

# Variable Light Source

FLS-210A



Variable power output

LED or laser options, single- or dual-wavelength

Equipped with EXFO's Universal Interface



Fiber-optic test, measurement  
and monitoring instruments

**EXFO**

# Manual and Automatic Test Capabilities

The FLS-210A is a high-performance light source that contains LED or laser sources with variable power output levels from 0 dB to 5 dB and from 0 dB to 10 dB, respectively. Combine the FLS-210A with the FOT-90A fiber-optic power meter to measure power and loss in singlemode and multimode fibers. The FLS-210A is the only source in its class capable of performing both manual and automatic tests when combined with a compatible power meter.



## FasTesT-Compatible



FasTesT automatically performs a single- or dual-wavelength loss test at the touch of a button. Perform automated attenuation measurements by referencing the FOT-90A Power Meter and FLS-210A Variable Light Source, then simply press the FasTesT button on the FLS-210A. The compatible power meter at the other end will automatically acquire and store readings. The result is efficient data acquisition at a reduced risk of error.

## Dual-Wavelength Selection

The FLS-210A is available in single- (1300 nm, 1550 nm) or dual-wavelength (850/1300 nm, 1310/1550 nm) configurations. Dual-wavelength models toggle between sources and use the same output connector for maximum efficiency and accuracy. For applications requiring stable sources, select the cooled laser option.

## Variable Output Advantage

The FLS-210A features variable outputs over a 10 dB range for laser versions and a 5 dB range for LED versions. Either version can be adjusted by increments of 0.1 dB. The laser output is -2 dBm, -3 dBm or -7 dBm, depending on the chosen source.

## Outstanding Features

The FLS-210A provides 2 kHz tone modulation, a large, backlit LCD, three-way powering (AC adapter/charger, NiCd, 9 V alkaline battery), low-battery indicator and auto-off function. The unit is housed in a durable polycarbonate case, designed to withstand any field conditions. The FLS-210A offers portable lab-quality performance.

## Key Features

- FasTesT-compatible
- Three-way powering
- Automatic mode for streamlined documentation

## Specifications

### Single-wavelength source specifications<sup>1</sup>

Model	-02BL	-03BL
Wavelength (nm)	1310 ± 15	1550 ± 20
Spectral width (rms) <sup>2</sup> (nm)	≤ 5	≤ 5
Emitter type	laser	laser
Typical output power (dBm)		
9/125 μm	-2	-2
50/125 μm	-2	-2
Stability (dB)		
1 h	± 0.05	± 0.05
8 h <sup>4</sup>	± 0.12	± 0.12
Temperature stability <sup>5</sup> (dB)	± 0.3	± 0.3

### Dual-wavelength source specifications<sup>1</sup>

Model	-12C		-23B		-23BL		-23BLC	
Wavelength (nm)	850 ± 30	1300 ± 30	1310 ± 30	1550 ± 30	1310 ± 15	1550 ± 20	1310 ± 15	1550 ± 20
Spectral width (nm)	≤ 50 <sup>3</sup>	≤ 80 <sup>3</sup>	≤ 80 <sup>3</sup>	≤ 80 <sup>3</sup>	≤ 5 <sup>2</sup>	≤ 5 <sup>2</sup>	≤ 5 <sup>2</sup>	≤ 5 <sup>2</sup>
Emitter type	LED	LED	LED	LED	laser	laser	laser	laser
Typical output power (dBm)								
9/125 μm	—	-33	-26	-31	-3.5	-3.5	-3.5	-3.5
50/125 μm	-22	-18	-26	-31	-3.5	-3.5	-3.5	-3.5
Stability (dB)								
1 h	± 0.04	± 0.04	± 0.05	± 0.05	± 0.05	± 0.05	± 0.04	± 0.04
8 h <sup>4</sup>	± 0.1	± 0.1	± 0.15	± 0.15	± 0.12	± 0.12	± 0.06	± 0.06
Temperature stability <sup>5</sup> (dB)	± 0.3	± 0.3	± 0.3	± 0.3	± 0.3	± 0.3	± 0.2	± 0.2

### General specifications

Size	22 cm x 11 cm x 5 cm	(8 <sup>3</sup> / <sub>4</sub> in x 4 <sup>1</sup> / <sub>2</sub> in x 2 in)
Weight	unit	0.75 kg (1 <sup>1</sup> / <sub>2</sub> lb)
	shipping	2.5 kg (5 <sup>1</sup> / <sub>2</sub> lb)
Temperature	operating	-10 °C to 40 °C (14 °F to 104 °F)
	storage	-30 °C to 60 °C (-22 °F to 140 °F)

### Standard accessories

Instruction manual, AC adapter/charger, built-in NiCd batteries, 9 V alkaline battery, carrying case, protective holster, shoulder strap, and Certificate of Compliance.

### Safety

This product complies with 21 CFR 1040.10 and 1040.11 and with IEC 60825-1:1993+A1:1997.

CLASS 1 LASER PRODUCT

CLASS 1 LED PRODUCT

### Notes

- At 23 °C ± 2 °C (73 °F ± 4 °F) after a 10-minute warmup period.
- rms = root mean square
- Full width at half maximum (FWHM).
- At 23 °C ± 2 °C (73 °F ± 4 °F) after a 20-minute warmup period.
- For a temperature variation from -10 °C to 40 °C (14 °F to 104 °F).

# Ordering Information

## FLS-210A-XXXXX-XX

**Source code**

**Single wavelength**

- 02BL = 1310 nm laser
- 03BL = 1550 nm laser

**Dual wavelength**

- 12C = 850/1300 nm LED
- 23B = 1310/1550 nm LED
- 23BL = 1310/1550 nm laser
- 23BLC = (TEC) 1310/1550 nm laser

**Connector code**

- 50 = FC/PC
- 54 = SC/PC
- 58 = FC/APC narrow key
- 74 = ST/PC
- 88 = SC/APC
- 89 = FC/UPC
- 90 = ST/UPC
- 91 = SC/UPC
- EI = UPC Universal Interface
- EA = APC narrow key Universal Interface

The fixed baseplate (EI or EA) must be ordered with a removable universal connector adapter (EUI-XX). Please specify a EUI from the following list:

- EUI-28 = DIN 47256
- EUI-76 = HMS-10/AG (EI only)
- EUI-89 = FC
- EUI-90 = ST (EI only)
- EUI-91 = SC
- EUI-95 = E-2000

Example: FLS-210A-EI-89 for FC/UPC interface  
 FLS-210A-EA-89 for FC/APC interface

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EXFO is certified ISO 9001 and attests to the quality of these products, which come with a 12-month warranty and after-sales support service. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices.

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