



SmartCell Mini Package

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 ^{‡‡}	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

^{*} Custom SmartCell Mini available on request for volume applications

Specifications may change without notice