



ISO 9001/AS9100 Certified

# FT29XX

FLUSH DIAPHRAGM PRESSURE TRANSDUCERS AND  
PRESSURE TRANSMITTERS

## DESCRIPTION

The Series FT29XX pressure transducers and pressure transmitters are designed for those applications requiring both a standard NPT male process connection and a zero dead volume flush diaphragm.

These pressure sensors are designed with a unique isolation diaphragm which reduces stress levels caused by torquing a tapered thread into the mating fitting. In addition, the FT29XX pressure transmitters are designed with internal signal conditioning. Customers can select 4-20 mA current outputs, numerous voltage outputs, as well as digital outputs including RS232, RS485, and CANbus. These pressure sensors are constructed of all welded stainless steel and can withstand very demanding application environments.

FT29XX pressure transmitters are ideal for many metering and dispensing applications. Additional design features include low sensitivity to shock and vibration. Standard units come in 1/4" NPTM, 1/2" NPTM and 1-1/4" NPTM configurations. Optional sizes are available. Each unit is shipped with a 15 point calibration record traceable to NIST as standard.



A US Manufacturer of: Pressure, Temperature, Load/  
Force/Torque, and Displacement Sensors.

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## STANDARD FEATURES

- Flush Diaphragm (Zero Dead Volume)
- Flush Diaphragm Insensitive to Torque
- Amplified Output (Analog and Digital)
- Standard NPTM Process Connection
- Compact Size
- Pressure Ranges from 50 psig to 10,000 psig
- All Stainless Steel Construction
- Shock and Vibration Resistant
- 15 Point Calibration Record Traceable to NIST

## OPTIONAL FEATURES

- Optional NPT Male sizes
- Customer Specified Electrical Termination
- Special Calibrations
- Special Materials
- Additional Shock and Vibration Protection

## PERFORMANCE

### STATIC ACCURACY

± 0.50% FSO by BFSL.

### RESOLUTION

Analog: Infinite.  
Digital: .025% FSO.

### THERMAL ERROR

< ± 0.020% FSO/°F typical.

### ZERO BALANCE

±1% FSO at 70°F.

### SPAN

±1% FSO at 70°F.

## MECHANICAL CHARACTERISTICS

### STANDARD RANGES

With 1-1/4" NPTM Thread:  
0- 50, 100, 150, 200, 300, 450, PSIA / PSIG.  
With 1/4" or 1/2" NPTM Thread:  
0-500, 1000, 2000, 3000, 5000, 7500, 10000,  
PSIA / PSIG.

### PROOF PRESSURE

1.5 X FSO range.

### BURST PRESSURE

2.0 X FSO range.

### OPERATING MEDIA

Fluids and gases compatible with stainless steel.  
Inconel and other materials optional.

### ENCLOSURE

Body of stainless steel.

### PRESSURE FITTING

50 to 450 PSI: 1-1/4" NPT Male (standard).  
500 up to 10,000 PSI:  
1/4" or 1/2" NPT Male (standard).  
For optional NPT threads, consult factory.

### WEIGHT

Approximately 8 ounces.

## ENVIRONMENTAL CHARACTERISTICS

### COMPENSATED TEMPERATURE RANGE

-30°F to +170°F. Options available.

### OPERATING TEMPERATURE RANGE

-65°F to +250°F (Process Temperature @ sensor).  
-40°F to +185°F (Ambient Temperature).

## ELECTRICAL CHARACTERISTICS

### ANALOG OUTPUTS

#### EXCITATION

4-20mA Current Loop:  
9-36 Vdc for 2-wire.  
9-36 Vdc for 3-wire.  
Isolated Voltage Output (0-5 Vdc, 0-10 Vdc):  
14-32 Vdc (standard).  
8-18 Vdc (No charge option).  
Non-Isolated Voltage Output:  
8-40 Vdc for 1-5 Vdc, 3-wire  
(standard).  
8-40 Vdc for 1-6 Vdc, 3-wire  
(No charge option).  
8-40 Vdc for 0-5 Vdc, 4-wire  
(No charge option).

*Additional outputs and related excitations  
available. Please consult factory.*

### DIGITAL OUTPUTS

#### EXCITATION

RS-232, RS-485  
8-30 Vdc.  
CANbus  
4-18 Vdc (standard).  
14-32 Vdc (optional).

### PROGRAMMING

PC.

### DUAL OUTPUTS (ANALOG & DIGITAL)

#### EXCITATION

Isolated Voltage plus Digital: 14-32 Vdc.  
Non-Isolated Voltage plus Digital: 8-30 Vdc.

### COMMON

#### INSULATION RESISTANCE

> 100 megohms at 50 Vdc at 70°F.

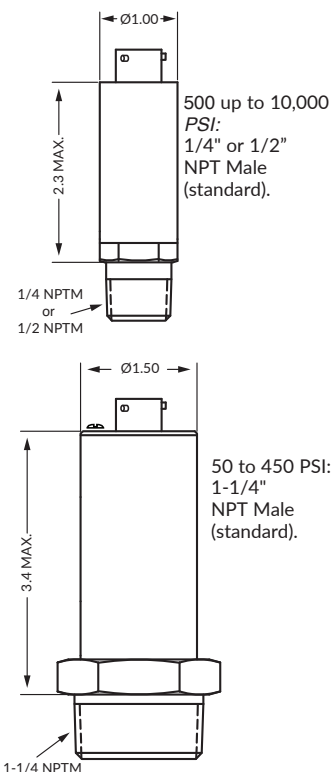
#### ELECTRICAL TERMINATION

PTIH-10-6P stainless steel connector or  
equivalent.

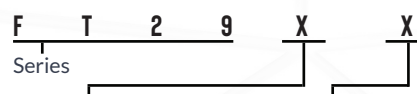
Optional electrical terminations available.

#### ELECTRICAL PROTECTION

- EMI Protected.  
(Optional for Isolated Voltage).
- Surge Protection to 500 Vdc.  
(Optional for Isolated Voltage).
- Reverse polarity protected.
- Short circuit protected.



## MODEL IDENTIFICATION



### ANALOG OUTPUT

- 0 Isolated voltage
- 1 None
- 2 Non-Isolated voltage
- 5 4-20 mA 2-wire Loop (not available with digital output)
- 6 4-20 mA 3-wire

### DIGITAL OUTPUT

- 0 None
- 1 RS-485
- 2 RS-232
- 4 CANbus

### MODIFICATIONS AND WARRANTY

MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice. WARRANTY: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.



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Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

