Laser Diode Beam Source 58FCM-...  
Fiber-coupled, singlemode and polarization-maintaining with FC-APC connector

- Concentrically symmetric beam profile with Gaussian intensity distribution
- Singlemode fiber cable or polarization-maintaining singlemode fiber cable (polarization axis aligned with connector key index)
- Spectral range 405 nm to 1330 nm
- Laser output power up to 70 mW
- Laser cable with strain relief and protective sleeve (Ø 3 mm)
- FC-APC connector (8°-polish) reducing power noise caused by back-reflection into the laser resonator
- Output power adjustable using potentiometer or external voltage control input (0-2.5 V)
- AND-wired modulation inputs, analog and TTL, frequency up to 100 kHz
- Operation mode: constant power (standard) and constant current

**Laser safety specification according to IEC 825 / EN 60825:**
- Key switch and LED-indicator for laser operation
- Interlock connection

**Options:**
- To fulfill lower laser safety requirements (e.g., laser class 2), the laser source can be delivered with reduced maximum power output
- Supply voltage 5 V (standard) or 12 V (exception: Table 1, row 1 is available with 12 V supply voltage only), reverse voltage protection
- Protection of the potentiometer by protective cap

**Related products:**
- Laser diode beam source 52FCM: Version w/o key switch and w/o interlock (for OEM purposes only)
- Laser diode beam source 51nanoFCM: Low noise version with reduced coherence length and speckle contrast

**Electrical Data**

<table>
<thead>
<tr>
<th>Laser diode operation mode</th>
<th>DC - 100 kHz analog modulation input</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Constant power</td>
<td>TTl modulation logic</td>
<td>Laser ON TTl high</td>
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<tr>
<td>Constant current</td>
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**Fiber Connector**

- Connector index
- Orientation of the fiber slow axis with the axis of the fiber's linearly polarized radiation of the source

**Table 2 Laser Diode Beam Source 51nanoFCM...**

<table>
<thead>
<tr>
<th>Row</th>
<th>Cur. No.</th>
<th>Type</th>
<th>Wave-length (nm)</th>
<th>Pmax (mW)</th>
<th>Laser diode mode</th>
<th>LD operation mode</th>
<th>Supply voltage (V)</th>
<th>Electrics</th>
<th>Fiber connectivity</th>
<th>Fiber length (cm)</th>
<th>MFD (µm)</th>
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</tbody>
</table>

**58FCM - 637 - 5 - H10 - M**

**Dimensions Laser Diode Beam Source 58FCM...**

**Power Cord**

- 1.5 m, IE230 female 3-pin plug, 10A, 250 V AC, IEC-connector (IEC60320) with country-specific male 3-pin plug

**Order Code**

- PS051003E
- PS120516E

**Order Code**

- BC 01 06 F
- BC 01 03 F
- BC 01 04 F
- BC 01 05 F
- BC 01 09 F

**Fiber Connector**

- FC-APC connector: 8°-polish of the connector ferrule and orientation of the principal axis of a polarization-maintaining singlemode fiber (type Panda) with the connector key index

**Alignments:**

- Fiber collimator, focussable, 60°-...  
- Micro-focus optics 5M-...  
- FC-APC connector

**Accessories**

- Power supply for laser diode beam sources, electroisolated, 1.5 m cable with connector (IEC60310-9) Lumbar series KV (female).

**Order Code**

- PS051003E
- PS120516E

**Power Supply**

- 100 - 240 V AC
- 12 VDC/5 A
- 5 VDC/5 A

**Fiber**

- Singlemode fiber cable, FC-APC connector (8°-polish)
- Singlemode fiber cable, FC-PC connector (0°-polish)
- PM singlemode fiber cable, FC-PC connector (8°-polish)
- PM singlemode fiber cable, FC-APC connector (0°-polish)
- Singlemode fiber cable, FC-PC connector (8°-polish)
- PM singlemode fiber cable, FC-APC connector (0°-polish)

**Connector**

- Key switch: ON/OFF - LED ON
- Potentiometer (reduction of laser power output)
- Connector, ext. modulation and interlock

**Key switch:**

- LED-indicator for laser operation
- Interlock connection

**Connector**

- Lumbar connector (female) according IEC 60130-9
- Key switch: ON/OFF - LED ON
- Potentiometer (reduction of laser power output)
- Connector, ext. modulation and interlock

**Electrical Data**

- Supply voltage: standard 6.5 VDC (± 0.2 V), optional 12 VDC (± 0.2 V)
- Laser diode operation mode: constant power
- Max. operating current: 260 mA
- Ambient temperature range: 15 - 35 °C
- Modulation frequency: analog DC - 100 kHz, TTL 0 - 100 kHz
- Power output photomultiplier: < 1% imbalance
- TTL modulation logic: Laser ON TTL high
- Analog control voltage Pmin to Pmax: 0 - 2.5 V

**Timing Diagram**

- The laser has two AND-wired modulation input channels, U1 and U2. The laser is OFF with an open input. The laser can be modulated by using the digital modulation input. If only one modulation input is used then the other has to be set to +5 V (see timing diagram).
- The voltage Uref, at analog modulation input, is linearly controlled laser output power between 1% and 100% of the optical power set by the potentiometer.