



Flush Diaphragm
Pressure Transmitter



Model TFP-310

Food and Beverage Industry

Features

- Measuring ranges from 100mbar to 250bar
- Absolute, gauge and sealed gauge
- Accuracy: $\pm 0.5\%$ FSO, $\pm 0.2\%$ FSO (Optional)
- Calibrated and temperature compensated
- Flush diaphragm construction
- Piezoresistive pressure sensor design
- Variety of Pressure & Electrical connections
- Output 4...20mA, 0...10V, 0...5V and ModBus RS485

Product Overview

TFP-310 is made from high-quality silicon piezoresistive chip. All process connections of the flush diaphragm pressure transmitter are made of stainless steel, fully welded and isolate the process medium from the pressure measuring instrument via a positive seal. The TFP-310 is precision engineered to fit food, pharmaceutical and chemical liquid pressure measurement.

A wide range of process connection and electrical connection options are available to meet almost requirement.

Applications

- Process Control System
- Food and Beverages Industries
- Pharmaceutical Industries
- Dairy Processing Industries
- Paper & Pulp Industries

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		•	

Other pressure ranges available. Please consult the factory.

TFP-310: Flush Diaphragm Pressure Transmitter

Performance Specifications

Parameter	Value	Units	Notes
General			
Pressure Range	0-1,....,100	bar	1bar=14.5psi
Overpressure	1.5xFS		

Environmental

Operating Temperature Range	-20 to+150(standard), -20 to+180(optional)	°C	-4 °F to 185 °F
Compensated Temperature Range	-10 to +70	°C	14 °F to 158 °F
Storage Temperature Range	-40 to +125	°C	-40 °F to 257 °F
Vibration	10	g	20 to 2000Hz
Shock	100	g	10ms
Cycles	10x10 ⁵	cycles	

Electrical @ 25°C(77°F)

Output Signal	4...20mA	0...5Vdc	1...5Vdc	0...10Vdc	0.5...4.5Vdc(ratiometric)
Power Supply(Vs)	12....36Vdc	12....36Vdc	12....36Vdc	15....36Vdc	5Vdc
Load Resistance	<(Vs-12)/0.02A (For current output), >10kΩ (For voltage output)				
Insulation Resistance	100MΩ @50Vdc				

Physical Specifications

Media Compatibility	All media compatible with 316L stainless steel
Housing	316 stainless steel, Die Cast aluminium flameproof Exd as per IS/IEC 60079-1:2014
Diaphragm (Wetted Part)	316L stainless steel
Seal Ring	Viton or NBR
Oil Filling	Silicone oil
Protection	IP65(Standard), IP67 (Only for flameproof enclosure)
Net Weight	Approx.285g

Parameter	Minimum	Typical	Maximum	Units	Notes
Performance					
Accuracy	0.1	0.2	0.5	%FSO	1,2
Temp Coeff - Zero		±1.5	±2	%FSO	3
Temp Coeff - Span		±1.5	±2	%FSO	3
Long-Term Stability		±0.2	±0.3	%FSO/year	1

Notes

1. All values measured at 25°C(77°F)
2. Including non-linearity, hysteresis and repeatability.
3. -10°C to 70°C(14°F to 158°F) with reference to 25°C(77°F).

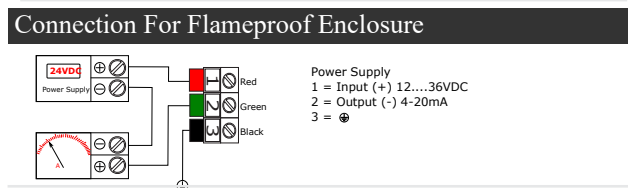
The listed specifications and dimensions are subject to change without prior notice.

Connection Diagrams

Connector DIN43650		2-wire(current)	3-wire(voltage)
	Supply+	1	1
	Signal+	2	3
	Gnd	-	2

Cable outlet		2-wire(current)	3-wire(voltage)
	Supply+	red	red
	Signal+	black	green
	Gnd	-	black

Connector M12x1(4-pin)		2-wire(current)	3-wire(voltage)
	Supply+	1	1
	Signal+	2	3
	Gnd	-	2



Trumen Process Indicator (Model-ILP)

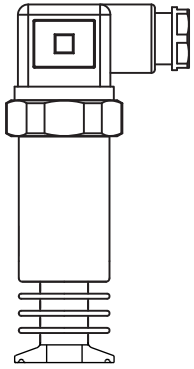
- Dimension: 65 x 45 x 45 mm
- Display: 4 Digit 7 Segment
- Display resolution: 1999 to 9999
- Input: 4-20mA
- Accuracy: mA : 0.5% of span
- Enclosure: ABS



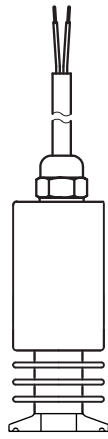
TFP-310: Flush Diaphragm Pressure Transmitter

Electrical Connection

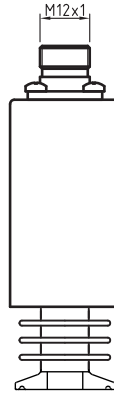
Din Connector



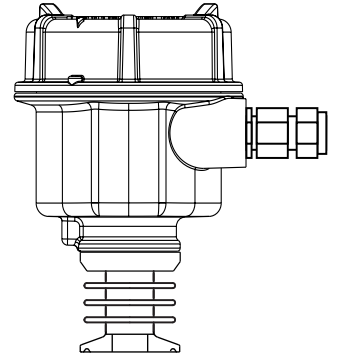
Cable outlet with PVC-cable



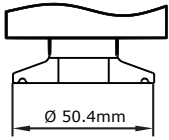
M12X2, 4-pin



With Flameproof Enclosure



Mechanical Connection



1-1/2 inch Tri clamp

Ordering Information

Option1: Model	
TFP-310	Flush Diaphragm Pressure Transmitter
Option2: Pressure Ranges	
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 PRS Customized Range
0007	0...0.7bar 0160 0...16bar
0010	0...1bar 0250 0...25bar
0016	0...1.6bar 0350 0...35bar
0025	0...2.5bar 0600 0...60bar
Option3: Pressure Type	
G	gauge
A	absolute
S	sealed gauge
Option4: Output Signal	
42	4...20mA
05	0...5Vdc
15	1...5Vdc
10	0...10Vdc
45	0.5...4.5
485	RS-485
Option5: Accuracy	
01	0.5%FSO
02	0.2%FSO (Optional)
Option6: Electrical Connection	
D	Connector DIN43650
C	Cable outlet with PVC-cable, length=1.5m
M	M12x1, 4-pin DIN Connector With Indicator
HAX	With Flameproof Enclosure as per IS/IEC 60079-1:2014; suitable for gas group IIC, T6
Option7: Indicator	
Ix	Without Indicator
I	With Indicator
Option8: Mechanical Connection	
K2	1-1/2 inch clamp flange interface(Ø 50.4mm)
Ns	Customized
TFP-310	0010 G 42 02 DL Ix K2 Examples of Ordering Code: TFP310-0010-G-42-01-DL-Ix-K2

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