PRODUCT DATASHEET

FOP-MIV Pressure Sensor

The FOP-MIV has been especially designed and tested to fulfill the highest of medical performance requirements. Its applications range from human body fluid pressure measurements – for intervention in hospital critical care units, to animal testing in high EMI environments. It is available off-the-shelf for standard applications or it can be customized to suit OEM-specific applications.

Derived from silicon-based micro-machining technologies, the FOP-MIV is smaller, more reliable, more accurate, and easier to use and to integrate into medical devices than conventional lumen catheter pressure sensors.

The miniature size and mounting flexibility of the FOP-MIV provide the capability to embed the sensor within almost any configuration of invasive diagnostic or therapeutic devices. The front-looking FOP-MIV allows in-situ measurements at locations unreachable to standard pressure sensors and eliminates the artefacts due to tissue contact that may be encountered with laterally mounted sensors.

The FOP-MIV high measurement resolution and precision, combined with a fast reading rate, are important characteristics when attempting to detect very quick and subtle pressure variations. It allows a clear definition of complex pressure waveforms, such as human arterial blood pressure variations generated by heart valve closure. Its long term reliability and low drift value make it the best sensor available for implantable equipment, such as intra-cranial, intravascular and intra-uterine pressure monitoring devices.

The optical nature of the FOP-MIV, make the sensor immune to electromagnetic field or radiofrequency interferences regularly encountered in operating rooms or MRI devices. The FOP-MIV fast response is also useful in determining pressure curve characteristics at faster paces, such as the ones encountered in small laboratory animals.

Every pressure sensor is pre-calibrated at the factory to deliver consistent and accurate pressure measurements. Connected to the signal conditioner interface and zeroed once by depressing a single button, the sensor is always ready to deliver precise pressure measurements. The FOP-MIV pressure sensor is compatible with all FISO WLFPI signal conditioners and especially with the PM-250 and PMI-HR which also includes all options required in medical applications. Readout interfaces are designed to be integrated into the customer's own system, or externally interfaced to an existing monitor.

The high performance and advantages of the FOP-MIV also apply to many diverse other applications outside the medical field from food and drug process to aeronautics.

Key Features

- EM/RF/MW interference complete immunity
- Miniature and rugged sensor for in-situ pressure measurements
- High performance and reliability
- High accuracy and repeatability
- Very low drift and thermal shift
- Fast response time
- Sterilizable

Applications

- Medical
  - Cardiology
  - Neurology
  - Anaesthesiology
  - Pneumonology
  - Gastroenterology
  - Urology
  - Gynecology
  - Ophthalmology
  - Electrosurgery
  - Thermal therapy
  - Preclinical studies
  - MRI and other RFI environments
- OEM products
  - Custom design for embedment in diagnostic or therapeutic medical devices
  - Automated manufacturing
  - High volume – low cost available sensors
  - Computerized product testing in assembly line

Specifications

Pressure range option	R1	R3
Pressure range[1]	–300 mmHg to 300 mmHg –40 to 40 kPa (–5.8 to 5.8 psi)	–300 mmHg to 7500 mmHg –40 kPa to 1 MPa (–5.8 to 150 psi)
Resolution[2]	0.3 mmHg (40 Pa)	2.6 mmHg (0.34 kPa)
Accuracy[2]	1.5% Full Scale[3]	0.1%[4]
Sensitivity thermal effect[2]	0.05% / °C	0.15% / °C
Zero thermal effect[2]	0.2 mmHg / °C	3 mmHg / °C
Proof pressure	>4000 mmHg (0.53 MPa)	22 500 mmHg (3 MPa)
Connector type	SC connector (other available)	SC connector (other available)
Operating temperature	10°C to 50°C (50°F to 122°F)	–40°C to 50°C (40°F to 122°F)
EM/RF/MW susceptibility	Total immunity	Total immunity

1. Relative to atmospheric pressure
2. Typical with PM-250 signal conditioner
3. Or ±1 mmHg, whichever is greater
4. Or ±8 mmHg, whichever is greater.

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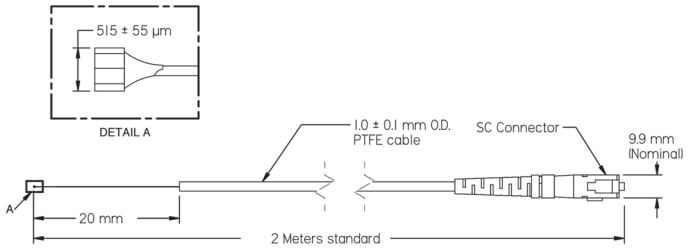
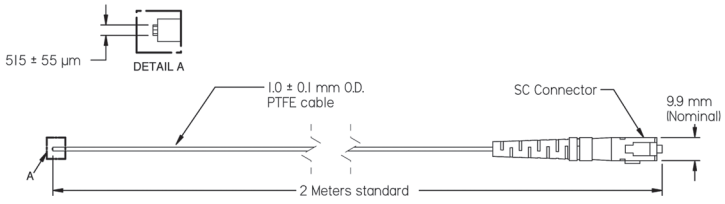
FOP-MIV Dimensions

FOP-MIV-BA Model



FOP-MIV-PK Model



Drawing Numbers SCH-00495 – SCH-00513

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