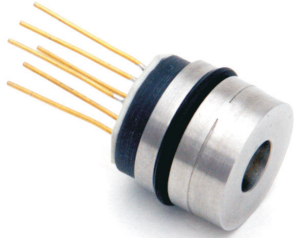


Model NPS15



Product Overview

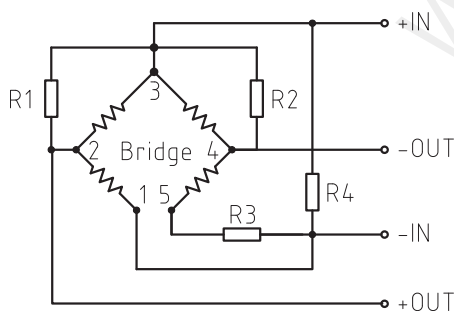
NPS15 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS15 is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1%FS.

NPS15 pressure sensor are designed for floating O-ring seal mounting. This not only can avoid housing induced stress, but also is easy for installation.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Ship and marine systems

Constant current schematic diagram



Features

- 3.5bar to 600bar (50psi to 8700psi)
- Absolute, gauge and sealed gauge
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Standard configurations include:
15 mm diameter x 15 mm long
- Solid state, high reliability
- Custom configurations and other pressure ranges available. Please consult the factory.

Standard Pressure Range

| Nominal pressure | gauge | sealed gauge | absolute |
|------------------|-------|--------------|----------|
| 0...3.5bar | ● | | ● |
| 0...7bar | ● | | ● |
| 0...10bar | ● | | ● |
| 0...20bar | ● | | ● |
| 0...35bar | ● | ● | ● |
| 0...70bar | | ● | |
| 0...100bar | | ● | |
| 0...200bar | | ● | |
| 0...350bar | | ● | |
| 0...600bar | | ● | |

other pressure ranges available. Please consult the factory.

Performance Specifications

| Parameter | Value | Units | Notes |
|-------------------------------|--------------------|--------|----------------|
| General | | | |
| Pressure Range | 0-3.5,...,600 | bar | 1bar=14.5psi |
| Overpressure | 1.5xFS | bar | |
| Environmental | | | |
| Operating Temperature Range | -20 to +80 | °C | -4°F to 257°F |
| Compensated Temperature Range | 0 to +70 | °C | 32°F to 158°F |
| Storage Temperature Range | -40 to +125 | °C | -40°F to 257°F |
| Vibration | 10 | g | 20 to 2000Hz |
| Shock | 100 | g | 10ms |
| Cycles | 10x10 ⁶ | cycles | |
| Electrical @25°C(77°F) | | | |
| Excitation Current | 1.5 | mA | |
| Excitation Voltage | 5 | Vdc | |
| Bridge Resistance | 2600 to 6000 | Ω | |
| Insulation Resistance | 100 | MΩ | @100Vdc |

Physical Specifications

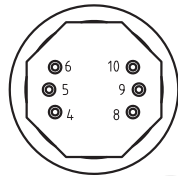
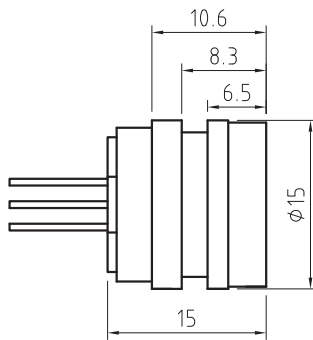
| | | | |
|-----------------------|--|--|--|
| Media Compatibility | All media compatible with 316L stainless steel | | |
| Housing | 316L stainless steel | | |
| Diaphragm | 316L stainless steel | | |
| Seal Ring | Viton or NBR | | |
| Oil Filling | Silicone oil | | |
| Electrical Connection | Silicon rubber flexible wire or kovar pin | | |
| Net Weight | Approx.15g | | |

| Parameter | Minimum | Typical | Maximum | Units | Notes |
|---------------------|---------|---------|---------|-----------|-------|
| Performance | | | | | |
| Zero Output | -2 | ±1 | 2 | mV | 1 |
| Full Scale Output | 50 | 100 | | mV | 1 |
| Non-linearity | ±0.1 | ±0.2 | ±0.3 | %FSO | 1, 2 |
| Hysteresis | -0.05 | ±0.03 | 0.05 | %FSO | 1 |
| Repeatability | -0.05 | ±0.03 | 0.05 | %FSO | 1 |
| Temp Coeff - Zero | -1 | ±0.75 | 1 | %FSO | 3 |
| Temp Coeff - Span | -1 | ±0.75 | 1 | %FSO | 3 |
| Long-Term Stability | | ±0.2 | ±0.3 | %FSO/year | 1 |

Notes

1. All values measured at 25°C(77°F) and at 1.5mA
2. Best fit straight line(BFSL)
3. 0°C to 70°C(32°F to 158°F) with reference to 25°C(77°F)
4. Consult factory for vacuum applications

Dimensions (in mm)



| Pin | Connection | Wire color |
|-----|------------|------------|
| 5 | +IN | Red |
| 6 | - IN | Yellow |
| 4 | +OUT | Blue |
| 10 | - OUT | Green |

Note: The actual electric connection method, please check the parameter label enclosed with products

Ordering Information

| Option1: Model | |
|-------------------------------|---|
| NPS15 | Piezoresistive OEM Pressure Sensor |
| Option2: Pressure Range | |
| 0035 | 0...3.5bar |
| 0070 | 0...7bar |
| 0100 | 0...10bar |
| 0200 | 0...20bar |
| 0350 | 0...35bar |
| 0700 | 0...70bar |
| 1000 | 0...100bar |
| 2000 | 0...200bar |
| 3500 | 0...350bar |
| 6000 | 0...600bar |
| Cxxx | Customized range |
| Option3: Pressure Type | |
| G | gauge |
| A | absolute |
| S | sealed gauge |
| Option4: Excitation | |
| I | 1.5mA Constant Current Excitation |
| V | 5Vdc Constant Voltage Excitation |
| Option5: Electrical Interface | |
| F | 4 color silicon rubber wires, length=100mm |
| P | gold-plated kovar pins (only for 1.5mA Constant Current Excitation) |
| Option6: Compensation | |
| T | 0 to 70°C |
| NA | No temperature compensation |
| NPS15 | 0035 G I F T Examples of Ordering Code: NPS15-0035-G-I-F-T |

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.