Series VTST201 High Precision Micro Flush Diaphragm Pressure Transmitter

Sputtering Thin Film Pressure Sensor I Micro Fused Pressure Sensor

The VTST201 series of micro pressure sensors features a robust, reliable flat diaphragm and integrates advanced MEMS technology with precision welding. Designed for high performance, these sensors are equipped with a high-performance digital processing circuit, ensuring exceptional long-term stability and an extended operational lifespan. They are optimized for stable performance in ultra-compact environments.

The 316L diaphragm material is specifically chosen for its excellent corrosion resistance, making it ideal for demanding applications.

Specification

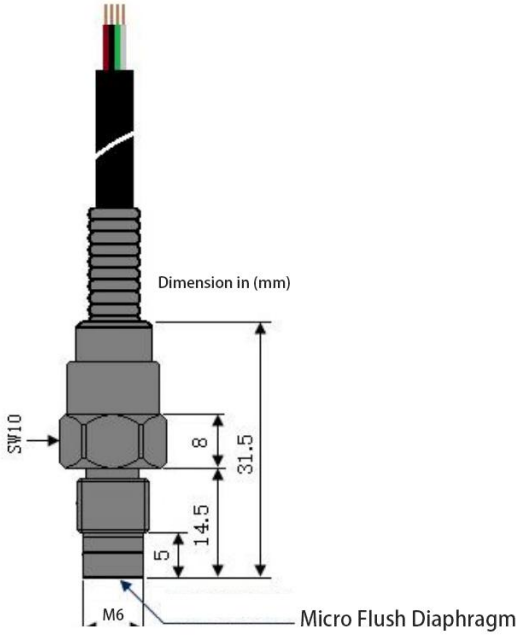
Durability: Hard flat diaphragm for enhanced resistance to blockages, collisions, and corrosion.
Reliability: Superior cleaning resistance and stable operation in challenging conditions.
Destruction pressure: 200% FS

Accuracy
±0,25 %FS, ±0,5 %FS
Total error band
±0,5 %FS @ 0…70 °C
Pressure ranges
0…10 to 0…500 bar

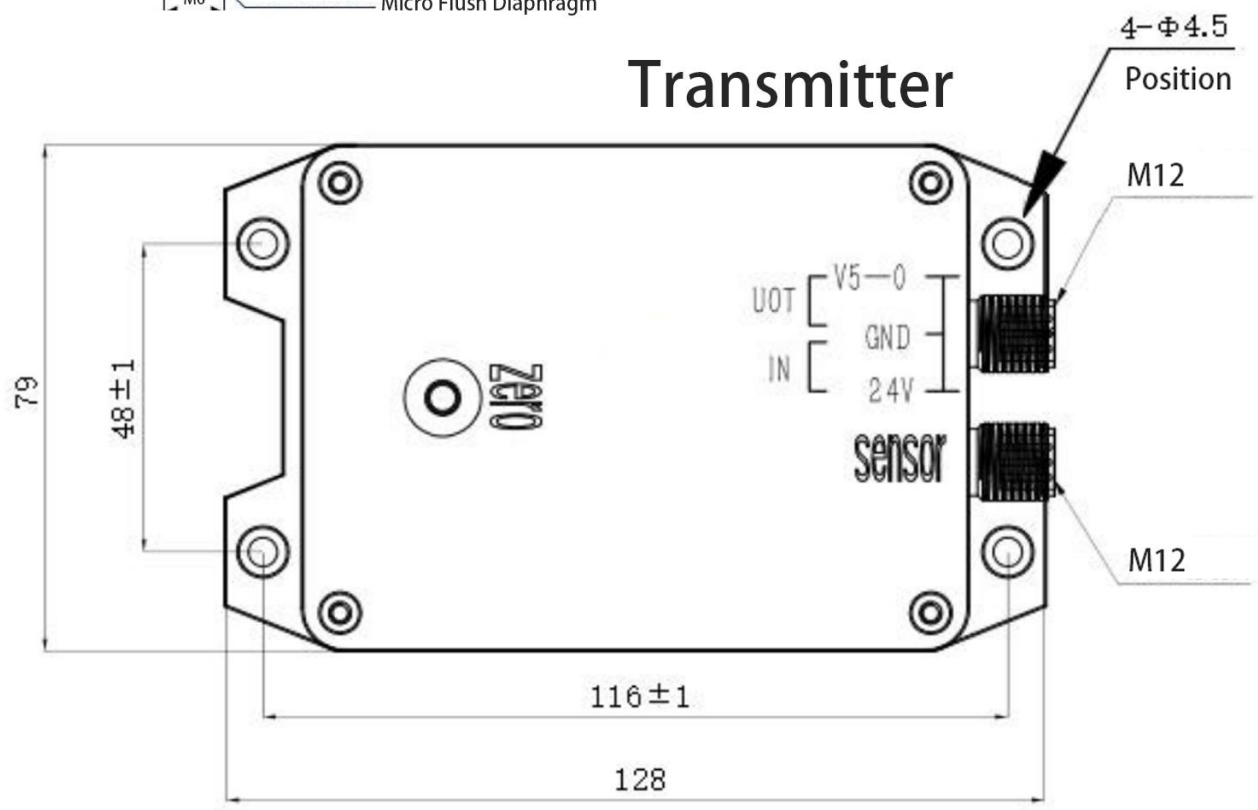
Applications

- Rubber Injection Machine
- Glue Valve
- Injection Molding Machine
- Injection Molding Machine (Repeated)
- Robot

Sensor



Transmitter



Length 128mm x Width 79mm x Height 30mm

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Standard pressure ranges

Standard Ranges

Measuring Method	Range (psi)	Range (Bar)	Gage	Sealed	Absolute	Compound	
Metal Thin-film pressure sensor or Micro-fused pressure sensor (Relative pressure)	-14.5 to +14.5	-1 to +1	•				
	0 to 150	0 to 10	•				
	0 to 300	0 to 20	•			•	
	0 to 600	0 to 40	•			•	
	0 to 1200	0 to 80	•			•	
	0 to 1500	0 to 100	•			•	
	0 to 2250	0 to 150	•			•	
	0 to 3000	0 to 200	•			•	
	0 to 5000	0 to 350	•			•	
	0 to 7500	0 to 500	•			•	
	0 to 10000	0 to 700	•			•	
	0 to 15000	**0 to 1000**	•			•	•S
	0 to 22000	**0 to 1500**	•			•	•S
	0 to 35000	**0 to 2500**	•			•	•S
	Consult manufacture to custom order,•S						

Performance

Pressure

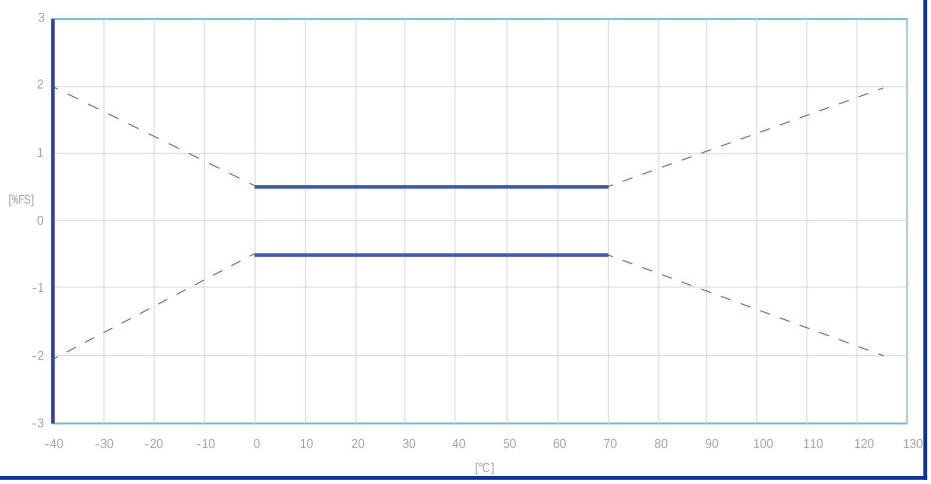
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Accuracy (Combined Non-linearity, hysteresis, and repeatability)	-0.5	±0.25	0.5	%F.S. BFSL	@ 25°C
Zero Error	-0.5	±0.5	0.5	%F.S. BFSL	@25℃
Full Scale Error	-0.5	±0.5	0.5	%F.S. BFSL	@25℃
Isolation, Body to any Lead	100			MΩ	@250VDC
Dielectric Strength			2	mA	@500VAC, 1min
Pressure Cycles	$1X10^7$			0~FS Cycles	
Proof Pressure	1.2 X				Rated
Burst Pressure	2X		20k psi		Rated
Long Term Stability (1 year)	-0.25		0.25	%F.S.	
Total Error Band	-1.5	±1.0	1.5	%F.S.	Over compensated temperature range
Operating Temperature	-40		+125	°C	Except cable 105°C MAX
Storage Temperature	-40		+125	°C	Except cable 105°C MAX
Load Resistance (RL)	RL > 100k			Ω	Voltage Output
Load Resistance (RL)	< (Supply Voltage -9V) / 0.02A			Ω	Current Output
Current Consumption			10	mA	Voltage Output
Rise Time (10% to 90%)	<2ms (Voltage Output); <3ms (Current Output); Without Snubber				
Pressure Port Material	316L				
Shock	50g, 11msec Half Sine Shock per MIL-STD-202G, Method 213B, Condition A				
Vibration	±20g, MIL-STD-810C, Procedure 514.2-2, Curve L				

Total error band

The graph opposite shows the maximum deviation across the entire medium temperature range (-20…125 °C, optional: -40…125 °C).

Within the compensated pressure and temperature range, the total error has a maximum value of 0,5 %FS (0…70 °C)

Experience shows that outside the compensated temperature range, total error increases linearly by 0,04 %FS/K.



Series VTST201 – Specifications

CODE	OUTPUT SIGNAL	SUPPLYVOLTAGE
	0.5-4.5V	5±0.25V
1	Ratiometric	Protected to 16V
2	1-5V	8-36V
3	4-20mA	9-36V
4	0-5V	8-36V
5	0-10V	13-36V
6	1-6V	8-36V
7	0.5-4.5V	7.5-36V

CODE	CONNECTION TYPE	DIM C (MAX)
1	Cable	1.97 [50.0]
2	Packard A	2.10 [53.5]
3	Packard B	2.10 [53.5]
4	M12	1.71 [43,5]
5	FORMA	1.93 [49.0]
6	FORM C	1.97 [50.0]
7	AMP	2.52 [64.0]

CODE	PRESSURE PORT TYPE
	PORT
1	G1/4 JIS B2351
2	M5
3	M6
4	M8
5	M14x1.5 mm ISO 6149-2
6	1/8-27 NPT
7	M12×1.5 mm ISO 6149-2
8	M10x1.0 mm ISO 6149-2
9	G1/4 DIN 3852 FORME GASKETDIN3869-14 NBR

The following wiring definition is commonly used in Mainland China and will need to be determined individually with the European, the UK and the US cusotmers.

CURRENT OUTPUT WIRING				
CONNECTION	+SUPPLY	-SUPPLY	NC. PINS	P REF VENT
Packard, A	A	B	C	
Packard, B	B	A	C	
FORM A	1	2	3,4	
M12	1	2	3,4	Hole Through Connector
CABLE	RED	BLK		Pipe In Cable

VOLTAGE OUTPUT WIRING					
CONNECTION	+SUPPLY	+OUTPOT	COMMON	NC. PINS	P REF VENT
Packard, A	A	C	B		
Packard, B	B	C	A		
FORM A	1	3	2	4	
M12	1	3	2	4	Hole Through Connector
CABLE	RED	WHT	BLK		Pipe In Cable

Compensated Temperature:
This is the temperature range within which the product will produce an output proportional to pressure, while remaining within the specified performance limits.

Operating Temperature:
This is the temperature range within which the product will produce an output proportional to pressure, but it may not remain within the specified performance limits.

Storage Temperature:
This is the temperature range within which the product can be safely stored without pressure applied or power input, while still maintaining its rated performance. Exposure to temperatures beyond this range may cause permanent damage to the product.

All configurations are designed with protection against reverse supply voltage and output short circuits.

CE Compliance (just for reference)

EN 55022 Emissions Class A & B
IEC 61000-4-2 Electrostatic Discharge Immunity (8kV contact/15kV air)
IEC 61000-4-3 Radiated, Radio-Frequency Electromagnetic Field Immunity (10V/m, 80M-1GHz)
IEC 61000-4-4 Electrical Fast Transient Immunity (1kV)
IEC 61000-4-5 Surge Immunity (V+ to V-: ±2KV/42Ω; L to Case: ±1KV/12Ω; V- to V0: ±1KV/42Ω)
IEC 61000-4-6 Immunity to Conducted Disturbances Induced by Radio Frequency
Fields (150K~80MHz, 10V level for voltage output models, 3V level for current output model)
IEC 61000-4-9 Pulse Magnetic Field Immunity (100A/m peak)
For all CE compliance tests, max allowed output deviation ±1.5 %F.S.（Just Factory Testing)

Weather-Proof Rating

Connection	P Code
Packard A / B	IP66
Cable	IP67
M12	IP67
Form A	IP65
Form C	IP66
AMP	IP66

Mechanical data

Materials in contact with media

Pressure connection	Stainless steel 17-4 PH
Pressure transducer diaphragm	Stainless steel SUS 316L
Pressure transducer seal (internal)	None
Pressure connection seal (external)	None, metallically sealed

Electrical connections

Round plug	2-wire		3-wire		**Valve plug**	2-wire		3-wire	
M12 × 1	4…20 mA		0…10 V		Form A	4…20 mA		0…10 V	
	1	+Vs	1	+Vs		1	n.c.	1	GND
	2	n.c.	2	n.c.		2	OUT/GND	2	+OUT
	3	OUT/GND	3	+OUT		3	+Vs	3	+Vs
	4	n.c.	4	GND		⏚	Case	⏚	Case

Series VTST201 – Ordering Information

Example	**VTST201-5-1-1-0-2-3-10BG**	**VTST201**	**5**	**1**	**1**	**0**	**2**	**3**	**10B**	**G**
Model Code VTST201 Pressure Transducer											
Output	1	0.5-4.5V RATIOMETRIC									
	2	1-5V									
	3	4-20mA									
	4	0-5V									
	5	0-10V									
	6	1-6V									
	7	0.5-4.5V									
	x	Customization									
Connection	1	Cable									
	2	Packard A									
	3	Packard B									
	4	M12									
	5	FORM A									
	6	FORM C									
	7	AMP									
	8	Customization									
Port Material	1	316L									
	2	17-4 Integral Screw									
	X	Customization									
Snubber	0	No Snubber									
	1	With Snubber									
Label	0	No Label (OEM)									
	1	AdhesiveLabel									
	2	Laser Marking									
Pressure Port	1	G1/4 JIS B2351									
	2	M5									
	3	M6									
	4	M8									
	5	M14 x 1.5									
	6	1/8-27 NPT									
	7	M12 x 1.5									
	8	M10 x 1.0									
	9	G1/4 DIN 3852									
	A	G3/8 JIS B2351									
	X	Customer Specia									
Pressure Range	B	Bar									
	M	Mpa									
	P	PSI									
	K	Kpa									
Pressure Type	G	Gauge									
	S	Sealed (>500PSI)									
	C	Compound									