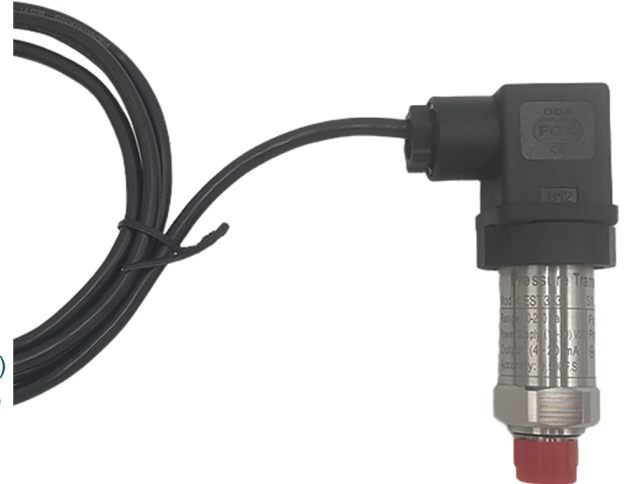


# EST380 Thin-Film Heat-resistant Pressure Transmitter

[Thin-Film Sputtering]

- ✓ **Pressure Type:** Gauge/Seal gauge/Differential Pressure
- ✓ **Working Temperature:** -40°C~150°C
- ✓ **Temperature Compensation:** -20°C -10°C-0°C~120°C
- ✓ **Sensing:** Thin Film Sputtering
- ✓ **Burst Pressure:** 3X-10X
- ✓ **Structure:** All-Welded, No O-rings, No Fluid Filled
- ✓ **Range:** 0~0.4MPa~200MPa; (0~4bar~2000bar)
- ✓ **Accuracy:**  $\pm 0.1\%$ F.S,  $\pm 0.25\%$ F.S,  $\pm 0.5\%$ F.S  
【including non-linearity+ repeatability+ hysteresis】
- ✓ **Stability:** 0.25%F.S/Year(typical), 0.4%F.S/Year(maximum)
- ✓ **Signal Output:** 4~20mA, 0~10/20mA, 0/5~10V, I2C/RS485
- ✓ **Power supply:** 3.3V/12~30Vdc



## Applications

Construction Machinery | Automobile engines | High-pressure common-rail engine | Hot and Cold environment | Deep well hydraulic detection | Boiler pressure detection | Natural gas storage equipment | Hydraulic lubrication | Pneumatics

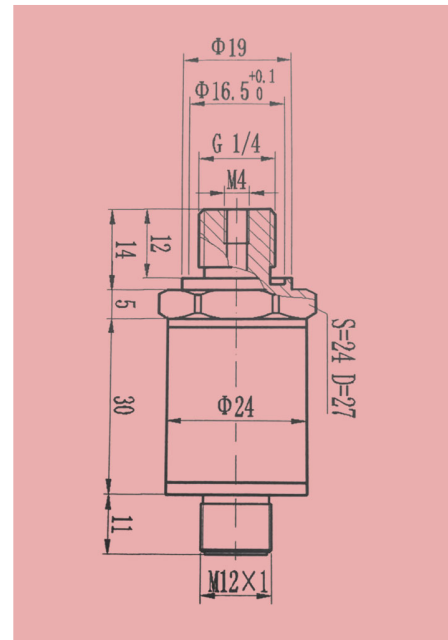
## Product Introduction

EST380 series pressure transmitter is a **rod-shaped mini pressure transmitter**. It uses a highly reliable **metal sputtered thin film core** as the sensitive core, and after temperature compensation, digital circuit correction and signal conditioning, it outputs standard industrial application and network signals. The medium measurement part is made of **17-4PH elastic stainless steel**, which has good resistance to media performance.

EST380 is sputter thin film type pressure transmitter, that features heat-resistance (**-40~150°C or even 200°C**), wide range and high accuracy(**0.1%-0.25%/FS**). It includes protective circuits that feature pressure peak damping and load-dump protection, and it is resistant to EMV stability reverse voltage. It is calibrated electronically, ensuring its readings have minimal total error and are reliable over time.

For EST380, the hermetically sealed thin film measuring cell contributes to its long-term resistance to leakage and stability (**no oil fluid filled**). Its stainless-steel membrane, which is vacuum-sealed and highly burst-resistant, suits all standard media in various fields (**hydraulics, pneumatics, environmental and process technologies, semi-conductor technologies, and automotive engineering**), given their compatibility with stainless steel.

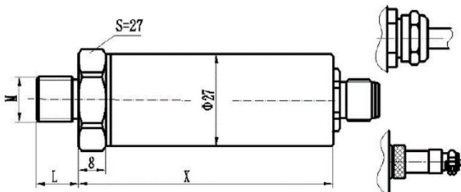
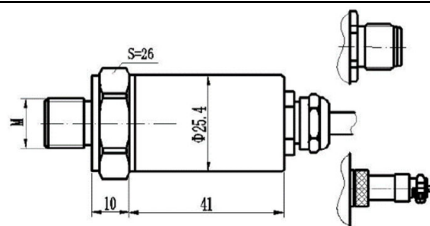
It chiefly serves standard applications in hydraulics and other sectors. Given its high accuracy (**0.1% | 0.25% | 0.5%**) and robust structure (**no O-Ring**), compact design (**short size  $\pm 60\text{mm}$** ), it is versatile for many industrial uses. You can select from a different pressure range of pressure transmitters (**0-4bar; 0-10bar, 0-500bar, 0-1000bar, 0-2000bar or more**) thanks to the combination of different mechanical and electronic connections.

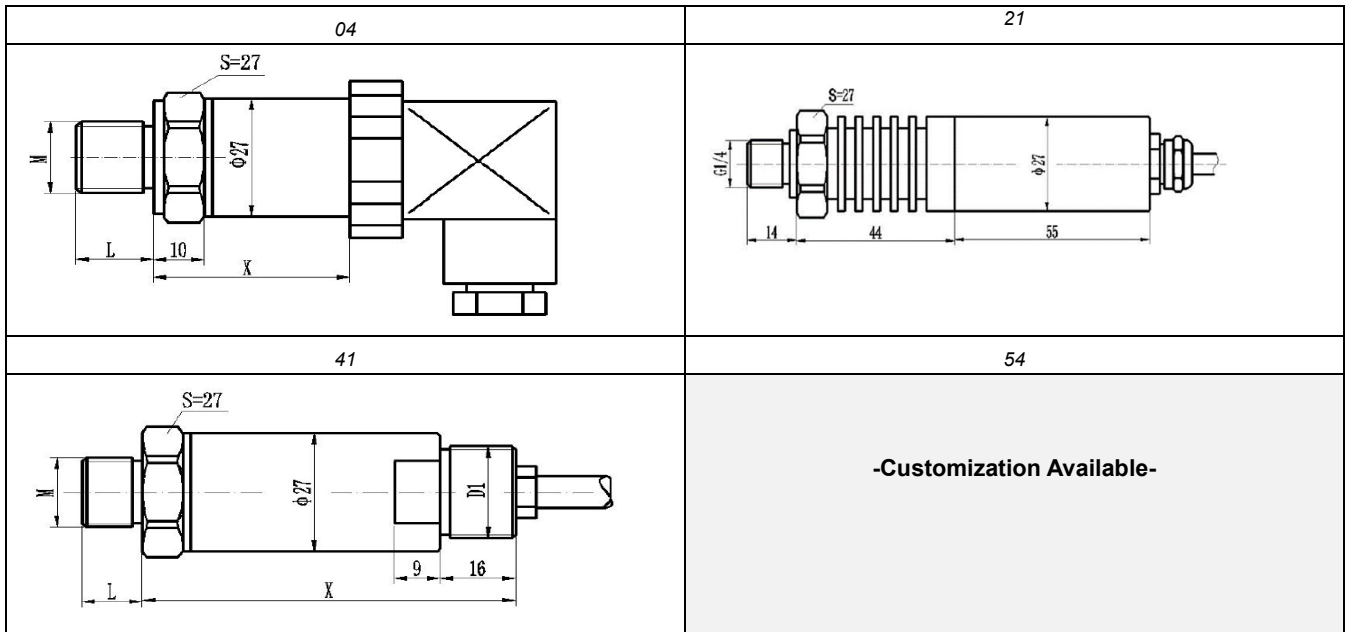


## Electrical Connections and Dimensional Drawings

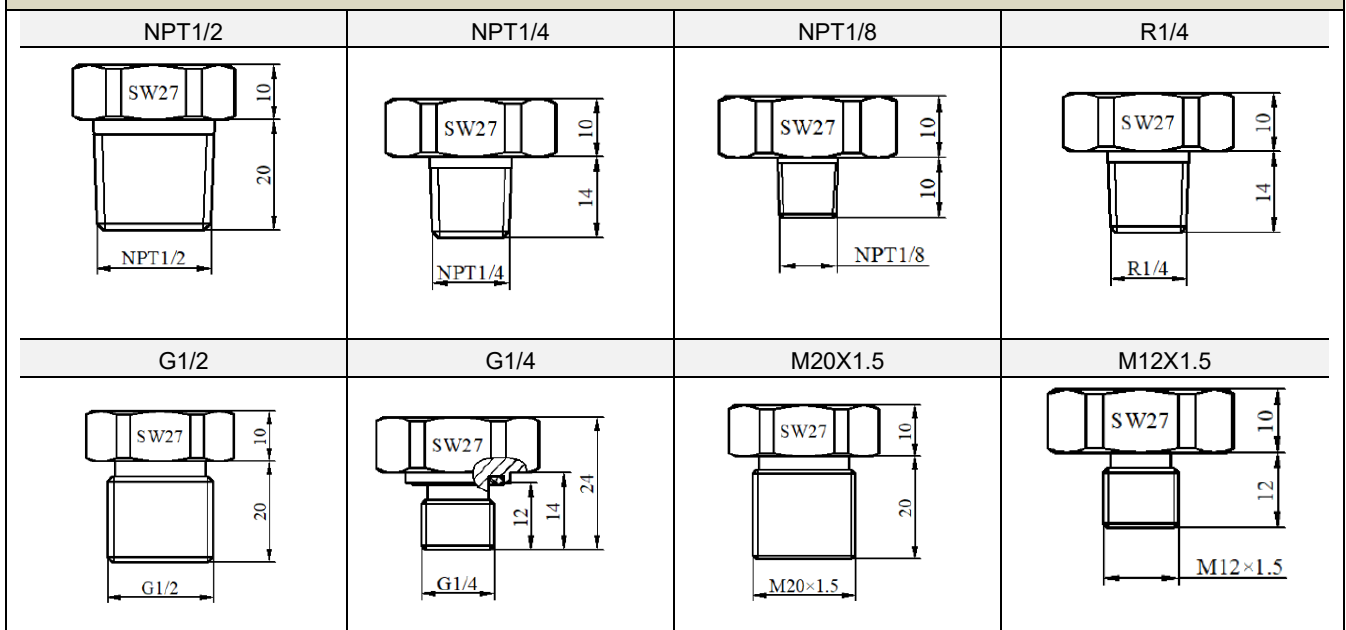
Electrical Specification			
Current Type(2-wire)	4-20mA	12V-30VDC	
Voltage Type (3-wire)	0-5V	6V-24VDC	
	0-10V	12V-30VDC	
I2C(4-wire)	I2C	3.3V-5VDC	
RS485 (4-wire)	RS485	5V-30VDC	
<b>Load resistance( R):</b> Current type(2-wire); $R \leq (U-10)/0.02-RD$ (U: power voltage; RD: Internal resistance of cable)			
<b>Current consumption:</b>			
<ul style="list-style-type: none"> <li>Current type(2-wire): &lt; 23mA</li> <li>Voltage type (3-wire): &lt; 5mA</li> </ul>	<ul style="list-style-type: none"> <li>I2C(4-wire): &lt; 1.3mA (Optional Low Consumption: &lt; 5 μ A )</li> <li>RS485 (4-wire): &lt; 5mA (low consumption 1.1mA)</li> </ul>		
Precision Specification			
Reference Accuracy (°C.)	0.1	0.25	0.5
Non-linearity	<=0.1%	<=0.2%	<=0.4%
Hysteresis	<=0.05%	<=0.05%	<=0.1%
Repeatability	<=0.05%	<=0.05%	<=0.1%
Long-term Stability (%FS)	<=0.1%	<=0.2%	<=0.5%
	Including Linearity Hysteresis+ Repeatability from zero; Square root output accuracy=1.5X of the linear		
Temperature. Drift @ Zero	<=0.01%	<=0.03%	<=0.05%
Sensitivity. Drift @ Zero	<=0.01%	<=0.03%	<=0.05%
Reference Temperature: 20~25 °C; relative humidity: 45%RH~75%RH; Voltage: 24V±0.24V; 5V±0.05V			
Environment & Working Conditions			
Compensation Temperature	0°C~+100°C (≤default) , -20°C~120°C (optional)		
Medium Temperature	-40°C~+150°C (regular type) /-40°C~+200°C(with heat radiator)		
Environment Temperature	-40°C~+85°C		
Storage Temperature	-40°C~+125°C		
<b>Note:</b>			
① When the pressure transmitter is operating normally, the medium being measured must not solidify or partially solidify.			
② The specially customized sputtering thin-film sensor part can operate in ultra-low temperature environments of -196 °C or high temperature environments above 150 °C.			
Ingress Protection	IP66		
Atmospheric Pressure	86kPa~106kPa		
Vibration	20g (@10Hz~2000Hz)		
Shock	100g/11ms		
Life-Span/usage	>10 million load cycles (within the measuring range)		

## Structure Size Outline Dimension (mm)

The image below shows the typical product structure. For other shapes and structures, please contact us for customization.	
01	02
	



**Process Connection Thread Data**



Thread Type	Length		Thread Type	Length		Thread Type	Length
M22X1.5	15mm		NPT1/2	18mm		G1/2	15mm
M20X1.5	15mm		NPT3/8	18mm		G3/8	15mm
M18X1.5	15mm		NPT1/4	15mm		G1/4	15mm
M16X1.5	15mm		NPT1/8	15mm		G1/8	12mm
M14X1.5	15mm		PT1/2	15mm		GSP1/2	15mm
M12X1.	15mm		PT3/8	15mm		GSP3/8	15mm
M10X1	12mm		PT1/4	12mm		GSP1/4	15mm
M8 X1	12mm		PT1/8	12mm		GSP1/8	12mm

## Electrical Connection

DIN43650	Terminals	Current (2-wire)	Voltage (3-wire)	IIC(4-wire)	RS485(4-wire)
	1	Vcc	Vcc	Vcc	Vcc
	2	Iout	GND	GND	GND
	3	/	Vout	SCL	RS485A
	⊕	PE	PE	SDA	RS485B
Aviation Plug	Terminals	Current (2-wire)	Voltage (3-wire)	IIC(4-wire)	RS485(4-wire)
	1	Vcc	Vcc	Vcc	Vcc
	2	Iout	GND	GND	GND
	3	PE	Vout	SCL	RS485A
	4	/	PE	SDA	RS485B
Industry Terminals Connection	Terminals	Current (2-wire)	Voltage (3-wire)	IIC(4-wire)	RS485(4-wire)
	Black	PE	PE	PE	PE

## Ordering Procedure

EST	Heat-resistant Pressure Transmitter									
	Code	Model								
	380G	Universal								
	380C	With Display								
		Cod	Span							
		1	0~0.4...150Mpa							
		2	0~0.4...200MPa							
		Code	Output Type							
		A	4~20mA							
		A1	0~5V /0.5-4.5V							
		A2	0~10V							
		V	I2C							
		V2	RS485							
		Code	Precision							
		0.1	±0.1%F.S							
		0.25	±0.25%F.S							
		0.5	±0.5%F.S							
		Code	Power Supply							
		DC11	3.3~5 Vdc							
		DC12	8~30 Vdc							
		Code	Pressure connections							
		M	M20 x 1.5							
		G2	G1/2							
		G	G1/4							
		N2	NPT1/2							
		N	NPT1/4							
		R	R1/2							
		Code	Electrical Connections							
		H	DIN43650A							
		GX	GX16-7							
		C	Waterproof wire jacket connection							
		CW	Waterproof cable conduit connections							
		P	Packard							
		Code	Cable length XXm=... m							
			Code	Packing						
			Bb	Bubble bag						
			Foa	Plastics foam						
EST	380G	1	A	0.25	DC12	G	C	1.5m	Bb	