

# PDC167



The PDC167 pressure sensor features the latest technological innovations developed by EFE.

The all stainless steel thin film pressure sensing element makes it compatible with most industrial fluids, including the most corrosive.

The built-in electronics deliver a high level signal 0.5-4.5V. This smart module allows a correction of the sensor's measurements in pressure and temperature over the compensation range. It is thus endowed with extreme precision: the total error band is  $\pm 0.5\%$  for the entire range from  $-55$  to  $+125^{\circ}\text{C}$ .

This precision does not limit the dynamics of the sensor :the bandwidth of the signal being as standard 1kHz @-3dB. Miniature and robust, the PDC167 is particularly suitable for embedded use combining temperature, vibrations, shocks and where size and mass are at premium.

## FEATURES

- Miniature pressure sensor
- High accuracy :  $\pm 0.5\%$  from  $-55$  to  $125^{\circ}\text{C}$
- Built-in electronics : 0.5-4.5V output
- Operating from  $-55$  to  $+125^{\circ}\text{C}$
- All Stainless Steel Design
- Compatible with Harsh Environments

## APPLICATIONS

|   |                       |
|---|-----------------------|
| X | Aerospace             |
| X | Embedded Applications |
| X | Flight Tests          |
| X | Automotive            |



## TECHNICAL SPECIFICATIONS

- Pressure Specifications

|                            |   |
|----------------------------|---|
| Pressure ranges (FS)       | -1/+3bar; -1/+4bar;<br>3bar; 5bar; 10bar; 20bar; 40bar; 100bar; 250bar; 400bar<br>-14.5/+50PSI ; -14.5/+70PSI;<br>50PSI; 75PSI; 150PSI; 300PSI; 500PSI; 1500PSI; 3500PSI; 6000PSI |
| Type                       | <i>Absolute ; Gage</i>  |
| Type (for ranges > 40 bar) | <i>Sealed Gage</i>  |
| Safe overload              | <i>150% FS</i>  |
| Burst pressure             | <i>300% FS or 1000bar whichever is less</i>   |

- Electrical Specifications

|   |   |
|---|---|
| Power Supply                                      | <i>8 to 32Vdc</i>   |
| Consumption                                       | <i>&lt; 10mA</i>  |
| Insulation  | <i>&gt; 1000 MOhms under 50Vdc at ambient temperature</i> |
| Output at 0%FS or -1bar for bi-directional ranges | <i>0.5V</i>   |
| Output at 100%FS                                  | <i>4.5V</i>   |
| Zero and sensitivity settings tolerances          | <i>±10mV typ.</i>   |
| Signal Bandwidth                                  | <i>DC to 1000Hz @-3dB</i>                                 |



- Accuracy

|  |   |
|--|---|
| Error Band<br>Including combined Non-Linearity, Hysteresis and thermal shifts within the compensated temperature range | $\pm 1\%$ FS<br><i>Option : <math>\pm 0.5\%</math> FS</i> |
| Non repeatability  | $\pm 0.02\%$ FS typ.                                      |

- Environmental Specifications

|  |   |
|--|---|
| Compensated temperature range              | -40 to +125°C<br><i>Option : -55 to +125°C</i><br><i>any range between -55 and +125°C</i> |
| Operating temperature range                | -55 to +125°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

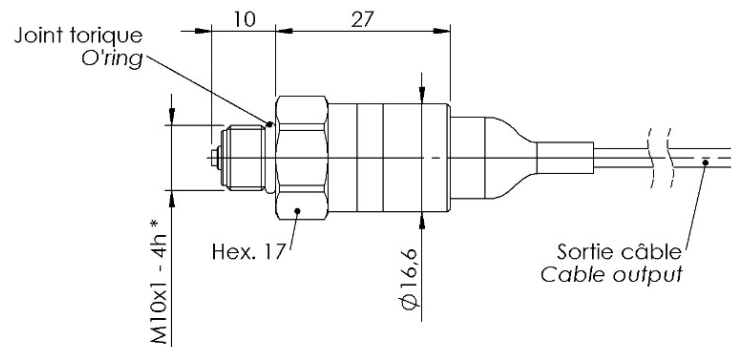
|                                     |  |
|-------------------------------------|--|
| Electrical connection               | Hermetic MIL-C-26482 - 6 pins Receptacle<br><i>Option : AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires</i>   |
| Mechanical connection               | M10x1-4h male ;<br><i>Options : 3/8-24 UNJF-3A male without cone</i><br><i>7/16-20 UNJF-3A male without cone</i> |
| Material(s) of wetted parts         | 316L (1.4404), 17-4PH (1.4542) and 15-5PH (1.4545) Stainless Steels  |
| Weight                              | < 30g without cable  |
| Enclosure protection                | IP65 for absolute and sealed gage versions   |
| Accessory delivered with the sensor | EPDM O-ring  |



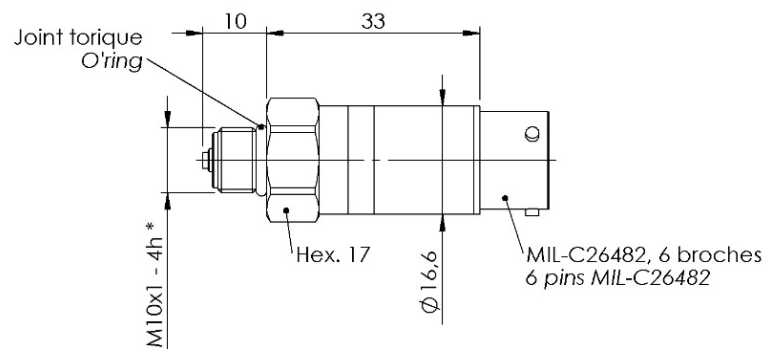
## CODIFICATION

|   |       |   |   |       |    |      |       |   |   |   |
|---|-------|---|---|-------|----|------|-------|---|---|---|
| High Performance Miniature Pressure Sensor    | PDC16 | 7 | S | 20bar | A  | 02   | 03    | E | 1 | - |
| Output Signal                                 |       |   |   |       |    |      |       |   |   |   |
| 0.5-4.5V                                      |       | 7 |   |       |    |      |       |   |   |   |
| Material                                      |       |   |   |       |    |      |       |   |   |   |
| Stainless Steel                               |       |   | S |       |    |      |       |   |   |   |
| Range   |       |   |   |       |    |      |       |   |   |   |
| Example : 20 bar                              |       |   |   | 20bar |    |      |       |   |   |   |
| Type  |       |   |   |       |    |      |       |   |   |   |
| Absolute                                      |       |   |   |       | A  |      |       |   |   |   |
| Gage  |       |   |   |       | G  |      |       |   |   |   |
| Sealed Gage                                   |       |   |   |       | SG |      |       |   |   |   |
| Mechanical connection                         |       |   |   |       |    |      |       |   |   |   |
| M10x1-4h male                                 |       |   |   |       |    | 02   |       |   |   |   |
| 3/8-24 UNJF-3A male without cone              |       |   |   |       |    | 11   |       |   |   |   |
| 7/16-20 UNJF-3A male without cone             |       |   |   |       |    | 10 J |       |   |   |   |
| Electrical Connection                         |       |   |   |       |    |      |       |   |   |   |
| AWG26, Viton Jacketed Shielded Cable, 4 wires |       |   |   |       |    |      | 08/1m |   |   |   |
| Hermetic MIL-C-26482 - 6 pins Receptacle      |       |   |   |       |    |      | 03    |   |   |   |
| Compensated temperature range                 |       |   |   |       |    |      |       |   |   |   |
| -40 to +125°C                                 |       |   |   |       |    |      |       | D |   |   |
| -55 to +125°C                                 |       |   |   |       |    |      |       | E |   |   |
| Error Band                                    |       |   |   |       |    |      |       |   |   |   |
| ±1% FS  |       |   |   |       |    |      |       |   | 0 |   |
| ±0.5%FS                                       |       |   |   |       |    |      |       |   | 1 |   |
| Options                                       |       |   |   |       |    |      |       |   |   |   |

## DIMENSIONS





\* Autre filetage disponible :  
Other thread available :  
3/8-24 UNF-3A



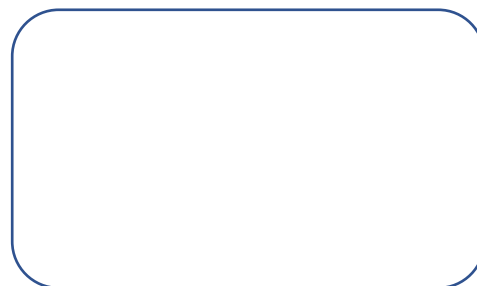
ECHELLE 1 : 1  
SCALE 1 : 1

Dimensions : mm

|  | VITON CABLE- 4 CONDUCTORS |                |
|---|---------------------------|----------------|
|   | VOLTAGE OUTPUT            | CONDUCTOR      |
|   | + Excitation              | Red            |
|   | + Signal                  | Green / Yellow |
|   | NC                        | White          |
|   | 0 VDC                     | Blue / Black   |
|   | Sensor's Housing          | Shield         |

|  | MIL C-26482 - 6 PINS |            |
|---|----------------------|------------|
|   | VOLTAGE OUTPUT       | PIN        |
|   | + Excitation         | PIN A      |
|   | + Signal             | PIN B      |
|   | 0 VDC                | PIN C      |
|   | 0 VDC                | PIN D      |
|   | Sensor's Housing     | PINS E & F |

AGENT



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