

## High Temperature Miniature Pressure Sensor



### Features

- ➔ Available with 0,5-4,5Vdc output
- ➔ Miniature pressure sensor
- ➔ Operating from -40 to +175°C
- ➔ Large Bandwidth

### Applications

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

Operating from -40 up to +175°C, the PHT160 series is dedicated to high temperature pressure measurements. With all stainless steel wetted parts, it is compatible with most media, including corrosive fluids used in automotive, aerospace and energy industries. Equipped with the premium thin film technology developed by EFE, its performances and stability over wide temperature range are excellent. The PHT160 is available with unamplified output (mV/V), compensated in temperature to deliver the best accuracy. Amplified output (Vdc) is also standard, thanks to a high performance and ruggedized built-in electronic module.

## Technical specifications

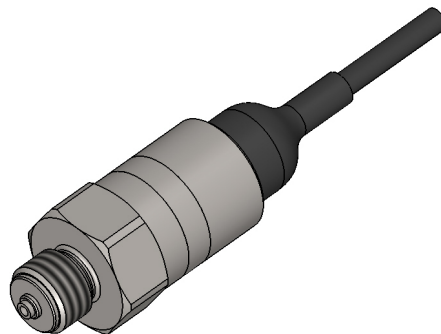
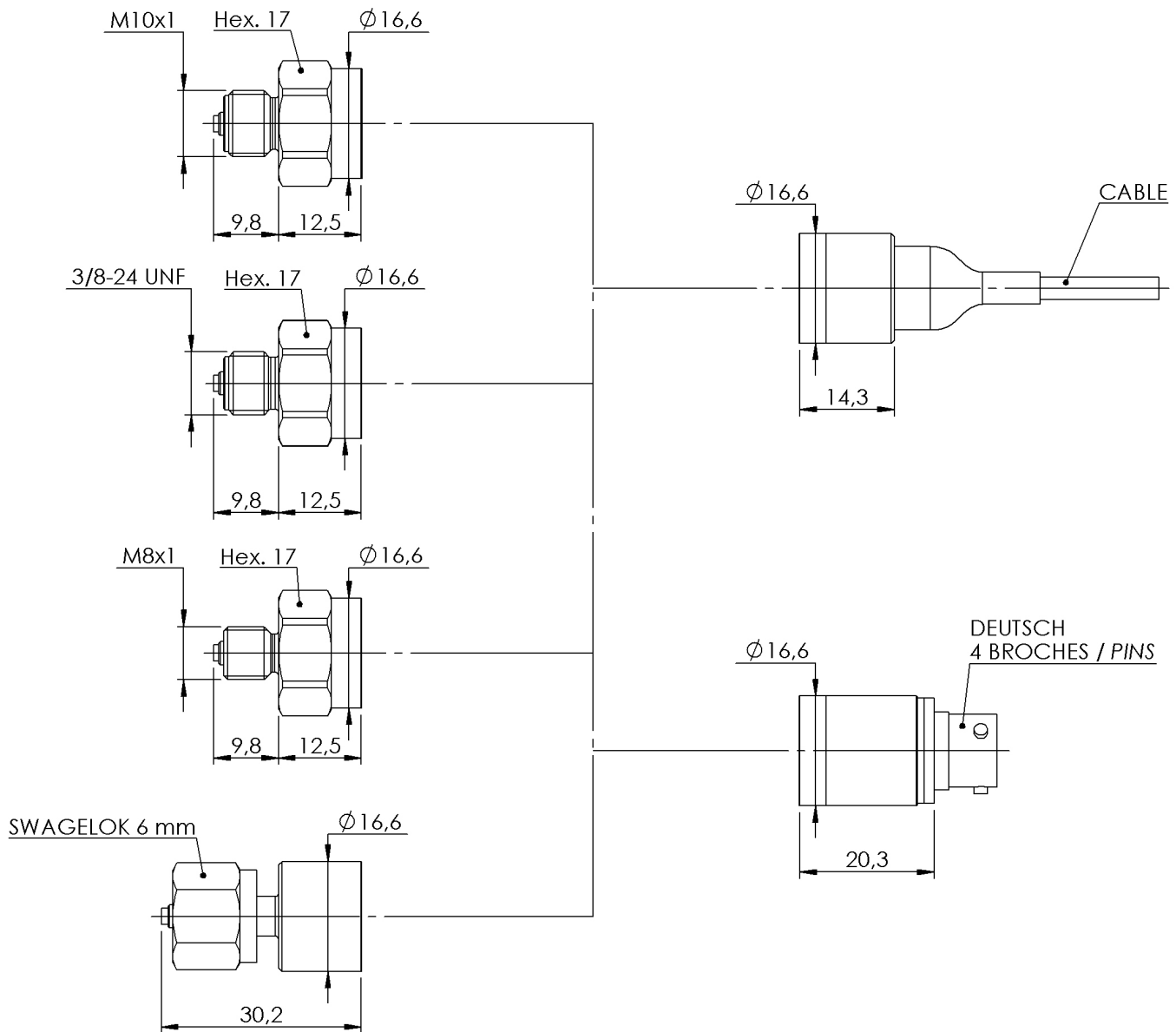
|                                          |                                                                                                                                                                                                            |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure ranges (FS)                     | -1/+4bar ; -1/+9bar ;<br><br>5bar ; 10bar ; 20bar ; 40bar ; 100bar ; 250bar ; 400bar ;<br><br>-14.5/+60PSI ; -14.5/+140PSI ;<br><br>30PSI ; 70PSI ; 150PSI ; 300PSI ; 500PSI ; 1500PSI ; 3000PSI ; 5000PSI |
| Type                                     | Absolute ; Gage                                                                                                                                                                                            |
| Type (for ranges > 40 bar)               | Sealed Gage                                                                                                                                                                                                |
| Safe overload                            | 150% FS                                                                                                                                                                                                    |
| Burst pressure                           | 300% FS                                                                                                                                                                                                    |
| Power supply                             | 8 to 16Vdc                                                                                                                                                                                                 |
| 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                                                                                                                                                                                                      |

## Technical Specifications

|                                            |                                                                                                                |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Non linearity and hysteresis combined      | $\pm 0.25\%$ FS<br>Option : $\pm 0.1\%$ FS                                                                     |
| Non repeatability                          | $\pm 0.02\%$ FS typ.                                                                                           |
| Signal bandwidth                           | 1000Hz @ -3dB<br>Option : Special Adjustment up to 3000Hz @ -3dB                                               |
| Compensated temperature range              | -30 to +150°C<br>Option : 0 to +175°C                                                                          |
| Operating temperature range                | -40 to +150°C (-40 to +175°C if optional compensation up to 175°C)                                             |
| Combined thermal zero & sensitivity shifts | $\pm 0.02\%$ FS/°C                                                                                             |
| Constant acceleration in linear vibrations | $\pm 0.02\%$ FS/g (frequency 20-2000Hz, 50g max.)                                                              |
| Mechanical shock                           | 100g $\frac{1}{2}$ sinus 1ms                                                                                   |
| Electrical protection                      | Protected against polarity inversion                                                                           |
| EMC protection                             | Compliant to EN61000                                                                                           |
| Electrical connection up to 150°C          | AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires<br>Option : DEUTSCH Autosport AS4H06-05-PN-HE connector     |
| Electrical connection above 150°C          | AWG26 Shielded Teflon Cable Ø3.4mm $\pm 0.2$ , 5 wires<br>Option : DEUTSCH Autosport AS4H06-05-PN-HE connector |
| Mechanical connection                      | 3/8-24 UNF-3A male ; M10x1-4h male<br>Option : 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                                     | < 20g without cable                                                                                            |

## Codification

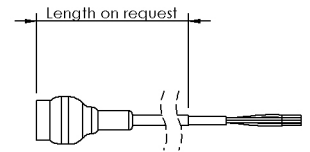
|                                                    |       |   |   |       |    |    |       |   |   |   |   |
|----------------------------------------------------|-------|---|---|-------|----|----|-------|---|---|---|---|
| High Temperature Miniature Pressure Sensor         | PHT16 | 7 | S | 10bar | A  | 02 | 05    | F | 1 | 1 | B |
| Output Signal                                      |       |   |   |       |    |    |       |   |   |   |   |
| 0.5-4.5Vdc unregulated power supply                |       | 7 |   |       |    |    |       |   |   |   |   |
| Material                                           |       |   |   |       |    |    |       |   |   |   |   |
| Stainless Steels                                   |       |   | S |       |    |    |       |   |   |   |   |
| Range                                              |       |   |   |       |    |    |       |   |   |   |   |
| Example                                            |       |   |   | 10bar |    |    |       |   |   |   |   |
| 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 |       |   |   |   |   |
| Electrical connection                              |       |   |   |       |    |    |       |   |   |   |   |
| DEUTSCH Autosport AS4H06-05-PN-HE connector        |       |   |   |       |    |    | 05    |   |   |   |   |
| AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires |       |   |   |       |    |    | 08/1m |   |   |   |   |
| AWG26 Shielded Teflon Cable Ø3.4mm ±0.2, 5 wires   |       |   |   |       |    |    | 09/1m |   |   |   |   |
| Compensated temperature range                      |       |   |   |       |    |    |       |   |   |   |   |
| -30 to +150°C                                      |       |   |   |       |    |    |       | F |   |   |   |
| 0 to +175°C                                        |       |   |   |       |    |    |       | G |   |   |   |
| 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 3000Hz @ -3dB             |       |   |   |       |    |    |       |   |   |   | B |



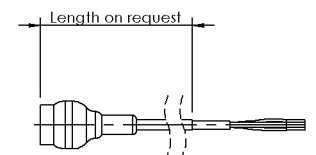
DIMENSIONS : mm

**#26 AWG, 4 CONDUCTOR SHIELDED VITON CABLE**

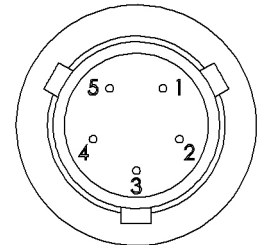
| VOLTAGE OUTPUT | CONDUCTOR      |
|----------------|----------------|
| + EXCITATION   | RED            |
| + SIGNAL       | GREEN / YELLOW |
| NC             | WHITE          |
| 0 VOLT         | BLUE / BLACK   |
| SENSOR HOUSING | SHIELD         |

**5 CONDUCTOR TEFLON CABLE**

| VOLTAGE OUTPUT | CONDUCTOR |
|----------------|-----------|
| + EXCITATION   | RED       |
| + SIGNAL       | GREEN     |
| 0 VOLT         | BLACK     |
| NC             | WHITE     |
| NC             | BLUE      |
| SENSOR HOUSING | SHIELD    |

**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 |



Agent :



E.F.E.

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