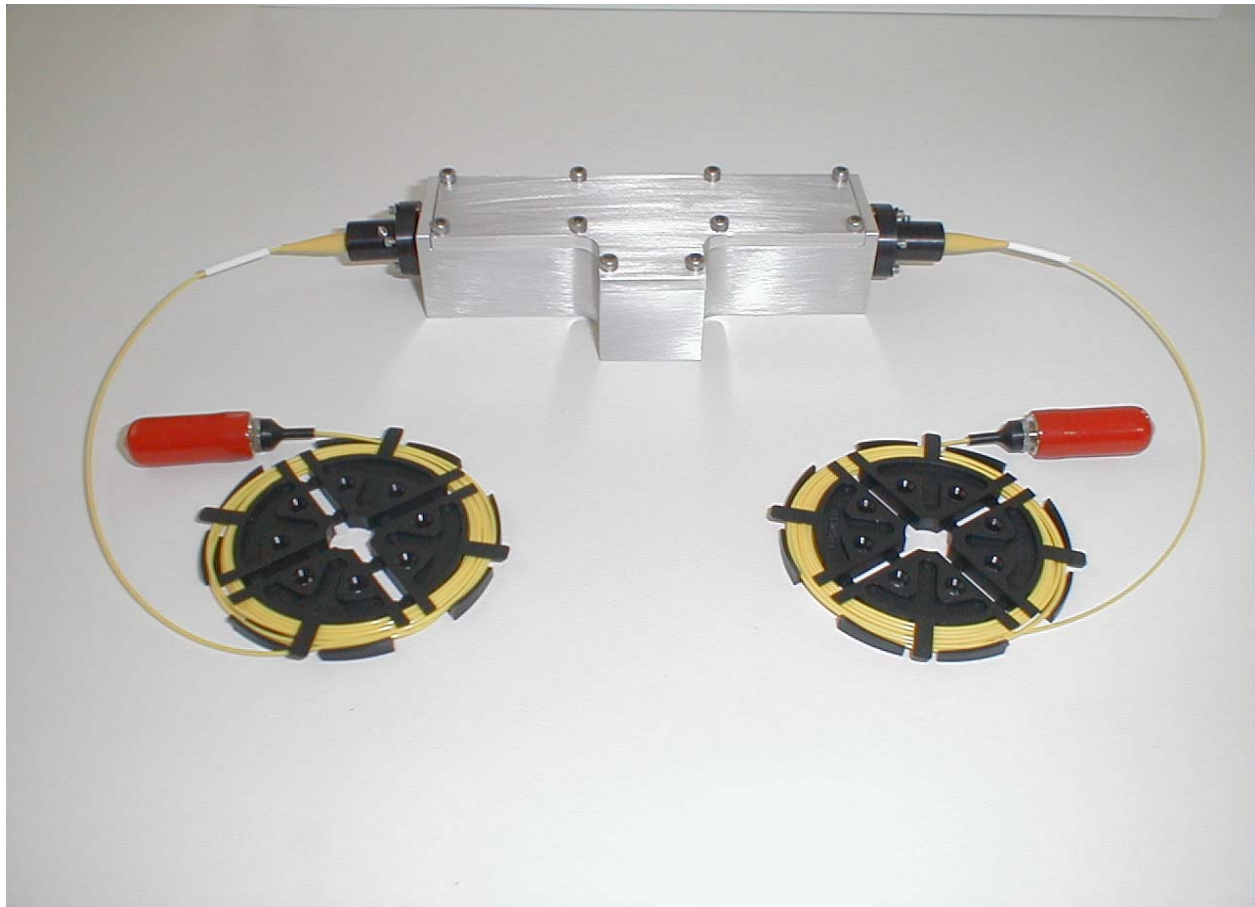




TRIAD TECHNOLOGY INC.

FIBER COUPLED HYDROGEN CYANIDE GAS CELLS DATA SHEET



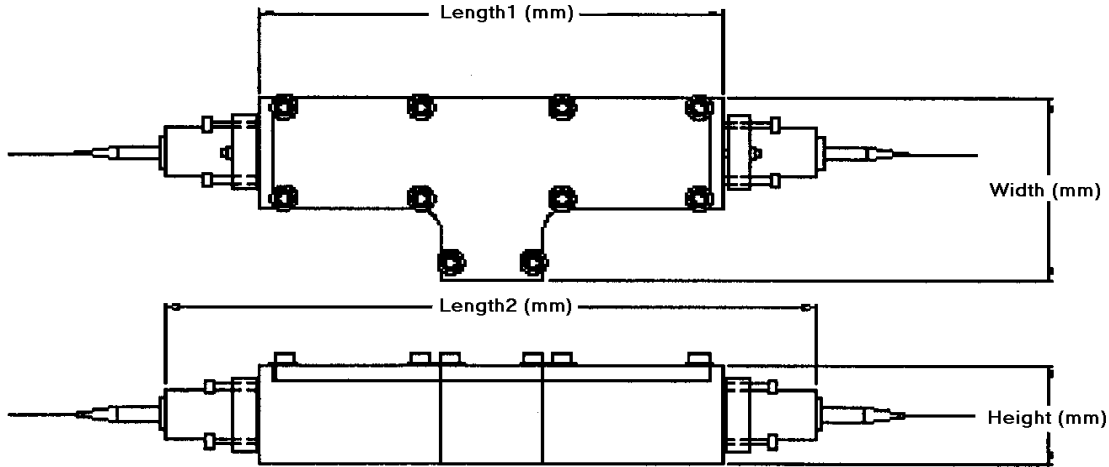
Our fiber coupled hydrogen cyanide gas cells are single mode fiber coupled cell containing Hydrogen Cyanide ($\text{H}^{12}\text{C}^{14}\text{N}$ or $\text{H}^{13}\text{C}^{14}\text{N}$) gas at a pressure of 100 Torr. (13.3kPa). The gas cell is manufactured using a fused silica tube with optical quality windows at either end. The internal cell length is 75mm in length. Hydrogen Cyanide gas, with a purity level of greater than 98 %, is the fill gas. The absorption spectrums of each of the HCN isotopes are $\text{H}^{12}\text{C}^{14}\text{N}$ from 1518 to 1553nm and $\text{H}^{13}\text{C}^{14}\text{N}$ from 1528 to 1563nm. Once the cell is filled, it is mounted in an aluminum housing with a fiber optical collimator at each end. The aluminum housing design allows the light to pass thru the gas cell three times. The effective optical cell path length is 225mm. The collimators are adjusted to maximize the light thru the gas cell with an insertion loss of less than 65%. Each single mode fiber coupled hydrogen cyanide cell is packaged individually with a test report for shipping. Our fiber coupled reference cells are ideal for OEM or stand-alone applications. Customer also has the option of being supplied a fiber coupled cell in an enclosure for bench-top use. We can also supply custom cells packages in our fiber-coupled housings. Please call or email us with your reference requirements.



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Physical Dimensions:



Length1:	115 mm	Length2 (With Collimators):	136 mm
Width:	49 mm	Height:	27 mm

Optical Properties:

Absorption Wavelength Range

$H^{12}C^{14}N$

1518 – 1553nm

$H^{13}C^{14}N$

1528 – 1563nm

Wavelength Accuracy:

$\pm 0.0003nm$ (1 sigma)

Temperature Dependence:

$< 00001nm/^{\circ}C$

Purity of HCN:

$>98\%$

Insertion Loss:

$< 65\%$

Gas Pressure @23°C:

100 Torr $\pm 5\%$ (Alternative pressure also available)

Back Reflection Level:

60dB

Optical Path Length:

225 mm

Gas Cell Material:

Fused Silica tube with optical quality windows

Customer Interface

Fiber Type:

Single Mode SMF-28 9/125um, Acrylat coating

Fiber Jacket:

0.9 mm OD hytel jacket

Length of Fiber:

1.0 m $\pm 0.1m$ standard

Connector Types:

FC/PC standard (Other connector also available)

Environmental Properties

Operating Temperature:

10 to 35°C

Storage Temperature:

-10 to 50°C

Triad Technology Inc.
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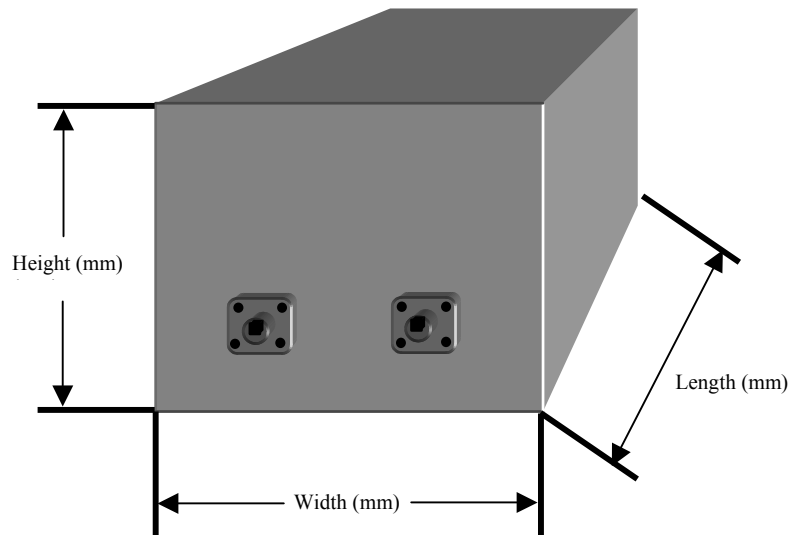


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Enclosure Option:

Height: 90mm
Width: 128mm
Length: 305mm



Gas Type	Part Number	Standard Pressures
Hydrogen Cyanide Isotope 12 ($H^{12}C^{14}N$)	TT-FB-HCN12-100-G	100 Torr.
Hydrogen Cyanide Isotope 13 ($H^{13}C^{14}N$)	TT-FB-HCN13-100-G	100 Torr.
Hydrogen Cyanide Isotope 12 ($H^{12}C^{14}N$) (in Enclosure)	TT-FB-HCN12-100-G-E	100 Torr.
Hydrogen Cyanide Isotope 13 ($H^{13}C^{14}N$) (in Enclosure)	TT-FB-HCN13-100-G-E	100 Torr.