

## High Pressure Miniature Transducer



### Features

- ➔ Available with Built in Electronic
- ➔ High pressure : up to 3000bar
- ➔ Fatigue Rated Pressure Sensor
- ➔ Monolithic Design

### Applications

- ➔ Oil & gas
- ➔ Aerospace
- ➔ Test benches
- ➔ Automotive

The PHP160 series is designed for high pressure measurements up to 3000bar. Its monolithic construction makes it well adapted to endurance tests and applications with high frequency pulsations. Being all stainless steel, it is compatible with most media including corrosive fluids used in industry. Unamplified (mV/V output) or equipped with the latest signal conditioning technologies from EFE (0-5 and 0.5-4.5Vdc outputs), it is able to measure very dynamic phenomenon. Its thin film sensitive element ensures high performances and stability over wide temperature range. Models with Vdc built-in electronics (power supply : 8-30Vdc), being low consumption (< 10mA) and with high bandwidth capabilities are particularly adapted to embedded applications.

## Technical specifications

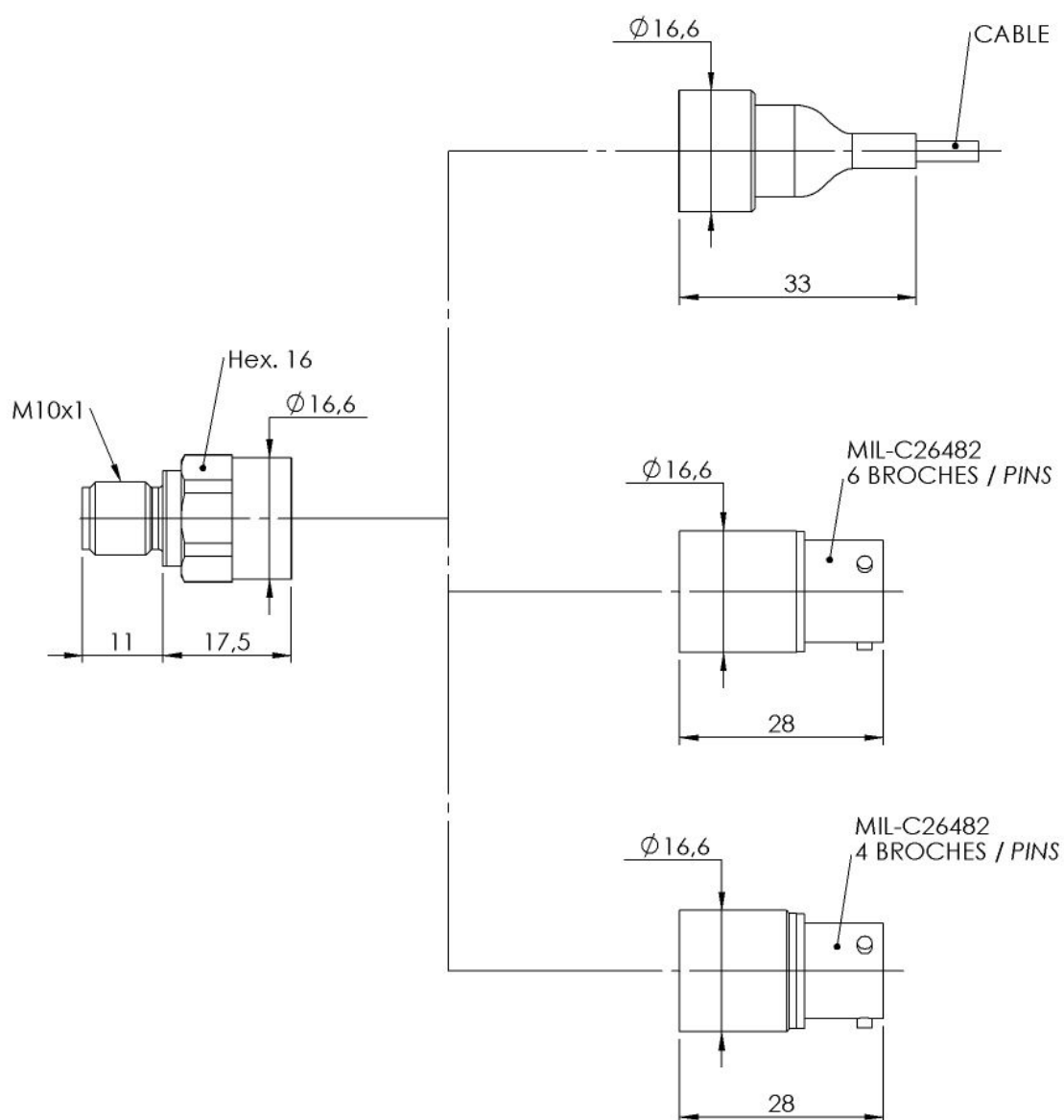
|                                          |                                                                  |
|------------------------------------------|------------------------------------------------------------------|
| Pressure ranges (FS)                     | 2000bar ; 2500bar ; 3000bar ;<br>30000PSI ; 40000PSI             |
| Type                                     | Gage                                                             |
| Safe overload                            | 150% FS                                                          |
| Power supply                             | 8 to 30Vdc                                                       |
| Consumption                              | < 10mA                                                           |
| Insulation                               | > 1000 MOhms under 50Vdc at ambient temperature                  |
| Output at 0%FS                           | 0Vdc                                                             |
| Output at 100%FS                         | 5Vdc                                                             |
| Zero and sensitivity settings tolerances | ±50mV                                                            |
| Non linearity and hysteresis combined    | ±0.25% FS<br>Option : ±0.1% FS                                   |
| Non repeatability                        | ±0.02% FS typ.                                                   |
| Signal bandwidth                         | 1000Hz @ -3dB<br>Option : Special Adjustment up to 5000Hz @ -3dB |

## Technical Specifications

|                                            |                                                                                                                                                    |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Compensated temperature range              | 0 to +60°C<br>Option : -25 to +85°C ; -25 to +125°C ; -40 to +125°C                                                                                |
| Operating temperature range                | -40 to +125°C                                                                                                                                      |
| Combined thermal zero & sensitivity shifts | ±0.02% 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<br>Option : Hermetic MIL-C-26482 - 6 pins Receptacle ; Hermetic MIL-C-26482 - 4 pins Receptacle |
| Mechanical connection                      | M10x1 male high pressure                                                                                                                           |
| Material(s) of wetted parts                | Stainless steel 15-5PH                                                                                                                             |

## Codification

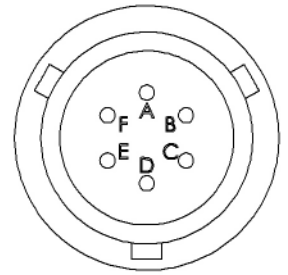
|                                                    |       |   |   |         |   |    |       |   |   |   |   |
|----------------------------------------------------|-------|---|---|---------|---|----|-------|---|---|---|---|
| High Pressure Miniature Transducer                 | PHP16 | 4 | S | 2000bar | G | 25 | 03    | A | 1 | 1 | B |
| Output Signal                                      |       |   |   |         |   |    |       |   |   |   |   |
| 0-5Vdc                                             |       | 4 |   |         |   |    |       |   |   |   |   |
| Material                                           |       |   |   |         |   |    |       |   |   |   |   |
| Stainless Steels                                   |       |   | S |         |   |    |       |   |   |   |   |
| Range                                              |       |   |   |         |   |    |       |   |   |   |   |
| Example                                            |       |   |   | 2000bar |   |    |       |   |   |   |   |
| Type                                               |       |   |   |         |   |    |       |   |   |   |   |
| Gage                                               |       |   |   |         | G |    |       |   |   |   |   |
| Mechanical connection                              |       |   |   |         |   |    |       |   |   |   |   |
| M10x1 male high pressure                           |       |   |   |         |   | 25 |       |   |   |   |   |
| Electrical connection                              |       |   |   |         |   |    |       |   |   |   |   |
| Hermetic MIL-C-26482 - 6 pins Receptacle           |       |   |   |         |   |    | 03    |   |   |   |   |
| AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires |       |   |   |         |   |    | 08/1m |   |   |   |   |
| Hermetic MIL-C-26482 - 4 pins Receptacle           |       |   |   |         |   |    | 14    |   |   |   |   |
| Compensated temperature range                      |       |   |   |         |   |    |       |   |   |   |   |
| 0 to +60°C                                         |       |   |   |         |   |    |       | A |   |   |   |
| -25 to +85°C                                       |       |   |   |         |   |    |       | B |   |   |   |
| -25 to +125°C                                      |       |   |   |         |   |    |       | C |   |   |   |
| -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 |   |
| Options                                            |       |   |   |         |   |    |       |   |   |   |   |
| Special Adjustment up to 5000Hz @ -3dB             |       |   |   |         |   |    |       |   |   |   | B |



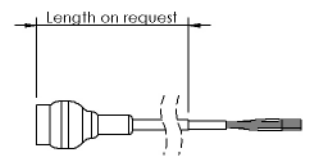
DIMENSIONS : mm

**MIL-C26482 - 6 PINS**

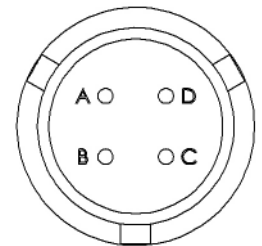
| VOLTAGE OUTPUT | PIN        |
|----------------|------------|
| + EXCITATION   | PIN A      |
| + SIGNAL       | PIN B      |
| 0 VOLT         | PIN C      |
| 0 VOLT         | PIN D      |
| SENSOR HOUSING | PINS E & F |

**#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 - 4 PINS**

| VOLTAGE OUTPUT | PIN               |
|----------------|-------------------|
| + EXCITATION   | PIN A             |
| + SIGNAL       | PIN C             |
| NC             | PIN D             |
| 0 VOLT         | PIN B             |
| SENSOR HOUSING | CONNECTOR HOUSING |



Agent :



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