



TFPS-70

SMART PRESSURE TRANSMITTER



Features

- High Accuracy : $\pm 0.075\%FS$ (Standard), $\pm 0.05\%FS$ (Platinum).
- Excellent overpressure performance: Up to 2.5 MPa for 10kPa range; up to 6MPa for 40kPa range.
- Flexible range compression: Range ratio 10:1 (100:1 optional)
Equipped with 5-digit LCD digital display with backlight..

Applications

TFPS-70 Smart pressure transmitter accurately measure pressure & level used in different process industries like-

- Process Control Systems
- Chemical Industry
- Energy Industry
- Machine building
- Paper & pulp Industry
- Sugar Industry
- Dairy Industry

Product Overview

TFPS-70 series pressure transmitters are available in various forms to accurately and reliably measure gauge pressure, absolute pressure, or liquid level. The transmitter outputs a two-wire 4-20 mA DC standard signal and can also provide digital signal output through HART protocol, facilitating remote configuration and monitoring using software. All transmitters feature an on-site digital display for intuitive indication of measured pressure. The LCD multi-segment display of the intelligent product can simultaneously display the measured pressure, current, or percentage, and display the percentage of the measured value in the form of a bar graph. When the transmitter fails, the LCD indicator will display an alarm message.

Standard Pressure Ranges

Nominal pressure	Gauge	Sealed Gauge	Absolute
-1.....0bar	•		
0...0.1bar	•		
0...0.2bar	•		
0...0.35bar	•		•
0...0.7bar	•		•
0...1bar	•		•
0...1.6bar	•		
0...2.5bar	•		•
0...4bar	•		•
0...6bar	•		•
0...10bar	•	•	•
0...16bar	•	•	•
0...25bar	•	•	
0...60bar		•	
0...100bar		•	
0...250bar		•	
0...400bar		•	
0...600bar		•	

Working Principle

The monocrystalline silicon sensor chip made of MEMS technology and the monocrystalline silicon double beam suspension design, achieves high accuracy, ultra-high overvoltage performance, and excellent stability. The embedded intelligent signal processing module combines static pressure and temperature compensation for high measurement accuracy and long-term stability.

The sensor converts measured pressure into 4-20mA DC output signal and can be operated locally or remotely without affecting the output signal.

Performance Specifications

Parameter	Value	Notes
General		
Output Signal	Analog: 4~20mA(2 wire) Digital: HART Communication protocol	
Power Supply(Vs)	General Purpose 10.5-45VDC Explosion Proof 10.5-26VDC	
Load Resistance	0~1500ohm (common),250~550ohm (with HART)	
Display	5 digit LCD digital disply with backlight	
Start Time	<5 seconds	
Refresh Time	0.2 seconds	
Dump Adjusting	0.2~15 seconds	
Operating Temperature Range	-40 to +85°C (no display) -20 to +70°C (with display) -30 to +60°C (Explosion-proof)	
Storage Temperature Range	-40 to +100°C (no display) -40 to +85°C (with display)	
Media Temperature Range	-40 to +104°C (silicone oil) -18 to +71°C (inert liquid)	
Humidity Scale	5%~100%RH	
Static Pressure Limit	SD: 6.89MPa (for range2) SD: 13.8MPa (for range3,4,5,6,7,8) SH: 31.0MPa (for range4,5,6,7)	
Over Pressure Limit	SG: 13.8MPa (for range3,4,5,6,7,8) SG: 31.0MPa (for range9) SG: 51.7MPa (for range0)	

Parameter

Accuracy	0.05%FS,0.075%FS,0.1%FS, 0.2%FS, 0.5%FS	
Temperature Effect	Total effects per 28°C(50°F)change: For range 2: $\pm[0.05\% \text{ URL} + 0.25\% \text{ Span}]$ For other ranges: $\pm[0.025\% \text{ URL} + 0.125\% \text{ Span}]$	
Long-Term Stability	In 12 months, $\pm 0.1\%$ of maximum range	
Static pressure effect	For range 2: $\pm 1\% \text{ URL}/6.9 \text{ MPa}$ For range 3: $\pm 0.5\% \text{ URL}/6.9 \text{ MPa}$ For other ranges: $\pm 0.25\% \text{ URL}/6.9 \text{ MPa}$	
Location installed effect	The maximum of the zero point movement is 0.25kPa 0.05	
Power Effect	<0.005%/Vrange calibrated	

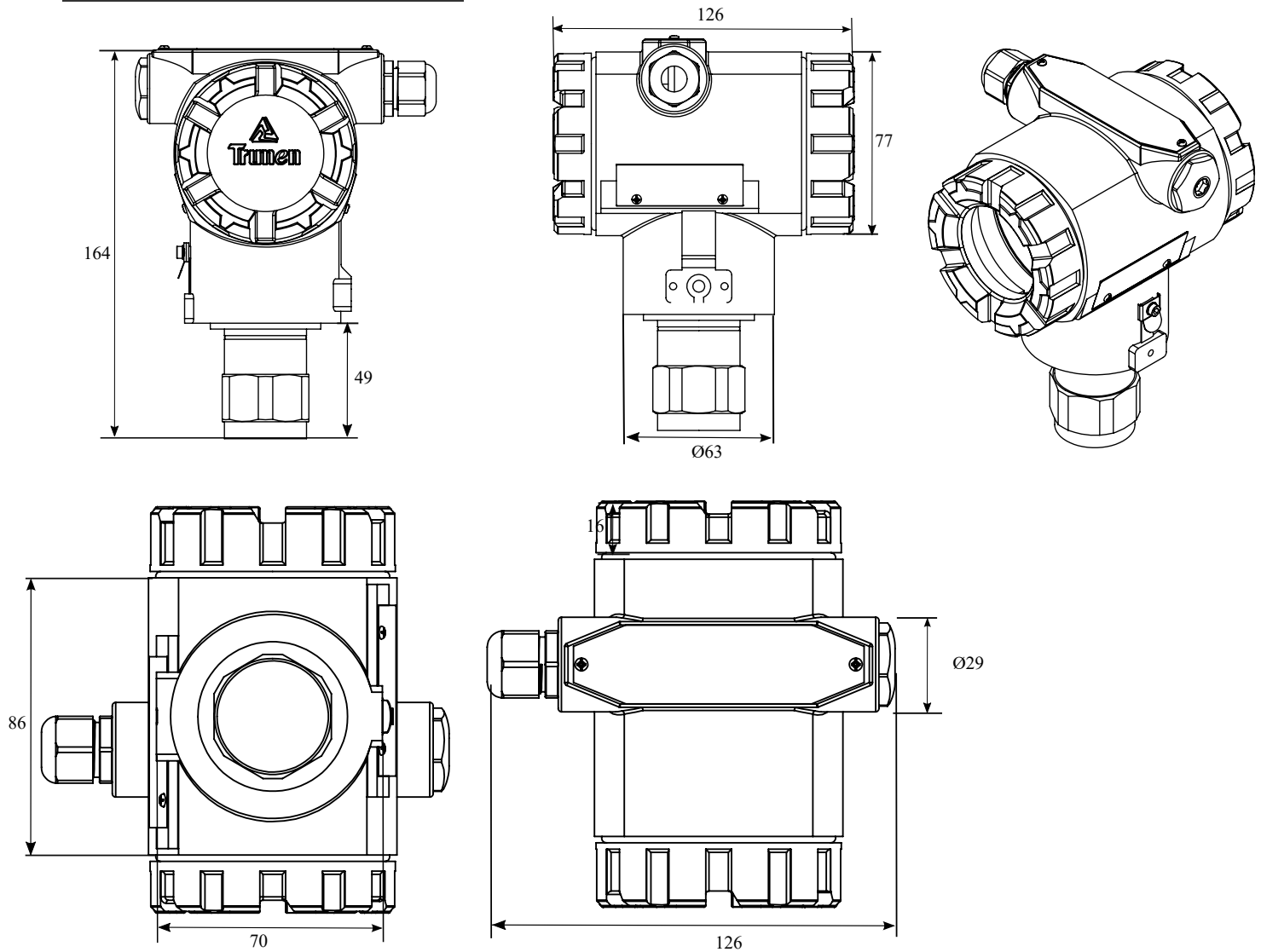
Physical Specifications

Electrical connection	2x1/2"NPT	
Material	Isolated membrane: 316LSS, Hastelloy-C, Monel, Tantalum	
NetWeight	Exhaust/outlet valve: 316SS, 316LSS	
Output Signal	Flange and connector: 316SS O-ring: fluororubber Bolt: Zinc plating carbon steel housing: low copper of albronz	
	3.6kg(with display), 3.4kg(no display)	

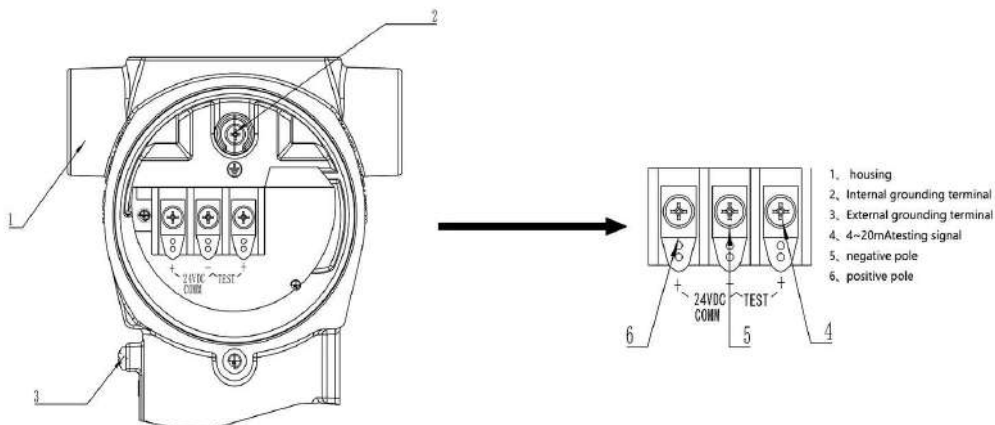
Notes

1. All values measured at 25°C(77°F)
 2. Including non-linearity, hysteresis and repeatability.
- The listed specifications and dimensions are subject to change without prior notice.

MECHANICAL DIMENSION



ELECTRICAL CONNECTION



TFPS-70: Smart Pressure Transmitter

Ordering Information

Option1: Model										
TFPS-70	Smart Pressure Transmitter									
	Option2: Enclosure									
	HAN	Cast Aluminum, Weatherproof Enclosure, Gland 2x1/2"NPT								
	HAX	Cast Aluminum, Flameproof Enclosure, Gland 2x1/2"NPT								
	Option 3: Pressure Range									
	N001	-1....0bar	0040	0....4bar	1000	0....100bar				
	0001	0...0.1bar	0060	0....6bar	2500	0....250bar				
	0003	0...0.35bar	0100	0...10bar	4000	0...400bar				
	0007	0...0.7bar	0160	0....16bar	6000	0....600bar				
	0010	0...1bar	0250	0....25bar	PRS	Customized Range				
	0016	0...1.6bar	0350	0....35bar						
	0025	0...2.5bar	0600	0....60bar						
	Option 4 : Pressure Type									
	G	Gauge Pressure Transmitter								
	A	Absolute Pressure Transmitter								
	S	Sealed Gauge Pressure Transmitter								
	Option 5 : Output Signal									
	A	4...20mA Analog Signal								
	H	4..20mA+ HARTProtocol								
	Option 6: Accuracy									
	01	0.05% FS								
	02	0.065%FS								
	03	0.075% FS								
	04	0.1% FS								
	05	0.2% FS								
	06	0.5% FS								
	Option7: Membrane Material									
	S	SS316L								
H	Hastelloy-C									
M	Monel									
T	Tantalum									
Option 8: Fill Fluid										
A	Silicon Oil									
B	FDL Food Grade Oil									
Option 9 : Process Connection										
M2	M20x1.5(Male)	F4	G1/4 (Female)	F5	1/4NPT(female)					
G4	G1/4 (Male)	N1	1/4NPT(male)	CS	Customer Specify					
G2	G1/2 (Male)	N2	1/2NPT)							

TFPS70 HAN 0001 G A 01 S A G2

Example of Ordering Code: TFPS-70-HAN-0001-G-01-S-A-G2