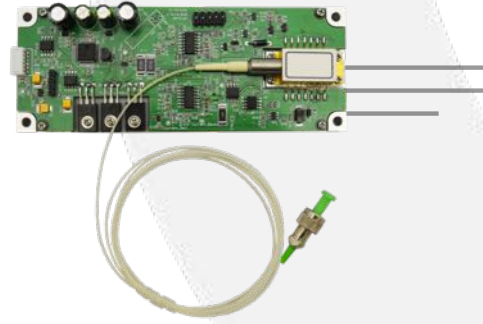




# DFB-PM-M



## DEVICE

## DFB Laser Source Module, Polarization Maintaining

## OVERVIEW

The Optilab DFB-PM-M is a Distributed Feedback (DFB) Polarization Maintaining (PM) laser source module designed for integration with an optical modulator to form a high bandwidth analog or digital photonics link. The DFB-PM-M can be ordered from more than 20 wavelengths in C-band and O-band, with the DFB laser's operating temperature and output power precisely controlled to ensure constant wavelength and power stability. The DFB-PM-M is designed to work with the Optilab Compact Modulator w/ Bias Control (CMB) for RFoF applications. Utilizing the USB /RS-485 port, the user can control the laser drive current and wavelength via PC interface. Contact Optilab for more information.

## FEATURES

- Polarization Maintaining (PM) output
- Laser linewidth 500-KHz is available
- Relative Intensity Noise (RIN) of -145 dB/Hz
- Up to 40 mW output
- Wavelength stability to +/- 10 pm
- Over 20 wavelengths available
- RS-485 or USB interface
- Wavelength tuning range: +/- 1.5 nm
- Power adjustment: 10% to 100%

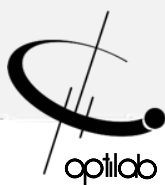
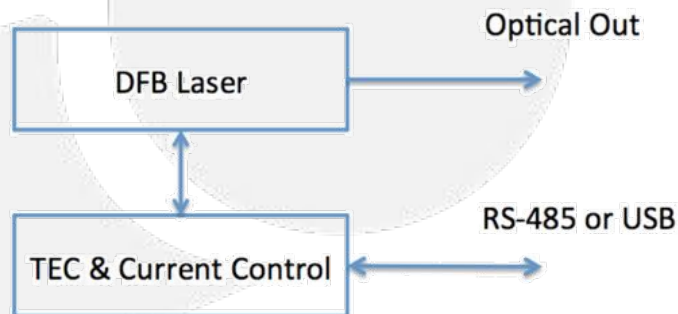
## APPLICATIONS

- Light source 40G RFoF analog link
- External modulated DWDM networks
- Seed Oscillator laser for MOPA
- Laboratory testing and measurement
- HFC fiber link

## OPTIONS

**DFB-PM-M-xxxx-yy**  
**xxxx:** Wavelength (nm)  
**yy:** Output Power (mW)

## FUNCTION DIAGRAM





# DFB-PM-M

## SPECIFICATIONS

### Available Wavelength Range

O-band: 1290-1350 nm

C-band: 1528-1564 nm

See attached Table 1.0

Wavelength Accuracy

Within  $\pm 50$  pm

Output Power Level

10 mW, 20mW, 30 mW, 40 mW

Output Power Stability

$\pm 0.2$  dB over 8 hours

Wavelength Stability

$\pm 10$  pm over 8 hours

## GENERAL

Laser Linewidth

2 MHz typ. 500 KHz available

Side Mode Suppression Ratio

40 dB min.

Optical Isolation

30 dB typ.

Relative Intensity Noise (RIN)

-145 dB/Hz min., -155 dB/Hz available

Polarization Extinction Ratio

20 dB typ.

## ADJUSTABLE FEATURES AND OUTPUT

DFB Power Output

10-100% adjustable range

DFB Wavelength Tuning

$\pm 1.5$  nm (from wavelength center)

## MECHANICAL

Operating Temperature

+10°C to +50°C

Operating Temperature (TQ Version)

-55°C to +70°C

Storage Temperature

-65°C to +85°C

Operating Humidity

0% to 85% Relative Humidity

Power Supply

5 V DC, 500 mA

Power Consumption

5 W max.

Dimensions

130 x 49.50 x 21 mm

Control/Monitoring

LD Current, Laser Wavelength

Remote Control

RS-485 or USB

Optical Connectors

FC/APC; Other options are available

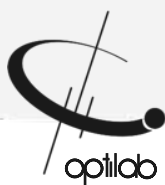
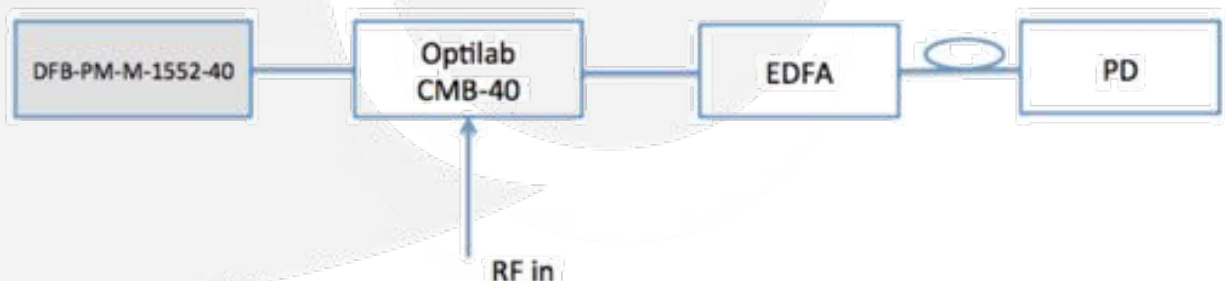
Optical Fiber Type

PANDA for PM Output

Accessories included

USB cable, power supply

## APPLICATION EXAMPLE FOR 40G RFOF ANALOG LINK





# DFB-PM-M

## MECHANICAL DRAWING AND PIN OUT

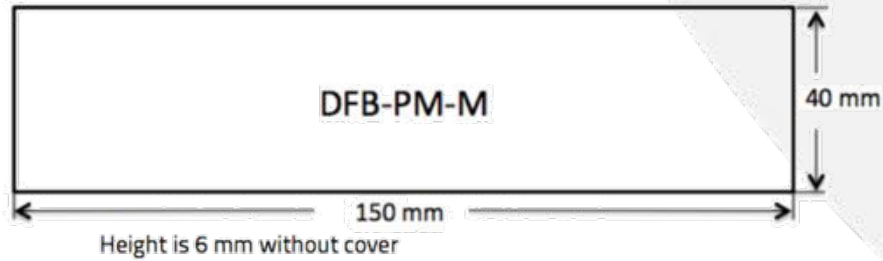


TABLE 1.0 AVAILABLE DFB-PM WAVELENGTHS FOR O-BAND AND C-BAND

### O-BAND

Wavelength
1290 nm
1310 nm
1330 nm
1350 nm

### C-BAND

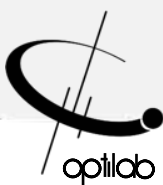
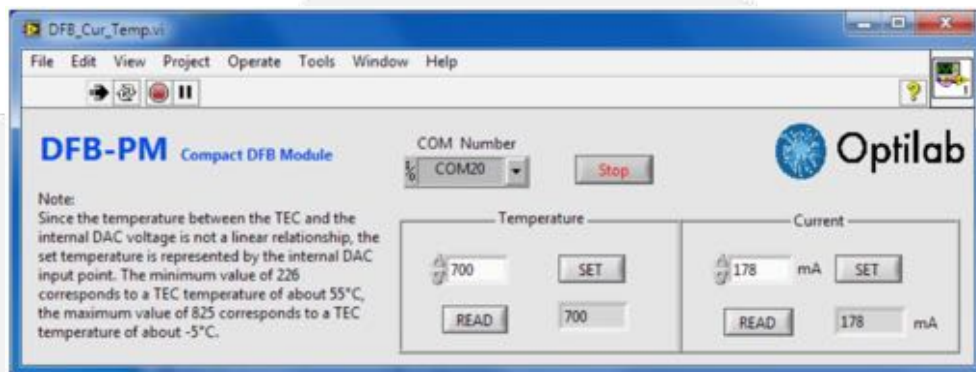
Wavelength	
1528 nm	1546 nm
1530 nm	1548 nm
1532 nm	1550 nm
1534 nm	1552 nm
1536 nm	1554 nm
1538 nm	1556 nm
1540 nm	1558 nm
1542 nm	1560 nm
1544 nm	1562 nm

### L-BAND

L-band wavelength is available upon request.

## REMOTE LABVIEW INTERFACE

Optilab offers remote interface via Labview software, for parameter adjustment and status monitoring, contact Optilab for more details.





# DFB-PM-M

## DETAILED MECHANICAL DRAWING

