

General Specifications and Datasheet

EST3140 Ceramic Piezo-Resistive- GSD-EV03.3.3

Measuring your business

EST3140 Pressure Transducer for AC/Refrigerant

- ✓ Sensing Element: Ceramic Piezo-Resistive (Thick Film)
- ✓ Pressure type: Gauge
- ✓ Range: -1-1bar...50bar
- ✓ Accuracy: $\pm 0.5\%$ F.S
- ✓ Stability: 0.5%F.S/Year(typical),
- ✓ Working Temperature: -40-125°C
- ✓ Compensation Temperature: -10-70°C
- ✓ Signal Output: 4~20mA, 0.5~4.5V
- ✓ Power supply: 8~45Vdc, 5V(Ratio)
- ✓ Electrical Connection: Packard
- ✓ Process Connection: 7-16 20UNF
- ✓ OEM: Available



Applications

Compressor | Air conditioning unit | Refrigeration equipment

Product Introduction

EST3140 is Ceramic Thick Film Piezo-resistive on Al₂O₃ 96%, the compact design and easy to install features make it widely used for water-cooled screw units, ground source heat pumps, freezers, chillers, ice machines, etc. Its unique anti-condensation design also plays a pressure protection role for the safe and efficient operation of the equipment.

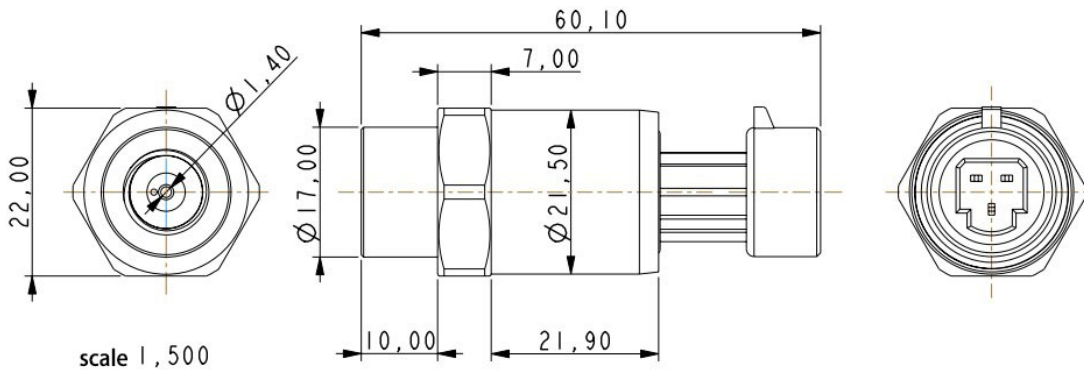
Electrical Connections and Dimensional Drawings

Electrical Specification				
Current Type(2-wire)	4-20mA	11V-36VDC	Resistive Load	$\leq 50(U-11)$
Voltage Type (3-wire)	0-5V	6V-36VDC		$> 10k$
I2C(4-wire)	I2C	3.0V-5.5VDC		$> 10k$
Load resistance(Ω): Current type(2-wire); $R \leq (U-11)/0.02-RD$ (U: power voltage; RD: Internal resistance of cable)				
Current consumption:				
<ul style="list-style-type: none"> ● Current type(2-wire): $< 23mA$ ● Voltage type (3-wire): $< 5mA$ 		<ul style="list-style-type: none"> ● I2C(4-wire): $< 1.3mA$ (Optional Low Consumption: $< 5 \mu A$) 		
Accuracy Specification				
Reference Accuracy (°C.)	0.5			
Non-linearity	$\leq 0.4\%$			
Hysteresis	$\leq 0.1\%$			
Repeatability	$\leq 0.1\%$			
Long-term Stability (%FS)	$\leq 0.5\%$			

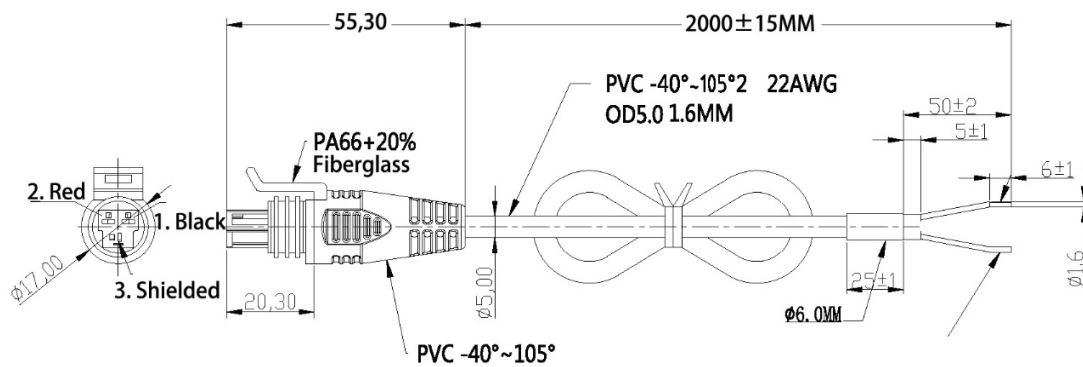
	<i>Including Linearity Hysteresis+ Repeatability from zero; Square root output accuracy=1.5X of the linear</i>	
Temperature. Drift @ Zero	<=0.03%	<=0.05% (typical)
Sensitivity. Drift @ Zero	<=0.03%	<=0.05%(typical)
	Reference Temperature: 20~25 °C; relative humidity: 45%RH~75%RH; Voltage: 24V±0.24V; 5V±0.05V	
Environment & Working Conditions		
Compensation Temperature	-10°C~70°C; -40°C~85°C (optional)	
Measuring Temperature	-40°C~+85°C	
Storage Temperature	-40°C~+125°C	
	<i>Note: The medium under test freezing can cause irreparable damage to the product; when the pressure transmitter is working normally, the medium under test should not solidify.</i>	
Electrical Connection	Packard	
Process Connection	7/16-20UNF	
Ingress Protection	IP65 (IP67)	
Insulation	>100MΩ @250VDC	
Atmospheric Pressure	86kPa~106kPa	
Vibration	10gRMS, (@20Hz~2000Hz)	
Shock	100g/11ms	
Response time	<1ms (@ 90%FS)	
Life-Span/usage	>10 million load cycles (within the measuring range)	

Structure Size Outline Dimension (mm)

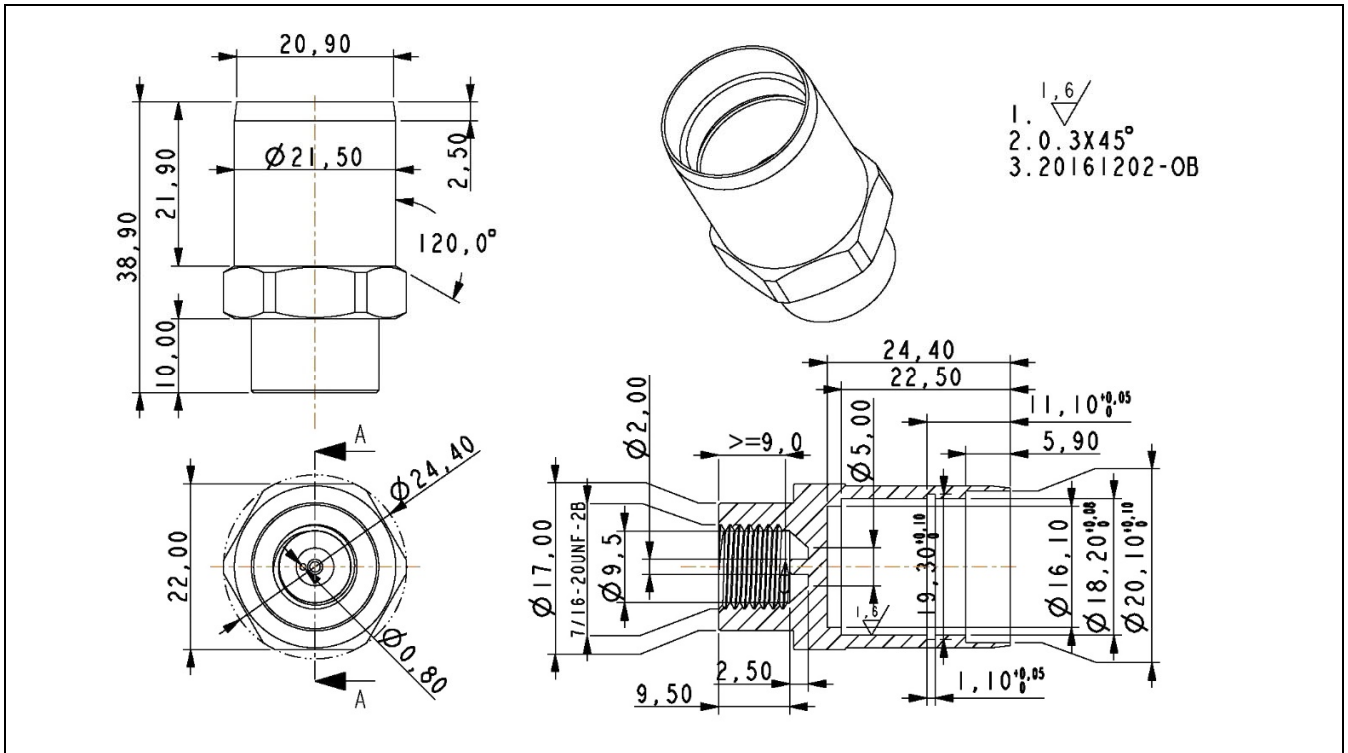
The image below shows the typical product structure. For other shapes and structures, please contact us for customization.



Material & dimension for wires/cable



Section View

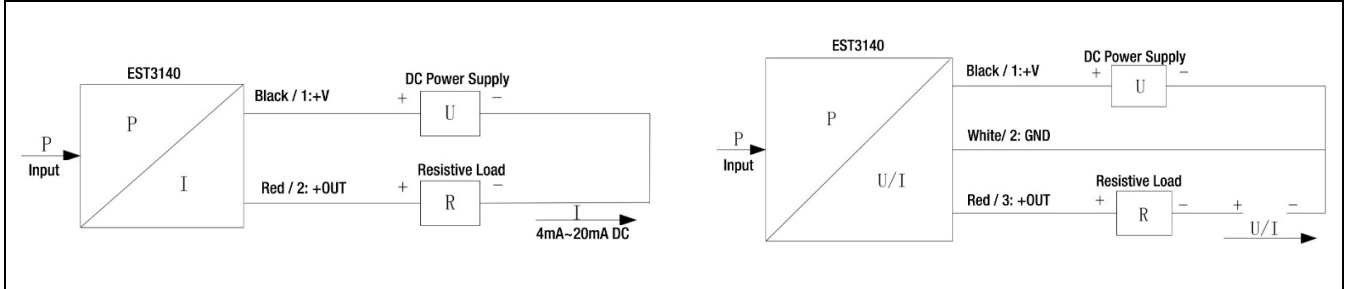


Electrical Connection

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)
	1	PE	PE	SDA	RS485B
	2	/	Vout	SCL	RS485A
	3	Iout	GND	GND	GND
	4	Vcc	Vcc	Vcc	Vcc
Direct Cable	Colors	Current (2-wire)	Voltage (3-wire)	IIC(4-wire)	RS485(4-wire)
	Red	Vcc	Vcc	Vcc	Vcc
	Green	Iout	GND	GND	GND

	Yellow	/	Vout	SCL	RS485A
	Blue	/	/	SDA	RS485B
	Black	PE	PE	PE	PE

The typical electrical connection



Ordering Procedure

EST3140	Ceramic Piezoresistive Pressure Transmitter (Thick Film)					
	Cod	Pressure Type				
	G	Gauge Pressure				
		Code	Power Supply			
		P1	3.0-5.5VDC			
		P2	6-36VDC			
		P3	11-36VDC			
		P5	Others			
			Cod	Output Signal		
			D	I2C		
			C	4mA~20mA		
			V3	0V~5V		
			V4	0.5-4.5V		
			Code	Electrical Connections		
			L2	Packard		
				Code	Process Connections	
				01	7/16-20UNF	
				11	Others (please indicate)	
				Code	Cable Length	
				0.5	0.5m	
				1	1m	
				2	2m	

EST340	G	P1	C	L3	01	Fa
<ul style="list-style-type: none"> ➤ When choosing a product, please pay attention to the compatibility between the tested medium and the casing. For media compatibility issues, you can consult our company. ➤ When choosing a digital display product, the working environment temperature range for the display header is -30 ℃ to 60 ℃, and the product power supply should not be less than 15VDC. ➤ Sealing measures are adopted at the interface connection to prevent pressurized liquid leakage, causing pollution or accidents. ➤ When used in flammable and explosive, and other dangerous environments, install safety isolation grills as required, and cable wiring needs to be sealed and reliable. <p>Tighten the wiring box cover before powering it to ensure that the inner cavity of the wiring box is isolated from the environment.</p>						