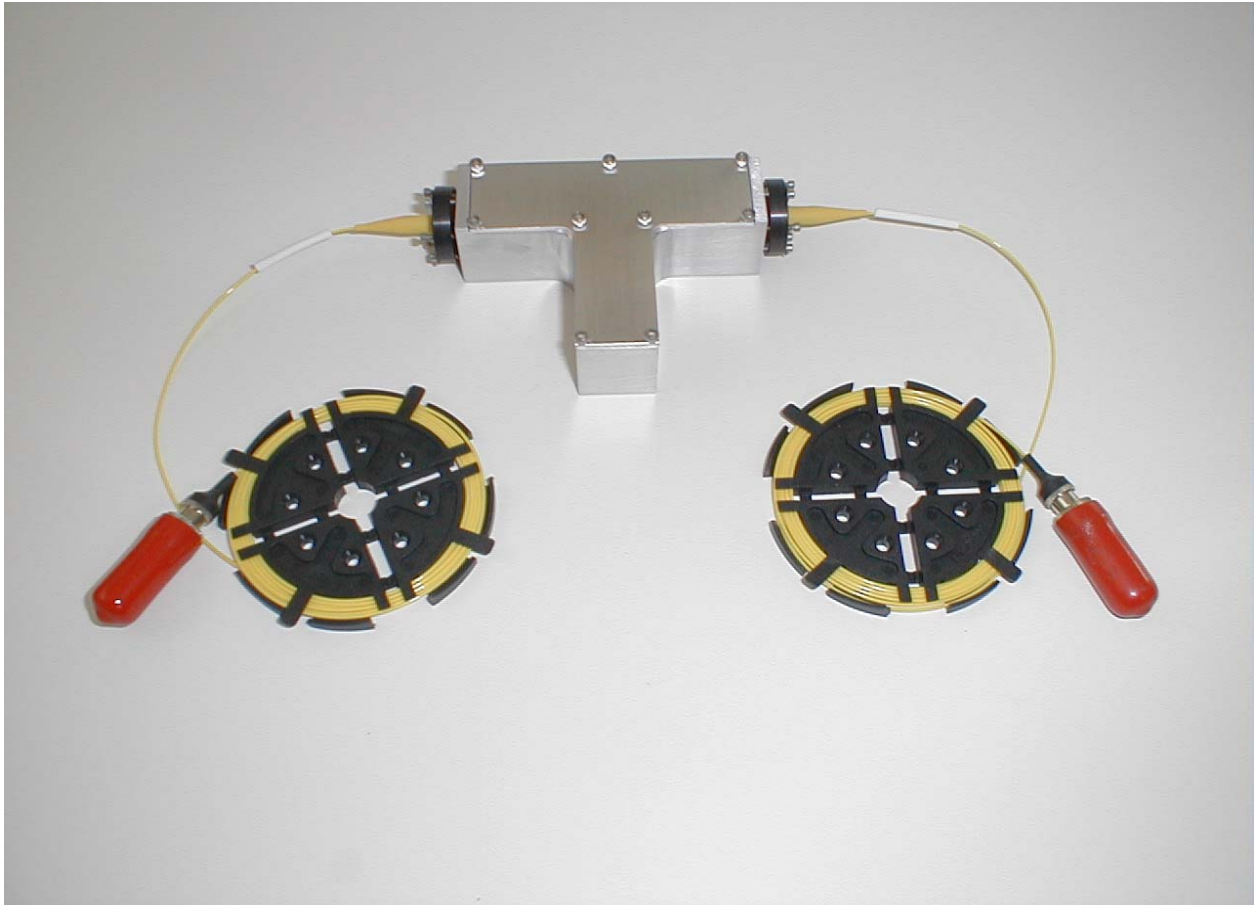




TRIAD TECHNOLOGY INC.

## FIBER COUPLED ACETYLENE GAS CELLS DATA SHEET



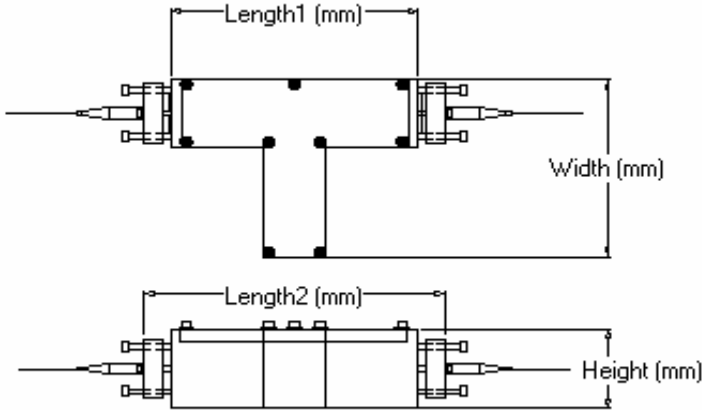
Our fiber coupled acetylene gas cells are single mode fiber coupled cell containing Acetylene ( $^{12}\text{C}_2\text{H}_2$  or  $^{13}\text{C}_2\text{H}_2$ ) gas at a pressure of 50 Torr. (6.7kPa). The gas cells are manufactured using a fused silica tube with optical quality windows at either end. The internal cell length is 50mm in length. The cells are made with wedge windows to eliminate back reflections from window surfaces. Acetylene gas, with a purity level of 99%, is the fill gas. Once the cell is filled, it is mounted in aluminum housing with a fiber optical collimator at each end. The collimators are adjusted to maximize the light thru the gas cell with an insertion loss of less than 50%. The absorption spectrums for each of the Acetylene isotopes are  $^{12}\text{C}_2\text{H}_2$  from 1510 to 1540nm and  $^{13}\text{C}_2\text{H}_2$  from 1518 to 1548nm. Each single mode fiber coupled acetylene 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:	75 mm	Length2 (with Collimators):	90 mm
Width:	60 mm	Height:	25 mm

### Optical Properties:

Absorption Wavelength Range

<sup>12</sup>C<sub>2</sub>H<sub>2</sub> 1510 – 1540nm

<sup>13</sup>C<sub>2</sub>H<sub>2</sub> 1518 – 1548nm

Wavelength Accuracy: ± 0.0003nm (1 sigma)

Temperature Dependence: < 00001nm/°C

Purity of Acetylene: 99%

Insertion Loss: < 50%

Gas Pressure @23°C: 50 Torr ± 3% (Alternative pressure also available)

Back Reflection Level: 60dB

Optical Path Length: 50 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 hytrel jacket

Length of Fiber: 1.0 m ± 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

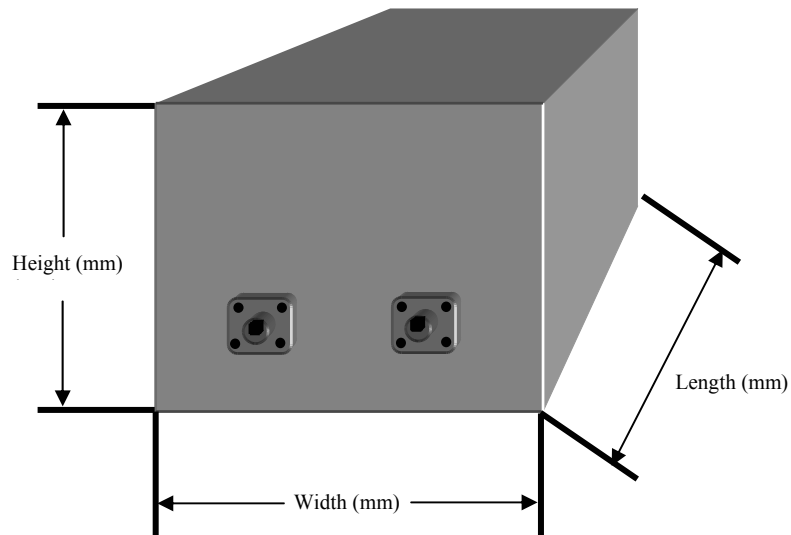


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Enclosure Option:

Height: 90mm  
Width: 128mm  
Length: 230mm



<b>Gas Type</b>	<b>Part Number</b>	<b>Standard Pressures</b>
Acetylene Isotope 12 ( $^{12}\text{C}_2\text{H}_2$ )	TT-FB-CH12-50-G	50 Torr.
Acetylene Isotope 13 ( $^{13}\text{C}_2\text{H}_2$ )	TT-FB-CH13-50-G	50 Torr.
Acetylene Isotope 12 ( $^{12}\text{C}_2\text{H}_2$ ) (in Enclosure)	TT-FB-CH12-50-G-E	50 Torr.
Acetylene Isotope 13 ( $^{13}\text{C}_2\text{H}_2$ ) (in Enclosure)	TT-FB-CH13-50-G-E	50 Torr.