

Miniature Pressure Sensor for Harsh Environment



Features

- ➔ Available with 0,5-4,5Vdc output
- ➔ Low thermal shifts
- ➔ Miniature pressure sensor
- ➔ Large Bandwidth

Applications

- ➔ Automotive - on vehicle
- ➔ Military
- ➔ Test benches
- ➔ Automation & Robotics

PHE160 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 250 bar, absolute or gage, its all stainless steel construction makes it usable with most fluids used in industry, even corrosive ones. The PHE160 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

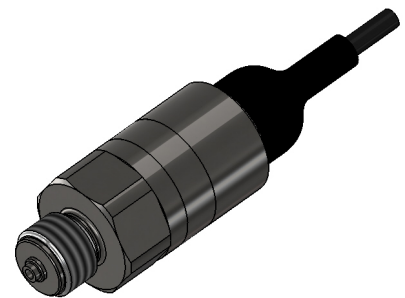
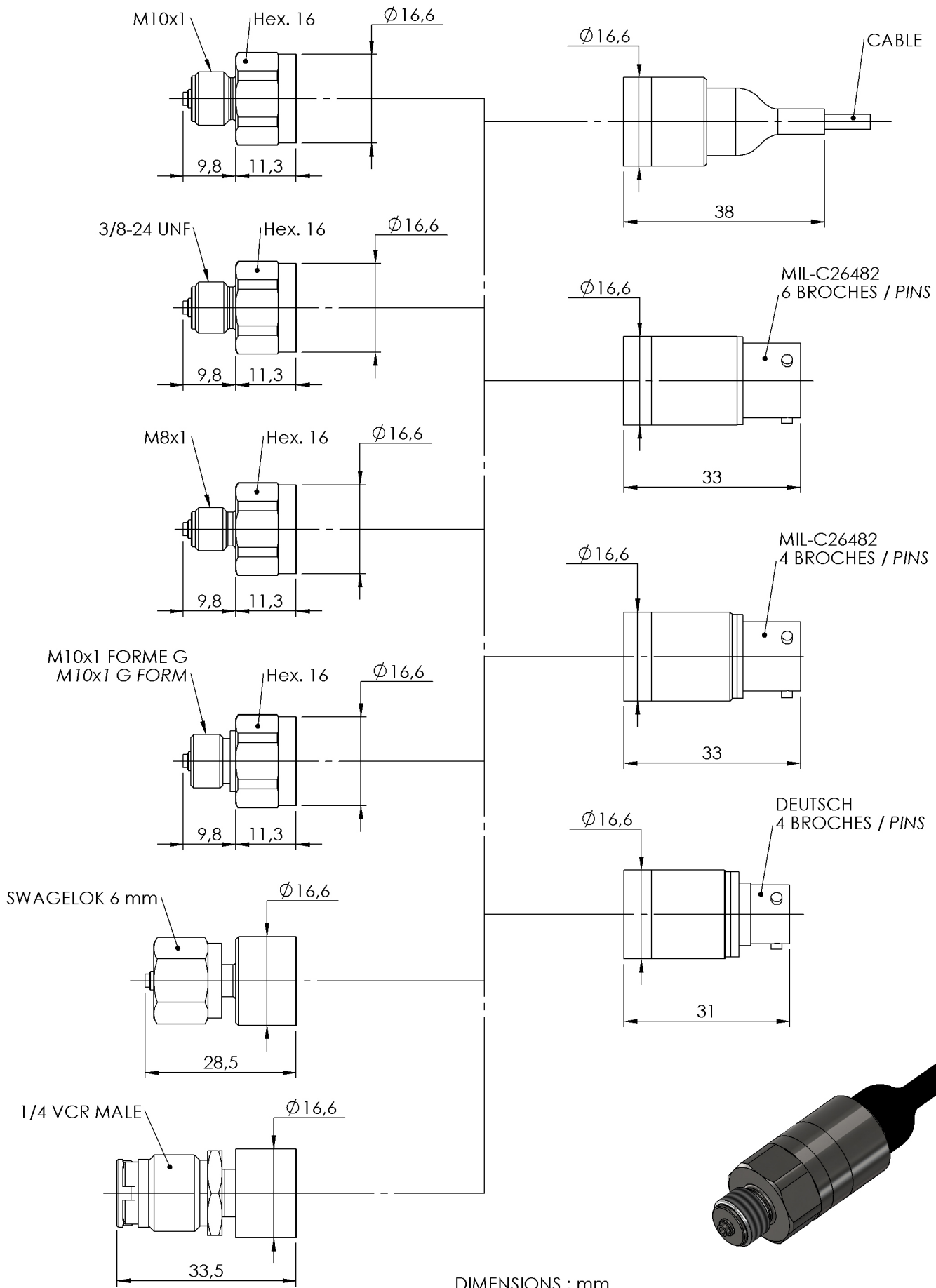
Pressure ranges (FS)	-1/+2bar ; -1/+3bar ; -1/+4bar ; 5bar ; 10bar ; 20bar ; 40bar ; 100bar ; 250bar ; -14.5/+30PSI ; -14.5/+40PSI ; -14.5/+60PSI ; 70PSI ; 150PSI ; 300PSI ; 500PSI ; 1500PSI ; 3000PSI
Type	Absolute ; Gage
Type (for ranges > 40 bar)	Sealed Gage
Safe overload	150% FS
Burst pressure	300% FS
Power supply	5Vdc ± 10mV
Consumption	< 10mA
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Output at -100%FS (only for ± range)	0.5Vdc
Output at 0%FS (except ranges ±)	0.5Vdc
Output at 100%FS	4.5Vdc
Zero and sensitivity settings tolerances	±50mV Option : Special settings


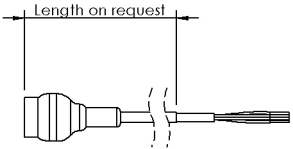
Technical Specifications


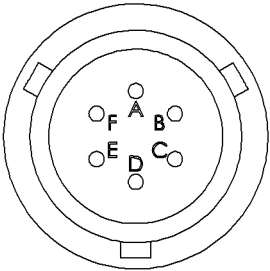
Non linearity and hysteresis combined	±0.25% FS Option : ±0.1% FS
Non repeatability	±0.02% FS typ.
Signal bandwidth	1000Hz @ -3dB Option : Special Adjustment up to 3000Hz @ -3dB
Compensated temperature range	-40 to +125°C
Operating temperature range	-40 to +125°C
Combined thermal zero & sensitivity shifts	±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 : Hermetic MIL-C-26482 - 6 pins Receptacle ; Hermetic MIL-C-26482 - 4 pins Receptacle ; DEUTSCH Autosport AS4H06-05-PN-HE connector
Mechanical connection	3/8-24 UNF-3A male ; M10x1-4h male Option : 1/4" VCR male ; M10x1 male form G Minimes® ; M8x1-6g male ; Swagelok nut SS-6M2-1 for OD 6mm pipe
Material(s) of wetted parts	Stainless Steel 316L ; Stainless Steel 17-4PH ; Stainless steel 15-5PH
Weight	30g without cable
Enclosure protection	IP65 for absolute & sealed gage version


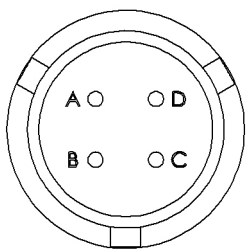
Codification


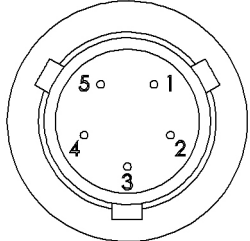
Miniature Pressure Sensor for Harsh Environment	PHE16	3	S	100bar	A	02	03	D	1	1	B
Output Signal											
0.5-4.5Vdc regulated power supply		3									
Material											
Stainless Steels			S								
Range											
Example				100bar							
Type											
Absolute					A						
Gage					G						
Sealed Gage					SG						
Mechanical connection											
M10x1-4h male						02					
M8x1-6g male						03					
3/8-24 UNF-3A male						11					
Swagelok nut SS-6M2-1 for OD 6mm pipe						15					
M10x1 male form G Minimess®						16					
1/4" VCR male						22					
Electrical connection											
Hermetic MIL-C-26482 - 6 pins Receptacle							03				
DEUTSCH Autosport AS4H06-05-PN-HE connector							05				
AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires							08/1m				
Hermetic MIL-C-26482 - 4 pins Receptacle							14				
Compensated temperature range											
-40 to +125°C								D			
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
Special settings											S



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

	MIL-C26482 - 6 PINS		
	VOLTAGE OUTPUT	PIN	
	+ EXCITATION	PIN A	
	+ SIGNAL	PIN B	
	0 VOLT	PIN C	
	0 VOLT	PIN D	
	SENSOR HOUSING	PINS E & F	

	MIL-C26482 - 4 PINS		
	VOLTAGE OUTPUT	PIN	
	+ EXCITATION	PIN A	
	+ SIGNAL	PIN C	
	NC	PIN D	
	0 VOLT	PIN B	
	SENSOR HOUSING	CONNECTOR HOUSING	

	DEUTSCH ASH06-05PN-HE - 5 PINS		
	VOLTAGE OUTPUT	PIN	
	+ EXCITATION	PIN 1	
	+ SIGNAL	PIN 3	
	NC	PIN 4	
	- EXCITATION	PIN 2	
	SENSOR HOUSING	PIN 5	



E.F.E.

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