

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)	$\pm 1\text{bar}$; $-1/+2\text{bar}$; $-1/+3\text{bar}$; 2bar ; 5bar ; 10bar ; 20bar ; 40bar ; 70bar ; 250bar ; 400bar ; $\pm 14.5\text{PSI}$; $-14.5/+30\text{PSI}$; $-14.5/+40\text{PSI}$; 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
Output impedance	> 3000 Ohms typ.
Input impedance	> 3500 Ohms typ.
Power supply	5 to 15Vdc
Consumption	< 10mA
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Output at -100%FS (only for $\pm$ range)	Proportional to +100%FS
Output at 0%FS	0mV/V

Technical Specifications

Output at 100%FS	1.5mV/V nom.
Zero and sensitivity settings tolerances	±3% FS
Non linearity and hysteresis combined	±0.25% FS typical (±0.35% FS max.)
Non repeatability	±0.02% FS typ.
Compensated temperature range	-40 to +125°C Option : -40 to +140°C
Operating temperature range	-40 to +140°C
Combined thermal zero & sensitivity shifts	±0.02% FS/°C Option : ±0.01% FS/°C
Constant acceleration in linear vibrations	± 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

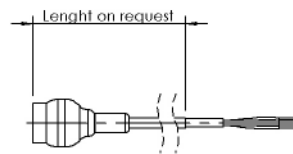
Miniature Pressure Sensor for Harsh Environment	PHE12	1	S	20bar	A	02	06	D	3	1	
Output Signal											
mV/V		1									
Material											
Stainless Steels			S								
Range											
Example				20bar							
Type											
Absolute					A						
Gage					G						
Sealed Gage					SG						
Mechanical 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 typical (±0.35% FS max.)									3		
Combined thermal zero & sensitivity shifts											
±0.02% FS/°C										1	
±0.01% FS/°C										2	



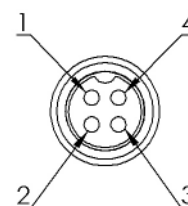
Dimensions : mm

**#26 AWG, 4 CONDUCTOR SHIELDED VITON CABLE**

mV/V OUTPUT	CONDUCTOR
+ EXCITATION	RED
+ SIGNAL	GREEN / YELLOW
- SIGNAL	WHITE
- EXCITATION	BLUE / BLACK
SENSOR HOUSING	SHIELD

**MICROTECH DR-4S-4H - 4 PINS**

mV/V OUTPUT	PIN
+ EXCITATION	PIN 1
+ SIGNAL	PIN 4
- SIGNAL	PIN 2
- EXCITATION	PIN 3
SENSOR HOUSING	CONNECTOR HOUSING



Agent :



E.F.E.

L'ESSOR FRANCAIS ELECTRONIQUE

16 Rue Porte a Bateaux - 27540 Ivry-la-Bataille - FRANCE

Tel : 33 (0)2 32 22 35 05 - Fax : 33 (0)2 32 36 93 08

www.efc-sensor.com - infos@efc-sensor.com