

# PCM167



PCM167 pressure sensor allows a combined pressure and temperature measurements at a same location. Wetted parts being all stainless steel, it is compatible with all common and hostile pressure media used in aerospace and automotive. Miniature dimensions, low mass and ruggedized design make PCM167 pressure sensor well adapted to embedded applications on vehicules, aircrafts, missiles, satellites, etc.

The pressure transducer utilizes EFE thin film technology and a platinum RTD senses media temperature. The pressure and temperature devices are designed to operate independently.

Output for pressure is an amplified 0.5-4.5Vdc while temperature signal is directly the one from PT100 or PT1000 sensor. Its small package and low mass make it very adapted to application where space is at a premium.

PCM167 is available with pressure ranges from -1 to 500bar and has high temperature capability, being rated -55/+175°C. A mV/V (PCM161) and a ratiometric (5V power supply, PCM163) models are also available in PCM160 series.

## FEATURES

- Pressure & Temperature Measurements
- All Stainless Steel Ruggedized Design
- Built-in electronics
- High temperature capability : -55 to +175°C
- Available up to 500bar

## APPLICATIONS

X	Aerospace
X	Defence
X	Automotive
X	Test Benches
	Others



## TECHNICAL SPECIFICATIONS

- Pressure Specifications

Pressure ranges (FS)	-1/+2bar; -1/+3bar; -1/+4bar; 3bar; 5bar; 10bar; 20bar; 40bar; 100bar; 250bar; 400bar; 500bar -14.5/+30PSI ; -14.5/+40PSI ; -14.5/+60PSI; 40PSI; 70PSI; 150PSI; 300PSI; 500PSI; 1500PSI; 3000PSI; 5000PSI; 7000 PSI
Type	Absolute ; Gage
Type (for ranges > 40 bar)	Sealed Gage
Safe overload	150% FS
Burst pressure	300% FS or 1000bar whichever is less for M10x1 and 3/8-24 UNF male 300% FS or 400bar whichever is less for M8x1 male

- Electrical Specifications

Power Supply	8 to 16Vdc
Consumption	< 10mA
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Offset	0,5Vdc
Sensitivity	4Vdc
Rated Output	4.5Vdc
Zero and sensitivity settings tolerances	±50mV
Signal convention	For bidirectional ranges (e.g. ±1bar), the offset corresponds to the sensor signal for the minimum of the range (-1bar) and the sensitivity to the sensor signal for the full range (2bar).



- Accuracy

Nonlinearity and hysteresis combined for Pressure	$\pm 0.25\%$ FS Option : $\pm 0.1\%$ FS
Non repeatability for Pressure	$\pm 0.02\%$ FS typ.
Thermal probe	PT1000 Class A : $\pm 0.1\%$ FS Option : PT100 Class A ( $\pm 0.1\%$ FS)

- Environmental Specifications

Compensated temperature range	0 to 60°C Option : any range between -55 and +175°C
Operating temperature range	-40 to +125°C Option : -55 to +175°C
Combined thermal zero & sensitivity shift	$\pm 0.02\%$ FS/°C
Vibrations	20-2000Hz, 50g max.
Mechanical shock	100g ½ sinus 1ms
EMC protection	Compliant to EN61000

- Technical Specifications

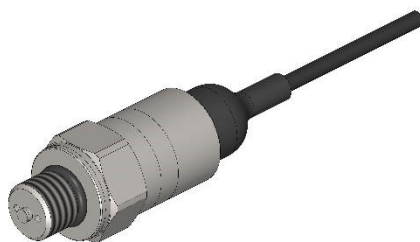
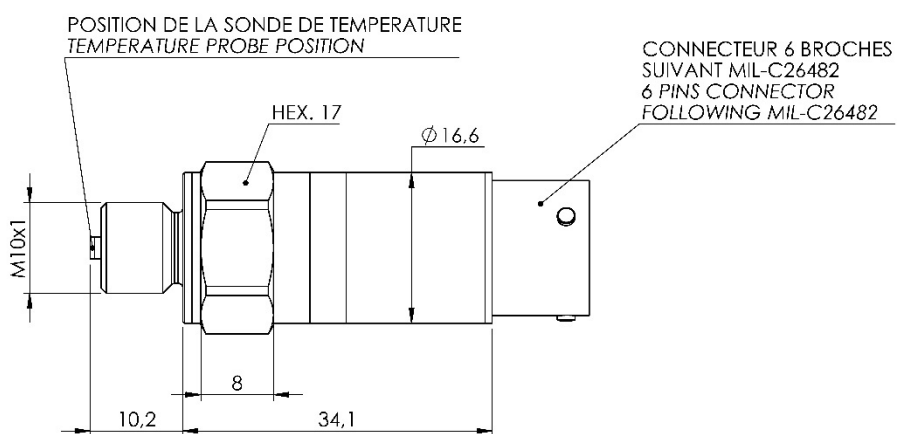
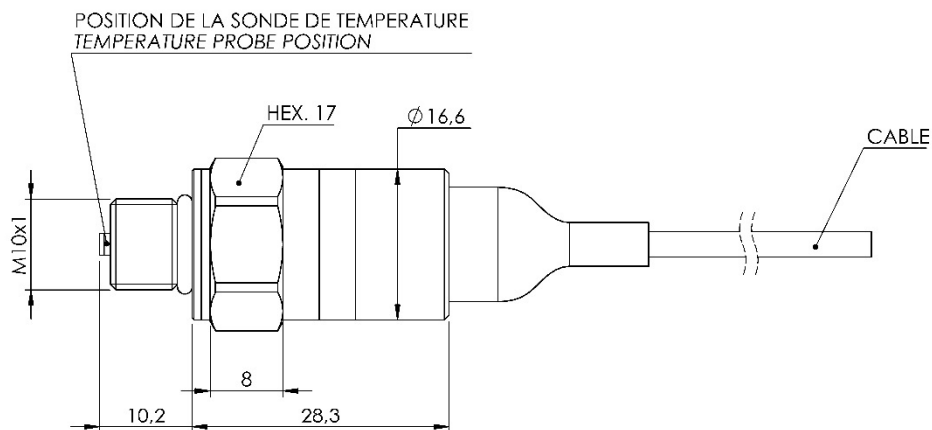
Electrical connection	AWG26, Teflon Jacketed Shielded Cable Ø3,4mm, 5 wires with additional Viton sleeve Option : Hermetic MIL-C-26482 - 6 pins Receptacle
Mechanical connection	M10x1-4h male ; Options : 3/8-24 UNF-3A male, M8x1-6g male (for pressure $\leq 250$ bar)
Material(s) of wetted parts	Stainless Steel 316L, 17-4PH and 15-5PH
Weight	30g without cable
Enclosure protection	IP65 for absolute and sealed gage versions



## CODIFICATION

Presssure & Temperature Miniature Sensor	PCM16	7	S	20bar	A	29	09S/1m	A	1	1	-
Output Signal											
0.5-4.5V		7									
Material											
Stainless Steel			S								
Range											
Example : 20bar				20bar							
Type											
Absolute					A						
Gage					G						
Sealed Gage (ranges > 40bar)					SG						
Mechanical connection											
M8x1-6g male (ranges ≤ 250bar)						29					
M10x1-4h male						30					
3/8-24 UNF-3A male						33					
Electrical Connection											
AWG26 Teflon Shielded Cable, 5 wires with Viton Sleeve (length : 1,2 or 3 meters)							09S/1m				
Hermetic MIL-C-26482 - 6 pins Receptacle							03				
Compensated temperature range											
0 to +60°C								A			
-40 to +125°C								D			
0 to +175°C								G			
Nonlinearity and hysteresis combined											
±0.25% FS									1		
±0.1% FS									2		
Combined thermal zero & sensitivity shifts											
±0.02% EM/°C										1	
Options											
PT100 Thermal Probe											T


## DIMENSIONS




Dimensions : mm



## WIRING

	TEFLON CABLE- 5 CONDUCTORS	
	VOLTAGE & RTD OUTPUTS	CONDUCTOR
	+ Excitation	Red
	+ Signal (Pressure)	Green
	0 Volt	Black
	RTD	White
	RTD	Blue
	Sensor's Housing	Shield

	HERMETIC MIL-C-26482 - 6 PINS RECEPTACLE	
	VOLTAGE & RTD OUTPUTS	PIN
	+ Excitation	PIN A
	+ Signal (Pressure)	PIN B
	0 Volt	PINS C & D
	RTD	PIN E
	RTD	PIN F
	Sensor's Housing	Connector's housing

**AGENT**