.

The Signal Conversion Section (PC Board) accepts an 8 bit parallel wired digital signal. Full scale output is divided into 255 parts and the output level is based on the logic state (high or low) of the 8 bits. An enable line allows the unit to accept information from a parallel bus. The digital input signal is converted to an analog signal. The signal is then applied to a Coil which creates a magnetic force that moves a Flexure Arm.

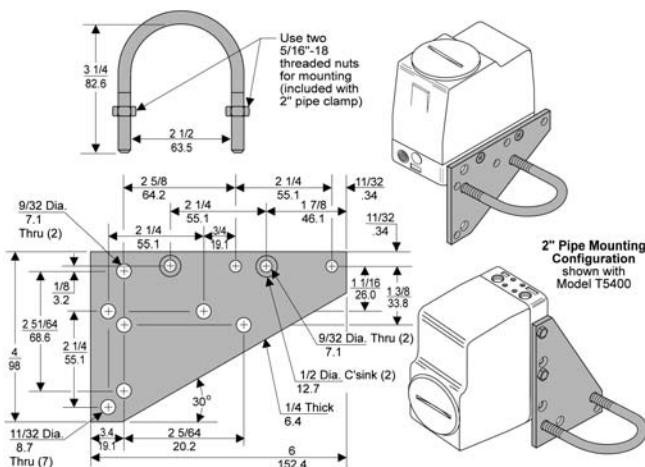
The Pneumatic Section operates as a force balance system. A Sapphire Ball floats inside a Nozzle and controls the output pressure by exhausting air supplied through an Orifice. This Sapphire Ball acts as a piston exerting a force which is balanced against the force of the Flexure arm.



## Technical Information



Mounting Bracket: 15268



Mounting Bracket: 14596

## Model T5400 Transducer Kits & Accessories

Mounting Bracket Kits.....15268 (sold separately)  
14596 (sold separately)

## Catalog Information

**Catalog Number**

T  5400

**Option**

Noise Suppression ..... NS

**Power**

24 VDC - 3 Watts ..... 24  
115 VAC - 3 Watts ..... 115  
230 VAC - 3 Watts ..... 230

**Output**

psig ..... 0  
[BAR] ..... 1  
(kPa) ..... 2

## Installation

For Installation Instructions, refer to the Fairchild *Model T5400 Digital-Pneumatic Transducer Installation, Operation and Maintenance Instructions, IS-500T5400*.

## Specifications

**Supply Pressure**

20 ± 2 psig, [1.5 ± 0.15 BAR], (150 ± 15 kPa)

**Output Capacity (SCFM)**

0.15 (0.26 m<sup>3</sup>/HR) Maximum

**Air Consumption (SCFM)**

0.16 (0.27 m<sup>3</sup>/HR) Maximum

**Output Range**

3-15 psig, [0.2-1.0 BAR], (20-100 kPa)

**Supply Pressure Effect**

1% of Span for a 2 psig, [0.14 BAR], (14 kPa) supply change

**Voltage Requirement**

115/230 VAC ± 10% 50-60 Hz, 24 VDC ± 10%

**Input Data<sup>1</sup>**

8 Bit Parallel, 1 Bit Enable (TTL or CMOS compatible)

**Terminal Based Linearity**

± 0.50% Full Scale

**Independent Linearity**

± 0.25% Full Scale

**Resolution**

0.4% of Span

**Hysteresis**

Within 0.2% Full Scale

**Repeatability**

Within 0.2% Full Scale

**Sinking Current**

5 VDC Logic – 0.5 mA per Bit, 15 VDC Logic – 1.5 mA per Bit

**Ambient Temperature**

-40° F to +150° F, (-40° C to +65.5° C)

**Materials of Construction**

Body and Housing ..... Aluminum  
Ball and Orifice ..... Sapphire  
Nozzle ..... Stainless Steel

<sup>1</sup> Data must be on line 0.5 microseconds before enable strobe and 0.5 microseconds during enable period to start output pressure change.



# **P.S.I. Supplies Pty Ltd**

Catalogue extract for:

## **Fairchild Model T5400 Digital-Pneumatic Transducer**

For further information or sales information please contact:

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