

Miniature Pressure Sensor for Harsh Environment



Features

- ➔ Available with 0,5-4,5Vdc output
- ➔ Operating from -40 to +140°C
- ➔ Designed for harsh environment
- ➔ Large Bandwidth

Applications

- ➔ Automotive - on vehicle
- ➔ Aerospace
- ➔ Military
- ➔ Test benches

PHE120 is designed to operate in the harshest environments, including wide operating temperature, mechanical shocks and vibrations. It is well adapted to embedded measurements, on vehicles, aircrafts, satellites, robots or missiles. With pressure ranges available from -1 up to 400 bar, absolute or gage, its all stainless steel construction makes it usable with most fluids used in industry, even corrosive ones. The PHE120 is manufactured with the ruggedized and EFE proprietary sensitive elements. 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 application where space is at a premium.

Technical specifications

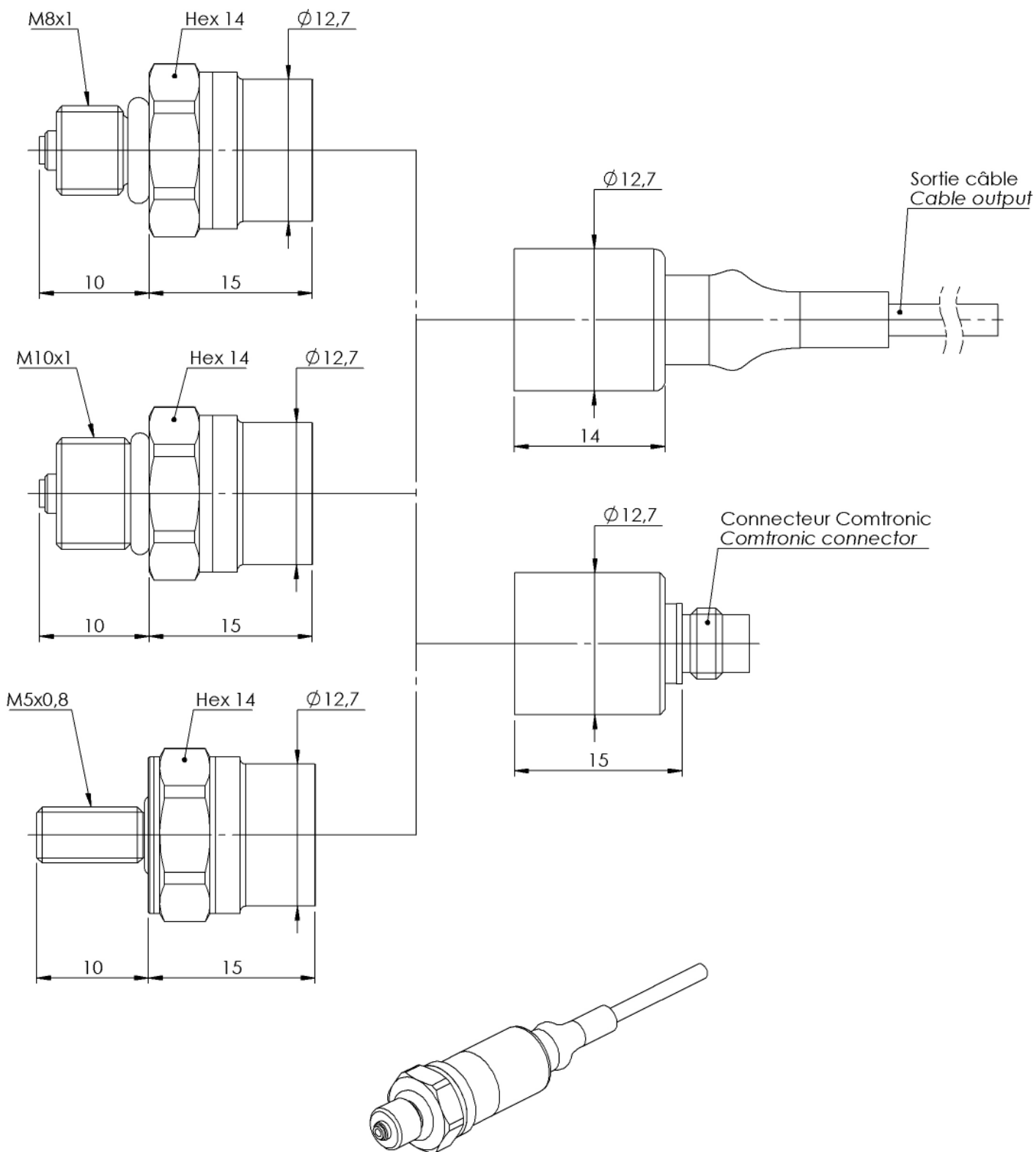
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|--------------------------------------|--|
| Pressure ranges (FS) | ±1bar ; -1/+2bar ; -1/+3bar ; 2bar ; 5bar ; 10bar ; 20bar ; 40bar ; 70bar ; 250bar ; 400bar ; ±14.5PSI ; -14.5/+30PSI ; -14.5/+40PSI ; 30PSI ; 70PSI ; 150PSI ; 300PSI ; 500PSI ; 1000PSI ; 3000PSI ; 5000PSI |
| Type | Absolute ; Gage |
| Type (for ranges > 40 bar) | Sealed Gage |
| Safe overload | 150% FS |
| Burst pressure | 300% FS |
| Output impedance | > 3000 Ohms typ. |
| Input impedance | > 3500 Ohms typ. |
| Power supply | 5 to 15Vdc |
| Consumption | < 10mA |
| Insulation | > 1000 MOhms under 50Vdc at ambient temperature |
| Output at -100%FS (only for ± range) | Proportional to +100%FS |
| Output at 0%FS | 0mV/V |

Technical Specifications


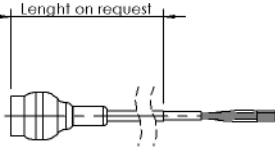
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|--|---|
| Output at 100%FS | 1.5mV/V nom. |
| Zero and sensitivity settings tolerances | ±3% FS |
| Non linearity and hysteresis combined | ±0.25% FS typical (±0.35% FS max.) |
| Non repeatability | ±0.02% FS typ. |
| Compensated temperature range | -40 to +125°C Option : -40 to +140°C |
| Operating temperature range | -40 to +140°C |
| Combined thermal zero & sensitivity shifts | ±0.02% FS/°C Option : ±0.01% 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 Option : Miniature Receptacle 4 pins CMR-S1-E-04P |
| Mechanical connection | M10x1-4h male ; M5x0.8-6g male Option : M8x1-6g male |
| Material(s) of wetted parts | Stainless Steel 316L ; Stainless Steel 17-4PH ; Stainless steel 15-5PH |
| Weight | 10g without cable |
| Enclosure protection | IP65 for absolute & sealed gage version |


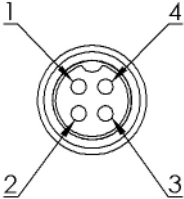
Codification

| | | | | | | | | | | |
|--|-------|---|---|-------|----|----|-------|---|---|---|
| Miniature Pressure Sensor for Harsh Environment | PHE12 | 1 | S | 20bar | A | 02 | 06 | D | 3 | 1 |
| Output Signal | | | | | | | | | | |
| mV/V | | 1 | | | | | | | | |
| Material | | | | | | | | | | |
| Stainless Steels | | | S | | | | | | | |
| Range | | | | | | | | | | |
| Example | | | | 20bar | | | | | | |
| Type | | | | | | | | | | |
| Absolute | | | | | A | | | | | |
| Gage | | | | | G | | | | | |
| Sealed Gage | | | | | SG | | | | | |
| Mechanical connection | | | | | | | | | | |
| M10x1-4h male | | | | | | 02 | | | | |
| M8x1-6g male | | | | | | 03 | | | | |
| M5x0.8-6g male | | | | | | 05 | | | | |
| Electrical connection | | | | | | | | | | |
| Miniature Receptacle 4 pins CMR-S1-E-04P | | | | | | | 06 | | | |
| AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires | | | | | | | 08/1m | | | |
| Compensated temperature range | | | | | | | | | | |
| -40 to +125°C | | | | | | | | D | | |
| -40 to +140°C | | | | | | | | F | | |
| Non linearity and hysteresis combined | | | | | | | | | | |
| ±0.25% FS typical (±0.35% FS max.) | | | | | | | | | 3 | |
| Combined thermal zero & sensitivity shifts | | | | | | | | | | |
| ±0.02% FS/°C | | | | | | | | | | 1 |
| ±0.01% FS/°C | | | | | | | | | | 2 |



Dimensions : mm

|  | #26 AWG, 4 CONDUCTOR SHIELDED VITON CABLE | |  |
|--|---|----------------|---|
| | mV/V OUTPUT | CONDUCTOR | |
| | + EXCITATION | RED | |
| | + SIGNAL | GREEN / YELLOW | |
| | - SIGNAL | WHITE | |
| | - EXCITATION | BLUE / BLACK | |
| | SENSOR HOUSING | SHIELD | |

|  | MICROTECH DR-4S-4H - 4 PINS | |  |
|---|-----------------------------|-------------------|---|
| | mV/V OUTPUT | PIN | |
| | + EXCITATION | PIN 1 | |
| | + SIGNAL | PIN 4 | |
| | - SIGNAL | PIN 2 | |
| | - EXCITATION | PIN 3 | |
| | SENSOR HOUSING | CONNECTOR HOUSING | |

Agent :



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