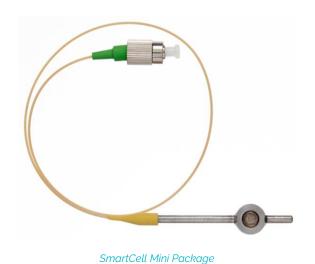


SmartCell Mini

FBG Pressure and Temperature Sensor



Key Features

- Gauge FBG Pressure Sensor
- Zero Power, EMI Immune, Intrinsically Safe
- Dense Multiplexing Capability
- Highly Stable
- High Accuracy
- Temperature Compensated
- Multiple km Signal Integrity

About SmartCell Mini

SmartCell Mini is a fibre Bragg grating based pressure (or load) transducer. An additional grating is included in the device for temperature measurement and compensation. Designed for long-term operation with insignificant measurement drift, SmartCell Mini is intrinsically safe, can be used for remote monitoring and is suitable for multiplexing as part of a multi-sensor array.

Target Specifications

| Parameter | Value |
|------------------------------------|---|
| Case Material | Inconel 718 - Nace Compliant (MRO175) |
| Dimensions | ø 12 x 5 mm |
| Full Scale Pressure | 100 bar |
| Operating Pressure Range | 1 to 100 bar |
| Max Pressure (over pressure) | 150 bar |
| Pressure Sensitivity [‡] | 5 pm/bar |
| Pressure Resolution [#] | < 0.05 %FS |
| Pressure Accuracy [#] | <1%FS |
| Operating Temperature Range | -10 to +60 °C |
| Temperature Sensitivity | ~10 pm/°C |
| Temperature Accuracy ^{l‡} | 0.1 °C |
| Fibre Type | Single Mode SMF-28, 9/125 μm |
| Typical FBG Type | CWL 1528 to 1568 nm, FWHM ~0.7 nm R > 70 %, Apodised profile, SLSR $>$ 15dB |
| Cable and Connections | To suit application |

‡ with 0.5 pm resolution/1 pm accuracy (e.g. SmartScan) interrogator ‡ Case material dependant $^{\circ}$ Custom SmartCell Mini available on request for volume applications

Specifications may change without notice