

# Fabry Perot (FP) Source Module

## Part of the MAP Series General Purpose mSRC-C2 family

Multiple Application Platform (MAP) modules with Fabry-Perot (FP) lasers, are stabilized, high power, fixed wavelength light sources at the key telecom wavelengths 850, 1310, 1490, 1550 and 1625 nm.

VIAVI offers a wide range of FP lasers as part of the general purpose light source (mSRC) module in the MAP portfolio. The FP lasers are offered at the standard single mode wavelengths of 1310 nm, 1490 nm, 1550 nm and 1625 nm. Multimode versions are offered at 850 nm and 1310 nm.

## Functional Description



VIAVI Fabry Perot (FP) Lasers emit light at commonly used discrete wavelengths. They have spectral width in the region of 5 nm, and a high output power level. Cooled FP lasers are ideal sources for general loss measurements of broadband optical components.

VIAVI FP lasers have a stable output power (Figure 1) with the cooled versions having

a stability of  $\pm 0.005$  dB. External isolators in the module ensure stability in the presence of reflections from open PC or dirty connectors.

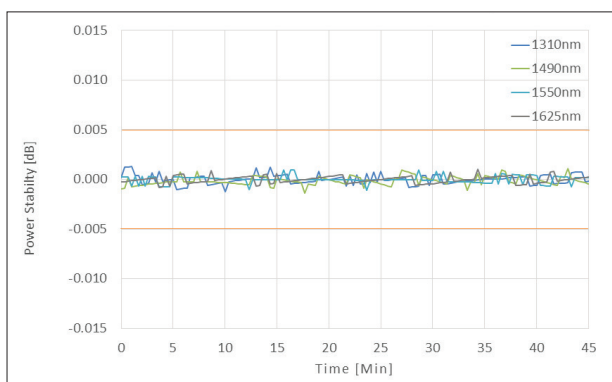


Figure 1 –mSRC-C2 FP Laser Power Stability

## Key Features

- Basic or TEC'd FP laser
- Single Mode and Multimode versions
- Simplify test system integration with individual output connectors per wavelength or pre-multiplexed

## Applications

- Insertion loss testing
- General power meter or loss calibration
- Applications requiring modulation from 150 to 2000 Hz with 1 Hz resolution
- Transient loss testing stimulus
- Multimode loss testing with IEC compliant launch conditions

## Compliance

- The MAP series mSRC-C2 module, when installed in a MAP chassis, complies to CE, CSA/UL/IEC61010-1, LXI Class C requirements, meets the requirements of Class 1M in standard IEC 60825-1(2014), and complies with 21 CFR 1040.1 except deviations per Laser Notice No. 50,

INVISIBLE LASER RADIATION  
DO NOT VIEW DIRECTLY WITH  
OPTICAL INSTRUMENTS  
CLASS 1M PRODUCT  
(IEC 60825-1)

An intuitive graphic user interface (GUI) is optimized for use in either a laboratory or a manufacturing environment. Efficient transition between summary and detailed views allows users to operate at a system level or access the full power of a module.

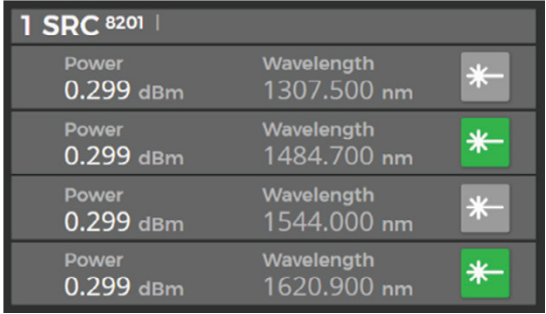


Figure 2 - mSRC-C2 MAP-300 summary view GUI

### Options and Configurations

The VIAVI FP sources are offered in non-TEC'd and TEC variant.

FP Variant	Available Configurations
Single Mode Basic FP	1310/1550 nm individual output
	1310/1550 nm multiplexed output
Single Mode TEC'd FP	1310/1550 nm individual output
	1310/1490/1550/1625 nm individual output
	1310/1550 nm multiplexed output
	1310/1490/1550/1625 nm multiplexed output
Multimode Basic FP	850/1310 nm individual output
	850/1310 nm multiplexed output

### Chassis and Modular Family

The VIAVI Multiple Application Platform (MAP) is a modular, rack mountable or benchtop, optical test and measurement platform with chassis' that can host 2, 3 or 8 application modules. The LightDirect family of modules are characterized by their simple control and single function nature. Individually or together they form the foundation of a diverse array of optical test applications. The web enabled multiuser interface is simple and intuitive. LXI compliant with a full suite of SCPI based automation drivers and PC based management tools, the VIAVI MAP is optimized for both the lab to manufacturing environments.

The mSRC is part of the LightDirect module family. Alongside the many other modules, such as optical attenuators, polarization scramblers, power meters, and spectrum analyzers, the MAP series is the ideal, modular platform for photonic system and module testing.

The mSRC-C2 is compatible with all current MAP-300 and MAP-200 chassis.



## Specifications

For more information on this or other products and their availability, please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit [viavisolutions.com/contacts](https://viavisolutions.com/contacts).

Optical Parameters <sup>1</sup>	Single Mode Basic FP Sources			Single Mode TEC'd FP Sources					
Peak Wavelength <sup>2</sup>	1310 nm	1550 nm	1310/ 1550 nm mux	1310 nm	1490 nm	1550 nm	1625 nm	1310/1550 nm mux <sup>3</sup>	1310/1490/1550/ 1625 nm mux <sup>3</sup>
Spectral Width (FWHM)	< 5 nm	As per individual specifications		< 5 nm				As per individual specifications	
Output Optical Power <sup>4,5</sup>	≥ 0 dbm		≥ -4 dbm	0 dbm				≥ -4 dbm	≥ -8 dbm
Optical Power Stability for 15 min <sup>3</sup>	±0.1 dB	±0.15 dB		±0.005 dB				±0.01 dB	
Optical Power Stability for 3 hours <sup>3</sup>				±0.005 dB				±0.01 dB	
TEC Stabilized	No			Yes					
Wavelength Tolerance	±10 nm								
Optical Power Tuning Range <sup>6</sup>	≥ 10 dB								
Power Control Mode	Constant Current or Constant Power								
Modulation <sup>7</sup>	0.15 to 2.0 kHz								
Modulation Accuracy	±0.5 Hz								
Fiber Type <sup>8</sup>	Single Mode Fiber								
Connector Type	FC/APC								

1. All optical measurements after minimum 30 minutes warm-up

2. Peak wavelength defined as per IEC 61280-1-3 2010 clause 3.1.3. Measured at 23°C

3. Combined output power. Power measured with any 1 laser on full power at a time

4. Measured at full power at controlled environment of  $\Delta T = \pm 1^\circ$ , constant current mode with APC connector (SM) direct to power meter

5. Guarantee of 0dBm excluding connector losses for non-mux version

6. From maximum power down

7. Modulation duty cycle is fixed at 50%. Modulation depth is fixed at 100%

8. For IEC 60793-2-50 Type B1.3/ ISO 11801 OS2 compliant single mode fiber, or IEC 60793-2-10, Type A1a MM / ISO 11801 OM2 compliant multimode fiber

## Specifications continued

Optical Parameters <sup>1</sup>	Multimode FP Sources		
Peak Wavelength <sup>2</sup>	850 nm	1310 nm	850/1310 nm Muxed <sup>3</sup>
Spectral Width (FWHM)	< 5 nm		
Optical Launch Conditions	IEC 62614 Ed 1.0 July 2010		
Output Optical Power <sup>4</sup>	≥ -6.5 dBm	≥ -3.5 dBm	≥ -11dBm (850 nm) ≥ -8 dBm (1310 nm)
Optical Power Stability for 15 min <sup>4</sup>	±0.20 dB		±0.30 dB
TEC Stabilized	No		
Wavelength Tolerance	±20 nm		
Optical Power Tuning Range <sup>4</sup>	Fixed Output Power		
Power Control Mode	Constant Current		
Modulation <sup>5</sup>	0.15 to 2.0 kHz		
Modulation Setting Resolution	1 Hz		
Modulation Accuracy	±0.5 Hz		
Fiber Type <sup>6</sup>	Multimode Fiber		
Connector Type	FC/PC		

1. All measurements after a minimum of 30 minutes warm-up time.

2. Peak wavelength defined as per IEC 61280-1-3 2010 clause 3.1.3. Measured at room temperature.

3. Combined output power. Power measured with any one laser on full power at a time. Measured at full power at controlled environment of  $\Delta T \pm 1^\circ$ , constant current mode direct to power meter

4. Modulation duty cycle is fixed at 50%. Modulation depth is fixed at 100%

5. For IEC 60793-2-50 Type B1.3/ ISO 11801 OS2 compliant single mode fiber, or IEC 60793-2-10, Type A1a MM / ISO 11801 OM2 compliant multimode fiber

## General Specifications

Parameter	Specification
Operating Temperature	10 to 40°C (50 to 104°F)
Storage Temperature	-30 to 60°C (-22 to 140°F)
Operating Humidity	Maximum 85% Relative Humidity, non-condensing from 10 to 40°C/50 to 104°F
Dimensions (W x H x D)	4.06 x 13.26 x 37.03 cm (1.6 x 5.22 x 14.58 in)
Weight	1.3 kg (2.86 lb)

## Ordering Information

Part Number	FP Single Mode Source		
MSRC-C23500FB-M100-MFA	Basic FP Laser	Individual Output	1310/1550 nm Basic FP laser SMF FC/APC Connectors
MSRC-C23500FBX-M100-MFA		Single Output (Mux'd)	1310/1550 nm Basic FP Laser Single output SMF FC/APC connectors
MSRC-C23500FP-M100-MFA	TEC'd FP Laser	Individual Output	1310/1550 nm Standard FP laser SMF FC/APC Connectors
MSRC-C23456FP-M100-MFA			1310/1490/1550/1625 nm Standard FP laser SMF FC/APC Connectors
MSRC-C23500FPX-M100-MFA		Single Output (Mux'd)	1310/1550 nm Standard FP laser SMF Single output FC/APC Connectors
MSRC-C23456FPX-M100-MFA			1310/1490/1550/1625 nm Standard FP laser SMF Single output FC/APC Connectors

Part Number	50 $\mu$ m (OM3) Multimode Sources		
MSRC-C21308FP-M101-MFP	Basic FP laser	Individual Output	850/1310 nm Standard FP Laser 50 $\mu$ m MMF EF compliant FC/PC Connectors
MSRC-C21308FPX-M101-MFP		Single Output (Mux'd)	850/1310 nm Standard FP Laser Single output 50 $\mu$ m MMF EF compliant FC/PC Connectors

## Accessories

Accessories (Optional)	Product and Description	
Inspection and cleaning tool	CleanBlastPRO	The patented VIAVI Solutions® CleanBlast fiber end-face cleaning system provides a fast, effective, and cost-efficient solution for removing dirt and debris from connectors in most common applications. It is available in a benchtop and portable version
	FiberChek probe microscope	One-button FiberChek Probe delivers a reliable, fully autonomous, handheld inspection solution for every fiber technician.
	P5000i fiber microscope	Automated Fiber Inspection & Analysis Probe provides PASS/FAIL capability to PC, laptops, mobile devices and VIAVI test solutions.

A wider range of inspection tools are available at VIAVI. More information about the products and accessories can be accessed through our website at [www.viavisolutions.com](http://www.viavisolutions.com). For further assistance please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit [viavisolutions.com/contacts](http://viavisolutions.com/contacts).

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  - Maintain your equipment for peak performance at a low, predictable cost.
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Features

\*5-year plans only

Plan	Objective	Technical Assistance	Factory Repair	Priority Service	Self-paced Training	5 Year Battery and Bag Coverage	Factory Calibration	Accessory Coverage	Express Loaner
 BronzeCare	Technician Efficiency	Premium	✓	✓	✓				
 SilverCare	Maintenance & Measurement Accuracy	Premium	✓	✓	✓	✓*	✓		
 MaxCare	High Availability	Premium	✓	✓	✓	✓*	✓	✓	✓



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Contact Us +1 844 GO VIAVI | (+1 844 468 4284)  
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