

PGA161



PGA161 has been designed for use in aerospace applications, to operate in the harshest environments, including wide operating temperature, mechanical shocks and vibrations. Being miniature, it is well adapted to embedded measurements, on aircrafts, launchers, satellites or missiles.

With pressure ranges available from -1 up to 1000bar, absolute, gage or sealed gage, its all stainless steel construction makes it usable with most fluids used in aerospace, even corrosive ones like Skydrol. PGA161 is manufactured with the ruggedized EFE sensing technology. 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 applications where space is at a premium.

PGA161 does not include any electronics which makes it very adapted to long term programs. It delivers an unamplified output (mV/V) with a stabilized power supply that can range from 5 to 15Vdc. Amplified outputs are also available in the PGA160 series with PGA167 (0.5-4.5V) and PGA165 (4-20mA).

FEATURES

- All Stainless Steel Design
- Miniature
- Operating from -55 to +150°C
- Ruggedized Design
- Compatible with Harsh Environments
- High pressure capability
- mV/V unamplified output

APPLICATIONS

X	Aerospace
X	Defence
X	Flight tests
X	Programs
	Others



TECHNICAL SPECIFICATIONS

- Pressure Specifications

Pressure ranges (FS)	-1/+2bar; -1/+4bar; -1/+5bar 3bar; 5bar; 10bar; 20bar; 40bar; 100bar; 250bar; 400bar; 600bar; 800bar -14.5/+30PSI ; -14.5/+60PSI;-14.5/+70PSI; 40PSI; 70PSI; 150PSI; 300PSI; 500PSI; 1500PSI; 3000PSI; 5000PSI; 8000PSI; 10000 PSI
Type	Absolute; Gage
Type (for ranges > 40 bar)	Sealed Gage
Overload	150% FS or 1000bar whichever is less

- Electrical Specifications

Power Supply	5 to 15Vdc, stabilized and filtered
Consumption	< 3mA typ.
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Offset	< $\pm 3\%$ FS
Sensitivity	2 to 5mV/V
Signal's convention	For compound ranges (FS = -1 to +3bar for example), offset is at atmospheric pressure and sensor's signal @ -100%FS (-1bar) is proportionnal to signal @ +100%FS (+3bar). Sensitivity is the sensor's signal from -100% to +100%FS (4bar).
Signal Bandwidth	DC to 1000Hz @-3dB



- Accuracy

Nonlinearity and hysteresis combined	$\pm 0.25\%$ FS for positive pressure ranges $\pm 0.25\%$ FS typ./ $\pm 0.35\%$ FS max. for compound pressure ranges
Non repeatability	$\pm 0.02\%$ FS typ.

- Environmental Specifications

Compensated temperature range	-55 to +125°C Option : any range between -55 and +150°C
Operating temperature range	-55 to +150°C
Combined thermal zero & sensitivity shifts	$\pm 0.02\%$ FS/°C
Constant acceleration in linear vibrations	20-2000Hz, 50g max.
Mechanical shock	100g ½ sinus 1ms
Electrical protection	Protected against polarity inversion
EMC protection	Compliant to EN61000

- Technical Specifications

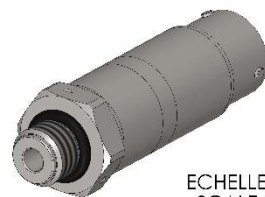
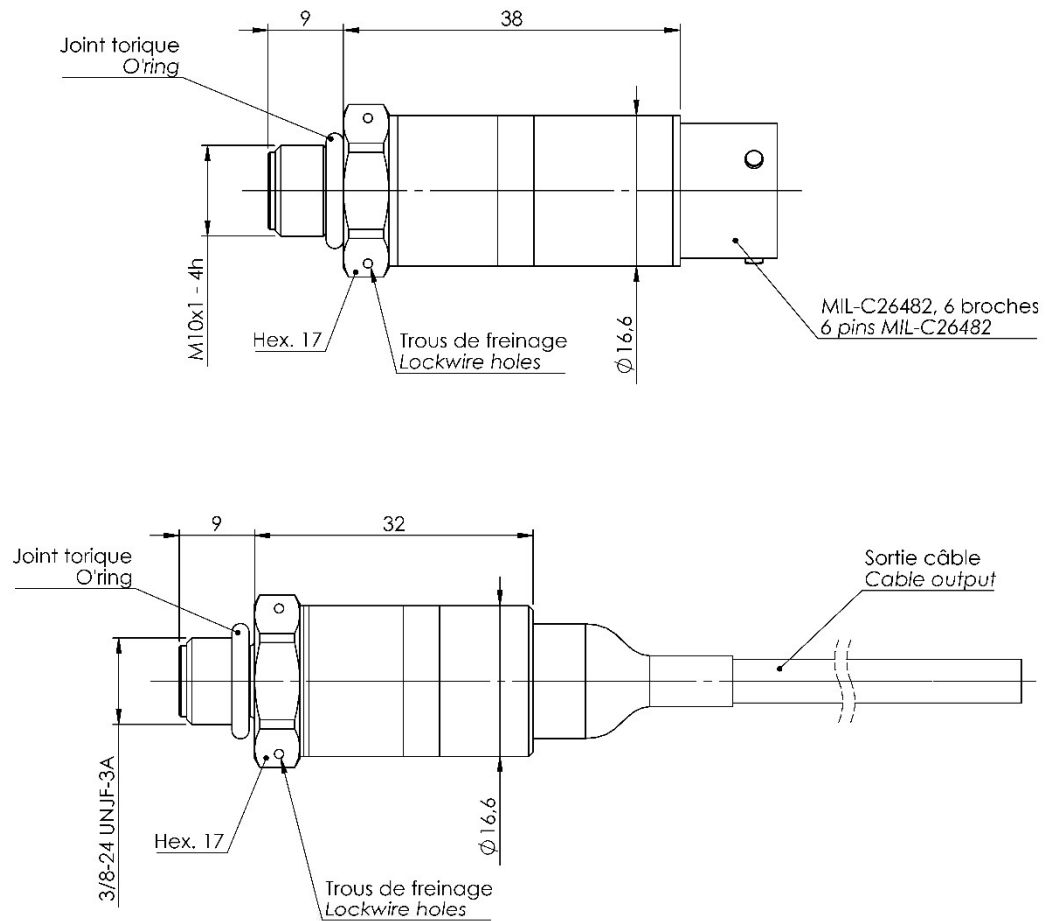
Electrical connection	AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires Hermetic MIL-C-26482 - 6 pins Receptacle
Mechanical connection	M10x1-4h male ; 3/8-24 UNJF-3A male with lockwire holes
Sealing	Fluorosilicone (FVMQ) O-ring delivered with the sensor
Material(s) of wetted parts	Stainless Steel : 316L, 17-4PH and 15-5PH
Weight	40g without cable
Enclosure protection	IP65 for absolute and sealed gage versions



CODIFICATION

High Performance Miniature Pressure Sensor	PGA16	1	S	20bar	A	02	03	E	1	1	
Output Signal											
2 to 5mV/V		1									
Material											
Stainless Steel			S								
Range											
Example				20bar							
Type											
Absolute					A						
Gage					G						
Sealed Gage					SG						
Mechanical connection											
M10x1-4h male with lockwire holes						02A					
3/8-24 UNJF-3A male with lockwire holes						12A					
Electrical Connection											
AWG26, Viton Jacketed Shielded Cable, 4 wires (1m)							08/1m				
Hermetic MIL-C-26482 - 6 pins Receptacle							03				
Compensated temperature range											
-55 to +125°C								E			
Nonlinearity and hysteresis combined											
±0.25% FS (positive ranges) or ±0.35%FS (compound ranges)									1		
Combined thermal zero & sensitivity shifts											
±0.02% FS/°C										1	

DIMENSIONS



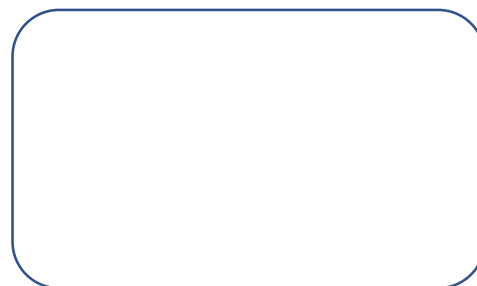
ECHELLE 1:1
SCALE 1:1

Dimensions : mm

	VITON CABLE- 4 CONDUCTORS	
	mV/V OUTPUT	CONDUCTOR
	+ Excitation	Red
	- Excitation	Blue / Black
	+ Signal	Green / Yellow
	- Signal	White
	Sensor's Housing	Shield

	MIL C 26482 - 6 PINS	
	mV/V OUTPUT	PIN
	+ Excitation	PIN A
	- Excitation	PIN D
	+ Signal	PIN B
	- Signal	PIN C
	Sensor's Housing	PINS E & F

AGENT



L'ESSOR FRANÇAIS ELECTRONIQUE
EFE

16-18 rue Porte a Bateaux - 27540 Ivry-la-Bataille - France
Tel: + 33 2 32 22 35 05 - Fax : + 33 2 32 36 93 08

www.efe-sensor.com • infos@efe-sensor.com