

Model NPS30F



Product Overview

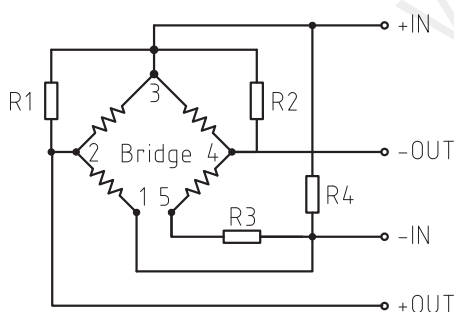
NPS30F is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS30F is temperature compensated and zero correction by using resistance technology. It is flush membrane configuration and easy to clean. It can be used for food industry.

NPS30F pressure sensor are designed for thread connection mounting. Various pressure interface available.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Food and the beverage industry

Constant current schematic diagram



Features

- 100mbar to 100bar (1.45psi to 1450psi)
- Absolute, gauge and sealed gauge
- Flush membrane configuration
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Various pressure interface available
- 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...0.1bar | ● | | |
| 0...0.2bar | ● | | |
| 0...0.35bar | ● | | |
| 0...0.7bar | ● | | |
| 0...1bar | ● | | ● |
| 0...1.6bar | ● | | ● |
| 0...2.5bar | ● | | ● |
| 0...4bar | ● | | |
| 0...6bar | ● | | ● |
| 0...10bar | ● | ● | ● |
| 0...16bar | ● | ● | ● |
| 0...25bar | ● | ● | |
| 0...60bar | | ● | |
| 0...100bar | | ● | |

other pressure ranges available. Please consult the factory.

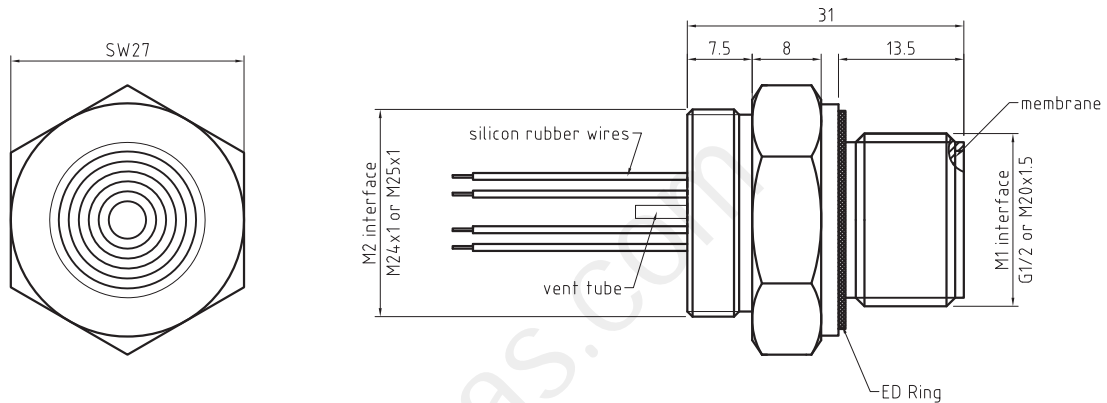
Performance Specifications

| Parameter | Value | Units | Notes | | |
|--------------------------------|--|---------|----------------|-----------|-------|
| General | | | | | |
| Pressure Range | 0-0.1,...,100 | bar | 1bar=14.5psi | | |
| Overpressure | 1.5xFS | bar | | | |
| Environmental | | | | | |
| Operating Temperature Range | -40 to +85 | °C | -40°F to 185°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 | welding | | | | |
| Oil Filling | Silicone oil | | | | |
| Electrical Connection | Silicon rubber flexible wire or kovar pin | | | | |
| Net Weight | Approx.60g | | | | |
| 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 | -1.5 | ±0.75 | 1.5 | %FSO | 3 |
| Temp Coeff - Span | -1.5 | ±0.75 | 1.5 | %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)



| Connection | Wire color |
|------------|------------|
| +IN | Red |
| - IN | Blue |
| +OUT | Yellow |
| - OUT | White |

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

Ordering Information

| Option1: Model | |
|-------------------------------|---|
| NPS30F | Piezoresistive OEM Pressure Sensor |
| Option2: Pressure Range | |
| 0001 | 0...0.1bar 0100 0...10bar |
| 0002 | 0...0.2bar 0160 0...16bar |
| 0003 | 0...0.35bar 0250 0...25bar |
| 0007 | 0...0.7bar 0600 0...60bar |
| 0010 | 0...1bar 1000 0...100bar |
| 0016 | 0...1.6bar Cxxx Customized range |
| 0025 | 0...2.5bar |
| 0040 | 0...4bar |
| 0060 | 0...6bar |
| 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: M1 Interface | |
| C1 | G1/2 |
| C2 | M20x1.5 |
| Option7: M2 Interface | |
| B1 | M24x1 |
| B2 | M25x1 |
| Option8: Compensation | |
| T | 0 to 70°C |
| NA | No temperature compensation |
| NPS30F | 0010 G I F C1 B1 T Examples of Ordering Code: NPS30F-0010-G-I-F-C1-B1-T |

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