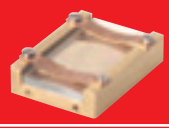
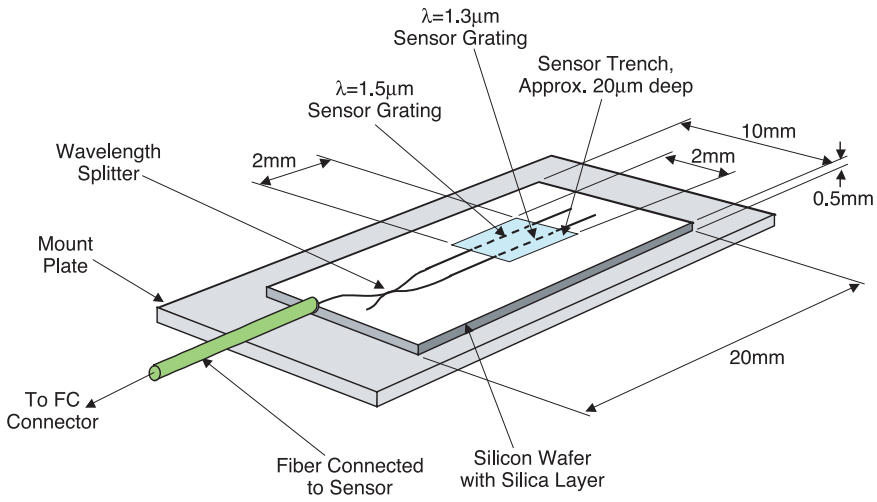


Dual Wavelength Refractive Index Sensor Device



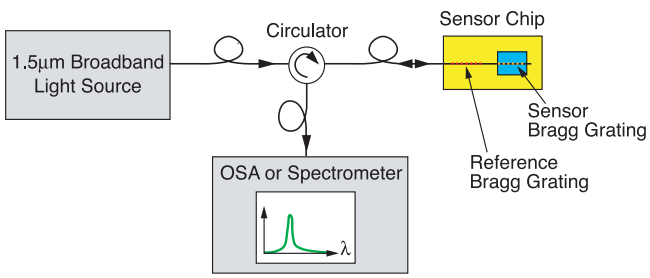
Using the Sensors

The simplest way to use the sensor is to take light from a broadband light source (λ=1.5µm for DGWS1, λ=1.3µm and 1.5 µm for DGWS2 and pass it though a circulator into the sensor. The back reflected light from the sensor is then separated from the incoming light with the circulator, and the wavelength is measured with an optical spectrum analyzer or spectrometer. The wavelength of the reflected light depends on the refractive index of the liquid on the sensor. Any of the many methods of measuring the wavelength of the light reflected from the sensor is suitable. The accuracy of the device is determined by the accuracy of the wavelength measurement.

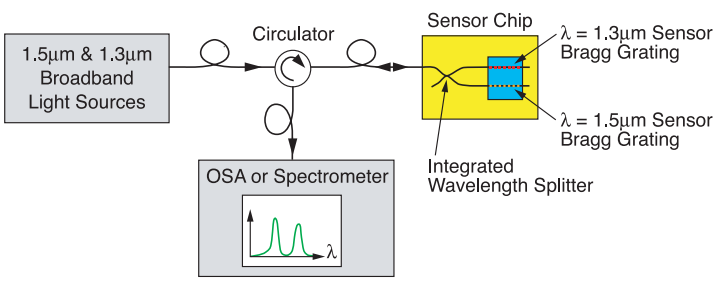
Example Applications

- Liquid/gas refractive index sensing
- Measurement of refractive index as a function of wavelength (dispersion)
- Measurement of refractive index as a function of temperature

Example Setup – Reference Refractive Index Sensor



Example Setup – Dual Wavelength Refractive Index



Specifications: Reference Refractive Index Sensor

- Fiber connectorized with a single FC connector
- Reference Bragg grating with peak reflection at 1540nm isolated from the sensing window
- Sensor reflection at 1550nm in air, and varies with refractive index of liquid.
- Refractive index sensitivity in the range of 1 to 1.45

Specifications: Dual Wavelength Refractive Index

- Fiber connectorized with a single FC connector
- One sensing window with two parallel Bragg grating sensors separated by 250µm
- The Bragg reflections of the two gratings are 1.31µm & 1.55µm
- Refractive index sensitivity in the range of 1 to 1.45

ITEM#	$	£	€	¥	DESCRIPTION
DGWS1	$ 3,950.00	£ 2,962.50	€ 4.147,50	¥ 671,500	Reference Refractive Index Sensor Chip
DGWS2	$ 3,950.00	£ 2,962.50	€ 4.147,50	¥ 671,500	Dual Refractive Index Sensor Chip