Temperature Probe | os4200

Applications

Long-term Monitoring and Feedback in:

- Industrial, processing, and nuclear plants
- Cargo and other storage containers
- Brakes, engines and other active parts of rolling stock, aircraft, automotive, and marine vessels
- Medical applications

Features

- High resolution
- Ideal for harsh environments
- Insensitive to corrosion
- Immune to electromagnetic fields
- No risk of ESD or sparks
- Easy to install
- Long lifetime
- Water resistant
- Remote sensing
- Absolute calibrated sensor option

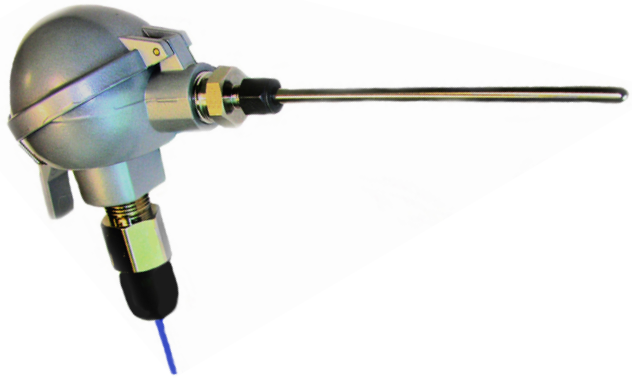
Description

The os4200 Temperature Probe is a revolutionary product based on Micron Optics' patented micro opto-mechanical technology.

The os4200 provides an ideal alternative to electrical temperature sensors, featuring advantages such as fast response time, high accuracy, and premium performance under harsh environmental conditions. To ensure long-term stability by design, the os4200 tube type sensor uses neither epoxies nor other glues as part of its structure.

os4210 - Sensor Probe

os4230 - Ruggedized Probe



os4280 - Ruggedized Probe w/ Thermocouple Head

The os4200 is an industrial grade design that has excellent compatibility with Micron Optics sensing instruments. Variations of the os4200 make it easy to select the right configuration and size to monitor temperature in your specific application.

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Specifications [1]	os4210 Sensor Probe	os4230 Ruggedized Probe	os4280 Ruggedized Probe w/ Thermocouple Head
Thermal Properties			
Operating Temperature Range [2]	-40 to +120°C, -200 to 275°C available		
Response Time [3]	0.2 seconds	1.5 seconds	8.5 seconds
Cable Temperature Range	-40 to 250° C (FC/APC Connectors: -40 to 80°C)		
Uncalibrated: Long Term Repeatability [4]	±1°C		
Uncalibrated: Short-Term Repeatability	±1°C		
Uncalibrated: Thermal Response	9.9 pm/°C (±1.7 pm/°C)		
Calibrated: Long Term Accuracy [4]	±0.5°C		
Calibrated: Short Term Accuracy [5]	Typical ±0.2°C		
Calibrated: Thermal Response	Provided on Calibration Certificate		
Physical Properties			
Weight (including cable)	1.3 g	30 g	411 g
Housing Material [6]	304/316 Stainless Steel	316 SS Probe w/Armored Cable	316 SS - Probe /Al. Thermocouple Head
Cable Length	1 m (± 10 cm), each end		
Fiber Type	SMF28-Compatible		
Fiber Coating	Polyimide		
Cable Type	0.9 mm Fiberglass Braid	3mm Armored Cable	3mm Armored Cable
FC/APC Connectors	Optional	Included	Included
Cable Minimum Bend Radius	12 mm		
Fastening Methods	Insertion or Bond	3/16" Compression Fitting	1/4" Compression Fitting
Optical Properties			
Center Wavelength	1462 to 1618nm available (± 1 nm)		
Peak Reflectivity (Rmax)	> 70%		
FWHM (-3 dB point)	0.25 nm (± .05 nm; apodized grating)		
Isolation	> 12 dB (@ ± 0.4 nm around center wavelength)		

Notes:

1. Denotes Beta product. For more details see www.micronoptics.com/product_designation.php
2. Higher temperature options available at -40 to +180°C and -40 to max temperature of +275°C.
3. Time to reach 63% of total temperature drop in water (100°C).
4. Based on 120°C soak for 1,000 hours.
5. Four (4) thermal cycles from min to max temperature. Max. accuracy error ±0.4°C without data averaging.
6. os4230 and os4280 probe length is 6 inches standard.

Ordering Information

os42aa - wwww -1xx - zz (Example: os4230-1560-1FC- SR)

aa: Model	wwww: Wavelength (nm)	1xx: Cable 1, Length & Connector	zz: Calibration Range
10 Sensor Probe	Standard wavelengths:	1 1 m standard, Cable Length	UC Uncalibrated
30 Ruggedized Metallic Probe	1512nm to 1588 in 4nm intervals.	UT Unterminated	SR Standard Range, -40 to 120°C
80 Ruggedized Probe Thermocouple Head		FC FC/APC Connector	HR High Range, 20 to 275°C
			ER Extented Range, -70 to 275°C
			LR Low Range, -200 to 20°C

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