

Broadband Fiber-Coupled Gas Cells

Gas cells are precision filters whose absorption wavelengths depend on specific molecular energy level transitions. NH₃ molecular absorption lines have been identified by national standards bodies as a primary wavelength reference in the band 1510nm to 1540nm.

Our fiber-coupled gas cells are offered in a variety of configurations with pressures from 0.1 Torr up to 740 Torr, path lengths from 3cm to 80cm and different connector styles such as FC/APC and FC/PC. Generally, path length will affect measured absorption depth and pressure will affect the linewidth.

Gas cells are hard-sealed for long life and feature advanced optical design for very low level of interference artifacts.

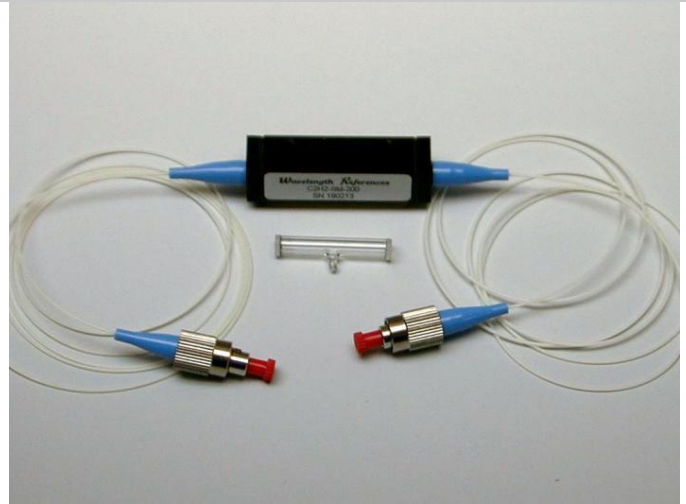
The cells may be ordered fully fiber-coupled (single-mode fiber, with or without connectors), or with a built-in InGaAs photo-detector on one end for direct board mount.

We do many custom gas cells so please contact us with your specific requirements.

Specifications¹

Cell Transmission	dB	< 3 dB < 5 dB, 80 cm path
Spectral ripple (P-P)	dB	<0.1 P-P in any 2nm span
Cell Lifetime	years	>10
Operating temperature	°C	-20 to +80
Storage temperature	°C	-40 to +100
Shock	g	>100, 3 axes
Fiber Type		SMF28e
Connector Types		FCPC, FCAPC, SCPC, SCAPC, none, PD(photodetector)
Photodetector:		
Net Responsivity	A/W	>0.5
Capacitance (0V)	pF	4 typical
Shunt Resistance	MΩ	>5
Gas Specific:		
Species		NH ₃
Partial Pressure	Torr	4 +/- 10%
Total Pressure (N2 backfill)	Torr	740 +/- 10%
Path length	cm	5.5 +/- 0.1

1. 25 °C; Specifications subject to change without notice



Features

- Hermetic seal, >10 year life
- Wedged windows and coated optics for minimum interference artifacts
Choice of path length: 3cm, 5.5cm, 16.5cm and 80cm
- Custom pressures and options available
- Low cost
- Broadband coverage

Applications

- Sensing system calibration
- Tunable laser calibration
- OSA or tunable filter calibration
- Wavelength/frequency locking
- Chemical detection systems

Ordering Information (example)

