

Miniature Pressure Sensor for Harsh Environment



Features

- ➔ Available with 0,5-4,5Vdc output
- ➔ Operating from -40 to +140°C
- ➔ Designed for harsh environment
- ➔ Large Bandwidth

Applications

- ➔ Automotive - on vehicle
- ➔ Aerospace
- ➔ Military
- ➔ Test benches

PHE120 is designed to operate in the harshest environments, including wide operating temperature, mechanical shocks and vibrations. It is well adapted to embedded measurements, on vehicles, aircrafts, satellites, robots or missiles. With pressure ranges available from -1 up to 400 bar, absolute or gage, its all stainless steel construction makes it usable with most fluids used in industry, even corrosive ones. The PHE120 is manufactured with the ruggedized and EFE proprietary sensitive elements. Its manufacturing process, including traceable controls and special burn-in, gives the best insurance of high performance and stability in the most challenging applications. Its small package and low mass make it very adapted to application where space is at a premium.

Technical specifications

Pressure ranges (FS)	± 1 bar ; -1/+2bar ; -1/+3bar ; 2bar ; 5bar ; 10bar ; 20bar ; 40bar ; 70bar ; 250bar ; 400bar ; ± 14.5 PSI ; -14.5/+30PSI ; -14.5/+40PSI ; 30PSI ; 70PSI ; 150PSI ; 300PSI ; 500PSI ; 1000PSI ; 3000PSI ; 5000PSI
Type	Absolute ; Gage
Type (for ranges > 40 bar)	Sealed Gage
Safe overload	150% FS
Burst pressure	300% FS
Power supply	8 to 16Vdc
Consumption	< 10mA
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Output at -100%FS (only for $\pm$ range)	0.5Vdc
Output at 0%FS (except ranges $\pm$)	0.5Vdc
Output at 100%FS	4.5Vdc
Zero and sensitivity settings tolerances	± 50 mV

Technical Specifications

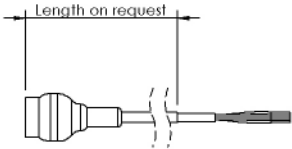
Non linearity and hysteresis combined	$\pm 0.25\%$ FS Option : $\pm 0.1\%$ FS
Non repeatability	$\pm 0.02\%$ FS typ.
Signal bandwidth	1000Hz @ -3dB Option : Special Adjustment up to 3000Hz @ -3dB
Compensated temperature range	-40 to +125°C Option : -40 to +140°C
Operating temperature range	-40 to +140°C
Combined thermal zero & sensitivity shifts	$\pm 0.02\%$ FS/°C Option : $\pm 0.01\%$ FS/°C
Constant acceleration in linear vibrations	$\pm 0.02\%$ FS/g (frequency 20-2000Hz, 50g max.)
Mechanical shock	100g ½ sinus 1ms
Electrical protection	Protected against polarity inversion
EMC protection	Compliant to EN61000
Electrical connection	AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires Option : Miniature Receptacle 4 pins CMR-S1-E-04P
Mechanical connection	M10x1-4h male ; M5x0.8-6g male Option : M8x1-6g male
Material(s) of wetted parts	Stainless Steel 316L ; Stainless Steel 17-4PH ; Stainless steel 15-5PH
Weight	10g without cable
Enclosure protection	IP65 for absolute & sealed gage version

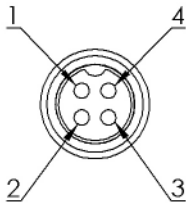
Codification

Miniature Pressure Sensor for Harsh Environment	PHE12	7	S	20bar	A	02	06	D	1	1	B
Output Signal											
0.5-4.5Vdc unregulated power supply		7									
Material											
Stainless Steels			S								
Range											
Example				20bar							
Type											
Absolute					A						
Gage					G						
Sealed Gage					SG						
Mechanical connection											
M10x1-4h male						02					
M8x1-6g male						03					
M5x0.8-6g male						05					
Electrical connection											
Miniature Receptacle 4 pins CMR-S1-E-04P							06				
AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires							08/1m				
Compensated temperature range											
-40 to +125°C								D			
-40 to +140°C								F			
Non linearity and hysteresis combined											
±0.25% FS									1		
±0.1% FS									2		
Combined thermal zero & sensitivity shifts											
±0.02% FS/°C									1		
±0.01% FS/°C									2		
Options											
Special Adjustment up to 3000Hz @ -3dB											B



Dimensions : mm

	#26 AWG, 4 CONDUCTOR SHIELDED VITON CABLE		
	VOLTAGE OUTPUT	CONDUCTOR	
	+ EXCITATION	RED	
	+ SIGNAL	GREEN / YELLOW	
	NC	WHITE	
	0 VOLT	BLUE / BLACK	
	SENSOR HOUSING	SHIELD	

	MICROTECH DR-4S-4H - 4 PINS		
	VOLTAGE OUTPUT	PIN	
	+ EXCITATION	PIN 1	
	NC	PIN 4	
	0 VOLT	PIN 2	
	+ SIGNAL	PIN 3	
	SENSOR HOUSING	CONNECTOR HOUSING	

Agent :



E.F.E.

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