

## HIGH POWER FIBER-COUPLED LED LIGHT SOURCES

Mightex FCS-series fiber-coupled LED light sources employ the latest high-power LED technologies and a proprietary coupling optics to achieve maximum optical output power. Optical output is coupled into a fiber through a standard SMA fiber adaptor port (SMA fiber patch cords are sold separately). FCS series also features a locking electrical connector for secured connection. FCS series are designed as a universal light source for general lab use and OEM applications. The one-piece machined housing features multiple mounting holes. All Mightex LED drivers such as the SLC series or other LED drivers and current sources can be used to drive the light sources.

### FEATURES

- High-power UV/VIS/NIR/white fiber-coupled LEDs
- Interchangeable fiber with SMA connector
- No moving parts in optical path
- Multiple mounting features for lab and OEM applications
- Optional LED controllers
- Compact, machined metal housing with integrated heat sink
- Locking electrical connector

### APPLICATIONS

- Microscopy
- Fluorescence
- Sensors
- Semiconductor equipment
- Testing instruments
- Medical instruments
- Machine vision

## PERFORMANCE SPECIFICATIONS

### Type A FCS | *passive cooling*



| Part Number  | Description   | Nominal Wavelength (nm) | $I_{op}$ (mA) | $V_{op}$ (V) | Typical Radiant Flux <sup>1,2</sup> (mW)<br>With 400 $\mu$ m<br>0.22NA Fiber | Typical Radiant Flux <sup>2</sup> (mW)<br>With 400 $\mu$ m<br>0.39NA Fiber |
|--------------|---------------|-------------------------|---------------|--------------|--|--|
| FCS-0000-000 | Cool White    | 5,500K                  | 1000          | 3.9          | 3.2  | 6.4  |
| FCS-0001-000 | Warm White    | 4,000K                  | 1000          | 3.9          | 3.2  | 6.4  |
| FCS-0002-000 | Glacier White | 6,500K                  | 1000          | 3.6          | 3.2  | 6.4  |
| FCS-0003-000 | Warm White    | 3,000K                  | 1000          | 2.8          | 2.8  | 5.6  |
| FCS-0265-001 | Deep UV       | 265                     | 350           | 6.3          | 400 $\mu$ W  | N/A  |
| FCS-0275-001 | Deep UV       | 275                     | 600           | 6            | 700 $\mu$ W  | N/A  |
| FCS-0280-002 | Deep UV       | 280                     | 800           | 6.5          | 600 $\mu$ W  | N/A  |
| FCS-0310-001 | Deep UV       | 310                     | 600           | 5.8          | 360 $\mu$ W  | N/A  |
| FCS-0325-001 | Deep UV       | 325                     | 350           | 5.4          | 220 $\mu$ W  | N/A  |
| FCS-0340-002 | Deep UV       | 340                     | 350           | 4.3          | 0.6  | 1.1  |
| FCS-0365-001 | UV 365nm      | 365                     | 1000          | 3.65         | 4.3  | 8.6  |



## Type A FCS | *continued*

| Part Number  | Description        | Nominal Wavelength (nm) | I <sub>op</sub> (mA) | V <sub>op</sub> (V) | Typical Radiant Flux <sup>1,2</sup> (mW)<br>With 400µm<br>0.22NA Fiber | Typical Radiant Flux <sup>2</sup> (mW)<br>With 400µm<br>0.39NA Fiber |
|--------------|--------------------|-------------------------|----------------------|---------------------|--|--|
| FCS-0380-000 | UV 380nm           | 380                     | 1000                 | 3.2                 | 2.8  | 5.6  |
| FCS-0385-001 | UV 385nm           | 385                     | 1000                 | 3.65                | 5.8  | 11.6   |
| FCS-0395-000 | UV 395nm           | 395                     | 1000                 | 3.1                 | 6.2  | 12.4   |
| FCS-400-002  | UV 400nm, 3W       | 400                     | 1000                 | 3.1                 | 6.1  | 12.2   |
| FCS-0405-000 | UV 405nm           | 405                     | 1000                 | 3                   | 7.5  | 15   |
| FCS-0410-000 | 410nm              | 410                     | 1000                 | 3                   | 7.3  | 14.6   |
| FCS-0415-000 | 415nm              | 415                     | 1000                 | 3                   | 7.2  | 14.4   |
| FCS-0430-000 | 430nm              | 430                     | 500                  | 3.8                 | 2.9  | 5.8  |
| FCS-0455-000 | 455nm              | 455                     | 1000                 | 3.0                 | 18   | 36   |
| FCS-0470-000 | 470nm              | 470                     | 1000                 | 3                   | 7.2  | 14.4   |
| FCS-0430-000 | 430nm              | 430                     | 500                  | 3.8                 | 2.9  | 5.8  |
| FCS-0455-000 | 455nm              | 455                     | 1000                 | 3.0                 | 18   | 36   |
| FCS-0470-000 | 470nm              | 470                     | 1000                 | 3.9                 | 7  | 14   |
| FCS-0471-000 | 471nm              | 471                     | 350                  | 3                   | 2.1  | 4.2  |
| FCS-0490-000 | 490nm              | 490                     | 350                  | 3.5                 | 3.2  | 6.4  |
| FCS-0505-000 | 505nm              | 505                     | 1000                 | 3.9                 | 3.5  | 7  |
| FCS-0530-000 | 530nm              | 530                     | 1000                 | 2.85                | 7  | 14   |
| FCS-0560-000 | 560nm<br>broadband | 560                     | 700                  | 2.9                 | 5.5  | 11   |
| FCS-0590-000 | 590nm              | 590                     | 1000                 | 3.2                 | 1.2  | 2.4  |
| FCS-0617-001 | 617nm, 2W          | 617                     | 700                  | 2.3                 | 6.5  | 13   |
| FCS-0625-000 | 625nm              | 625                     | 1000                 | 3                   | 6.5  | 13   |
| FCS-0656-000 | 656nm              | 656                     | 1000                 | 3.1                 | 6.5  | 13   |
| FCS-0680-000 | 680nm              | 680                     | 600                  | 2.7                 | 1.4  | 2.8  |
| FCS-0700-000 | 700nm              | 700                     | 500                  | 2.1                 | 0.6  | 1.2  |
| FCS-0720-000 | 720nm              | 720                     | 600                  | 2.2                 | 0.9  | 1.8  |
| FCS-0740-000 | 740nm              | 740                     | 1000                 | 2.9                 | 3.6  | 7.2  |
| FCS-0780-000 | NIR 780nm          | 780                     | 800                  | 2.5                 | 2.2  | 4.4  |
| FCS-0810-000 | NIR 810nm          | 810                     | 800                  | 2.2                 | 1.5  | 3  |
| FCS-0850-001 | NIR 850nm, 3W      | 850                     | 1000                 | 3                   | 6  | 12   |
| FCS-0870-000 | NIR 870nm          | 870                     | 700                  | 1.9                 | 1.4  | 2.8  |
| FCS-0910-000 | NIR 910nm          | 910                     | 1000                 | 1.9                 | 1.5  | 3  |
| FCS-0940-000 | NIR 940nm          | 940                     | 1000                 | 2.4                 | 4  | 8  |

<sup>1</sup> Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.



## Type B FCS | *fan cooling*



| Part Number  | Description     | Nominal Wavelength (nm) | I <sub>op</sub> (mA) | V <sub>op</sub> (V) | Typical Radiant Flux <sup>1,2,3</sup> (mW)<br>With 400µm<br>0.22NA Fiber | Typical Radiant Flux <sup>2,3</sup> (mW)<br>With 400µm<br>0.39NA Fiber |
|--------------|-----------------|-------------------------|----------------------|---------------------|--|--|
| FCS-0470-101 | Blue            | 470                     | 3000                 | 4.6                 | 19   | 38   |
| FCS-0530-100 | Green           | 530                     | 2400                 | 4.9                 | 8  | 16   |
| FCS-0540-100 | Broadband Green | 540                     | 3000                 | 4.6                 | 10   | 20   |
| FCS-0625-100 | Red             | 625                     | 2400                 | 2.9                 | 9  | 18   |

<sup>1</sup> Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.

## Type H FCS | *super high-power, fan cooling*



| Part Number  | Description               | Nominal Wavelength (nm) | I <sub>op</sub> (A) | V <sub>op</sub> (V) | Typical Radiant Flux <sup>1,2,3</sup> (mW)<br>With 1000µm<br>0.22NA Fiber | Typical Radiant Flux <sup>2,3</sup> (mW)<br>With 1000µm<br>0.39NA Fiber |
|--------------|---------------------------|-------------------------|---------------------|---------------------|---|---|
| FCS-0365-201 | UV                        | 365                     | 18                  | 4.2                 | 200   | 140   |
| FCS-0405-201 | UV                        | 405                     | 18                  | 3.6                 | 170   | 220   |
| FCS-0415-200 | Blue Violet<br>415nm, 65W | 415                     | 18                  | 3.6                 | 275   | 350   |
| FCS-0470-200 | Blue, 50W                 | 470                     | 13                  | 3.8                 | 180   | 280   |
| FCS-0470-201 | Blue, 60W                 | 470                     | 18                  | 3.4                 | 220   | 330   |
| FCS-0470-202 | Blue, 90W                 | 470                     | 27                  | 3.4                 | 260   | 390   |
| FCS-0525-200 | Green, 60W                | 525                     | 13                  | 4.6                 | 100   | 160   |
| FCS-0525-201 | Green, 80W                | 525                     | 18                  | 4.4                 | 120   | 190   |
| FCS-0560-200 | 560 broadband,<br>70W     | 560                     | 18                  | 3.8                 | 180   | 280   |
| FCS-0625-200 | Red, 38W                  | 625                     | 13                  | 2.9                 | 200   | 310   |
| FCS-0625-201 | Red, 42W                  | 625                     | 18                  | 2.3                 | 250   | 370   |
| FCS-0730-200 | NIR                       | 730                     | 18                  | 5.9                 | 110   | 170   |
| FCS-0780-200 | NIR                       | 780                     | 18                  | 3.6                 | 200   | 300   |
| FCS-0850-200 | NIR                       | 850                     | 18                  | 3.75                | 220   | 340   |
| FCS-6500-200 | Glacier White,<br>30W     | 6500K                   | 9                   | 3.7                 | 120   | 180   |
| FCS-6500-201 | Glacier White,<br>65W     | 6500K                   | 18                  | 3.7                 | 190   | 280   |

<sup>1</sup> Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.

## Discontinued Parts

| Part Number  | Description   | Nominal Wavelength (nm) | $I_{op}$ (mA) | $V_{op}$ (V) | Typical Radiant Flux <sup>1,2</sup> (mW)<br>With 400 $\mu$ m<br>0.22NA Fiber | Typical Radiant Flux <sup>2</sup> (mW)<br>With 400 $\mu$ m<br>0.39NA Fiber |
|--------------|---------------|-------------------------|---------------|--------------|--|--|
| FCS-0240-000 | Deep UV       | 240                     | 25            | 10           | 10 $\mu$ W   | 18 $\mu$ W   |
| FCS-0255-000 | Deep UV       | 255                     | 30            | 6.5          | 45 $\mu$ W   | 80 $\mu$ W   |
| FCS-0260-000 | Deep UV       | 260                     | 30            | 6.5          | 45 $\mu$ W   | 80 $\mu$ W   |
| FCS-0265-000 | Deep UV       | 265                     | 350           | 6.3          | 100 $\mu$ W  | N/A  |
| FCS-0275-000 | Deep UV       | 275                     | 30            | 6.2          | 90 $\mu$ W   | 160 $\mu$ W  |
| FCS-0280-000 | Deep UV       | 280                     | 30            | 5.8          | 90 $\mu$ W   | 160 $\mu$ W  |
| FCS-0280-001 | Deep UV       | 280                     | 500           | 5.8          | 400 $\mu$ W  | N/A  |
| FCS-0285-000 | Deep UV       | 285                     | 30            | 5.8          | 90 $\mu$ W   | 160 $\mu$ W  |
| FCS-0285-001 | Deep UV       | 285                     | 500           | 5.8          | 450 $\mu$ W  | N/A  |
| FCS-0295-000 | Deep UV       | 295                     | 30            | 5.5          | 75 $\mu$ W   | 135 $\mu$ W  |
| FCS-0295-001 | Deep UV       | 295                     | 600           | 5.8          | 500 $\mu$ W  | N/A  |
| FCS-0300-000 | Deep UV       | 300                     | 500           | 6            | 300 $\mu$ W  | N/A  |
| FCS-0310-000 | Deep UV       | 310                     | 30            | 5.5          | 90 $\mu$ W   | 160 $\mu$ W  |
| FCS-0325-000 | Deep UV       | 325                     | 30            | 5            | 60 $\mu$ W   | 110 $\mu$ W  |
| FCS-0340-000 | Deep UV       | 340                     | 30            | 5            | 60 $\mu$ W   | 110 $\mu$ W  |
| FCS-0340-001 | Deep UV       | 340                     | 500           | 4.3          | 0.6  | 1.1  |
| FCS-0365-000 | UV 365nm      | 365                     | 500           | 3.8          | 5.8  | 11.6   |
| FCS-0365-200 | UV 365nm      | 365                     | 12,000        | 4            | 60   | 180  |
| FCS-0385-000 | UV 385nm      | 385                     | 500           | 3.8          | 5.8  | 11.6   |
| FCS-0390-000 | UV 390nm      | 390                     | 1000          | 3.1          | 5.8  | 11.6   |
| FCS-0400-000 | UV 400nm, 1W  | 400                     | 350           | 3.5          | 0.8  | 1.6  |
| FCS-0400-001 | UV 400nm, 4W  | 400                     | 1000          | 4.1          | 3.5  | 7  |
| FCS-0405-200 | UV 405nm, 50W | 405                     | 13000         | 3.8          | 70   | 210  |
| FCS-0420-000 | 420nm 2W      | 420                     | 500           | 3.8          | 2.6  | 5.2  |
| FCS-0420-000 | 420nm 3W      | 420                     | 1000          | 3            | 7.2  | 14.4   |
| FCS-0425-000 | 425nm         | 425                     | 1000          | 3            | 6.7  | 13.4   |
| FCS-0470-100 | 470nm         | 470                     | 3000          | 4.6          | 11   | 21   |
| FCS-0617-000 | 617nm, 3W     | 617                     | 1000          | 3.9          | 6.5  | 13   |
| FCS-0657-000 | 657nm         | 657                     | 350           | 2.4          | 1  | 2  |
| FCS-0850-000 | 850nm, 2W     | 850                     | 1000          | 2.1          | 4  | 8  |

<sup>1</sup> Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.



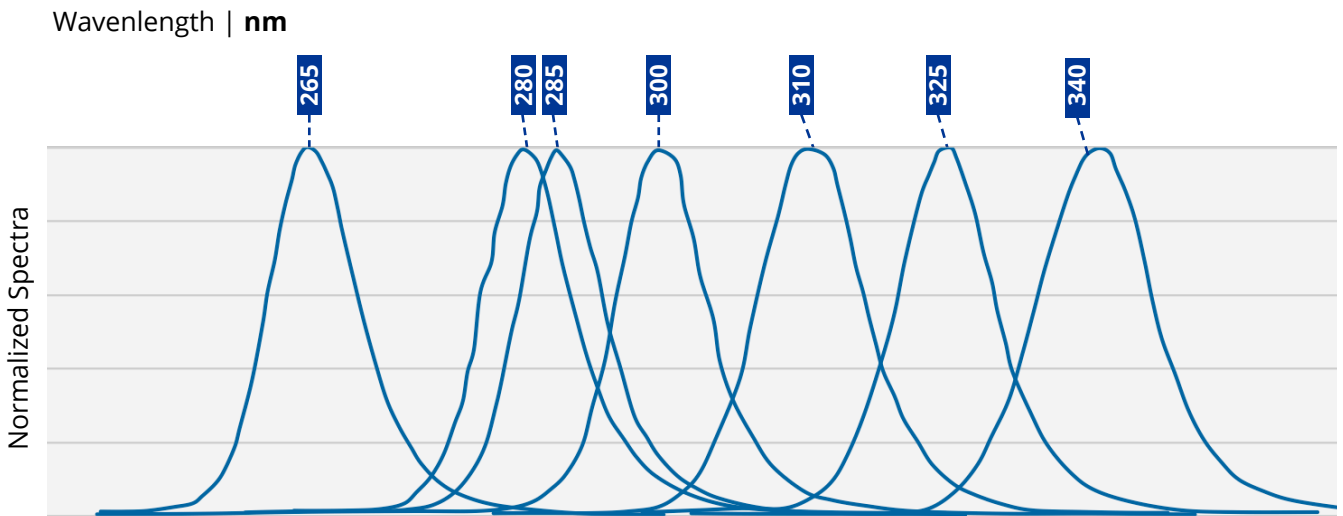
## LED SPECTRA

### MIGHTEX LED WAVELENGTH PORTFOLIO



New LED wavelengths are continually added to the portfolio. Please visit [www.mightexsystems.com](http://www.mightexsystems.com) for updated list.

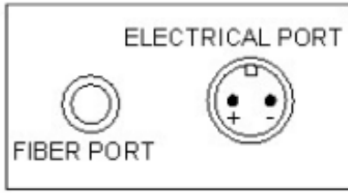
### MIGHTEX DUV LED WAVELENGTH PORTFOLIO



New LED wavelengths are continually added to the portfolio. Please visit [www.mightexsystems.com](http://www.mightexsystems.com) for updated list.

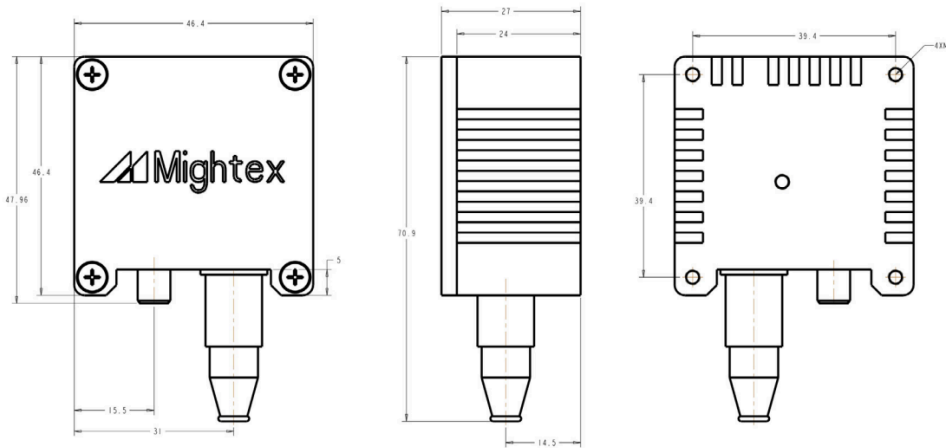


## ELECTRICAL PIN LAYOUT

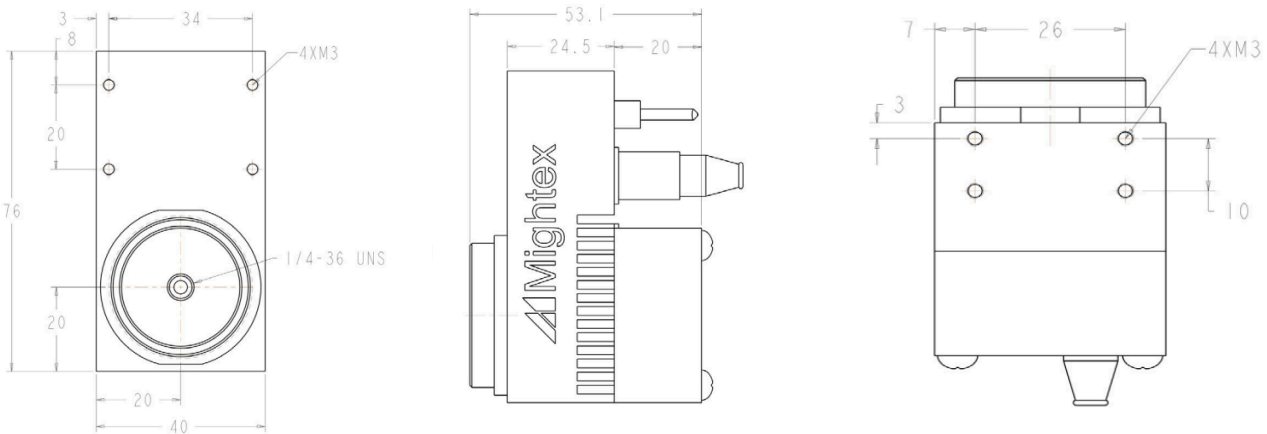


## INSTALLATION DRAWINGS

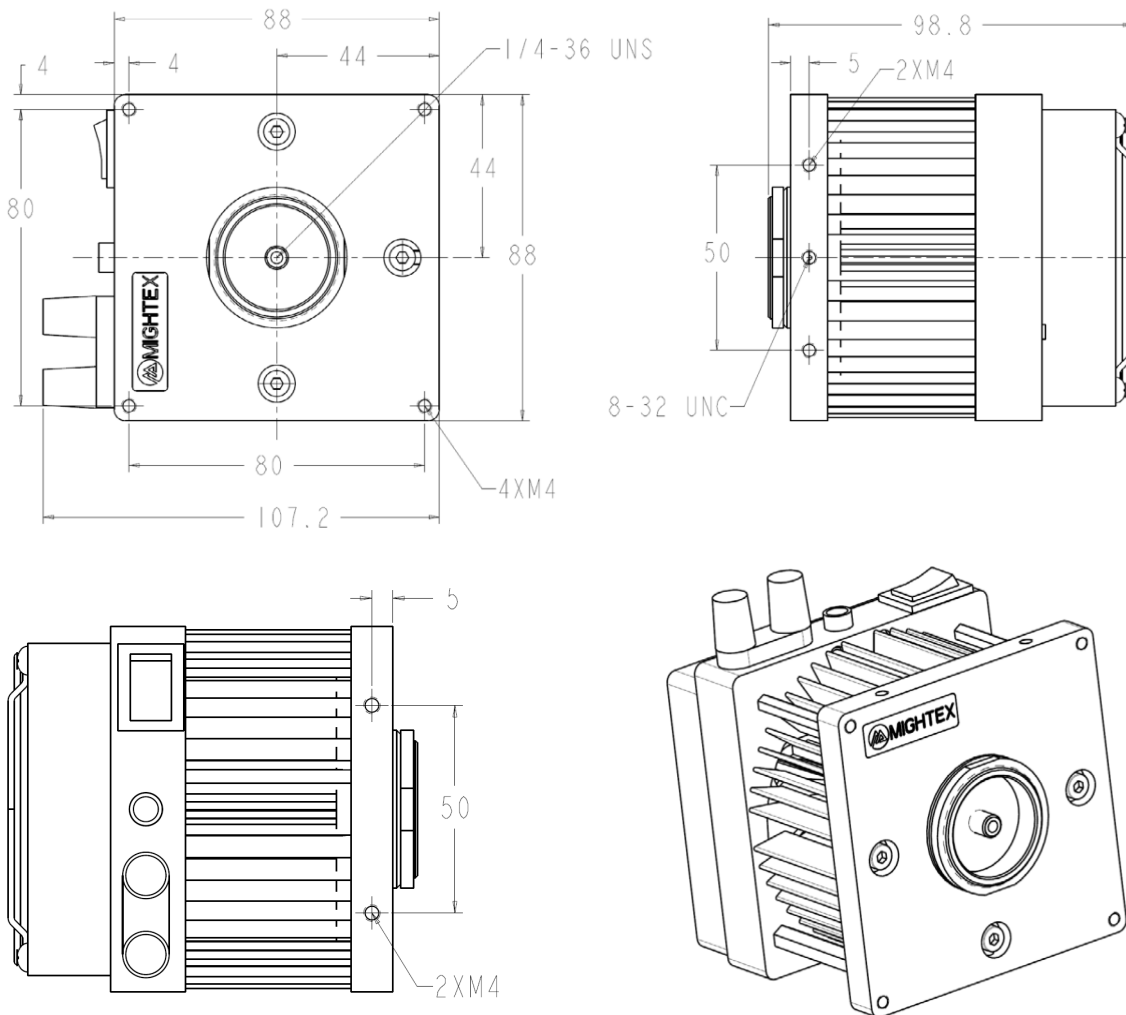
### Installation Drawing for FCS Fiber-Coupled LED, Type-A



### Installation Drawing for FCS Fiber-Coupled LED, Type-B



## Installation Drawing for FCS Fiber-Coupled LED, Type-H



### PART NUMBER AND ORDERING INFORMATION

**FCS** -     - **XXX**

Wavelength

Configuration Code

For example, FCS-0470-000 is a 470nm fiber-coupled light source with SMA fiber adaptor.

With a world-class OEM design team, Mightex offers a broad range of customized solutions in order to meet individual customer's unique requirements. Please call **1-925-218 1885** or email [sales@mightex.com](mailto:sales@mightex.com) for details.

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