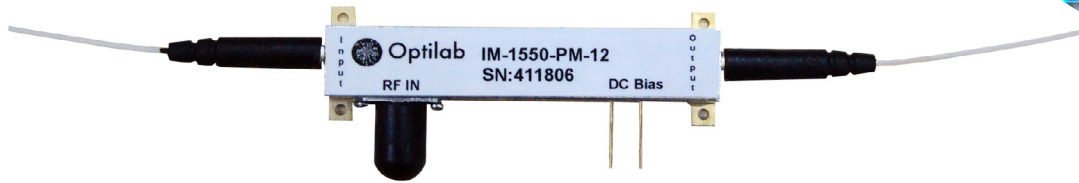


# IM-1550-12-PM



## 1550 nm, 12 GHz Intensity Modulator w/ PM input/output

The Optilab IM-1550-12-PM is a 12 GHz Intensity Modulator that is manufactured with both PM (Polarization Maintaining) fiber on input and output ports, incorporating a zero-chirp design for ultra long haul transmission. Covering full C-band and L-band, it can be used for any ITU grid DWDM channel, with exceptional E/O bandwidth and a highly linear transfer function. Applications include digital transmission up to 15 Gb/s, analog RFoF transmission to 12 GHz, optical pulse generation, mode-locked fiber laser and microwave optical link. The Optilab IM-1550-12-PM operates with low drive voltage, making it compatible with a wide variety of modulator drivers, and a separate bias port allows the modulator to operate at specific points of the transfer function. Supplied in a hermetic package, qualified to Telcordia™ GR-468-CORE, this product assures high reliability and performance at all times. Contact Optilab for more information.

### Features

- PM input and output port
- Low drive voltage
- 1530 nm to 1610 nm operating wavelength
- Zero chirp design
- Low insertion loss
- Useful bandwidth up to 15 GHz
- High Extinction Ratio
- Temperature Range of -30 °C to 75 °C

### Applications

- OC192 C-band & L-band
- TDM and WDM up to 15 Gb/s
- Analog transmission up to 12 GHz
- Satellite link
- Antenna remote
- RF over fiber
- Pulse generation
- Active mode laser

### Functional Diagram



# 1550 nm, 12 GHz Intensity Modulator w/ PM input/output

## OPTIONS

**IM-1550-12-PM-XX-y**

- XX TQ: Temperature  
Qualified -55 °C to +80 °C
- y a, FC/APC;  
u, FC/UPC

## TECHNICAL INFO

For technical info and support:

[sales@optilab.com](mailto:sales@optilab.com)

[www.optilab.com](http://www.optilab.com)

## WEB ORDER

To order, please visit [OEQuest.com](http://OEQuest.com).



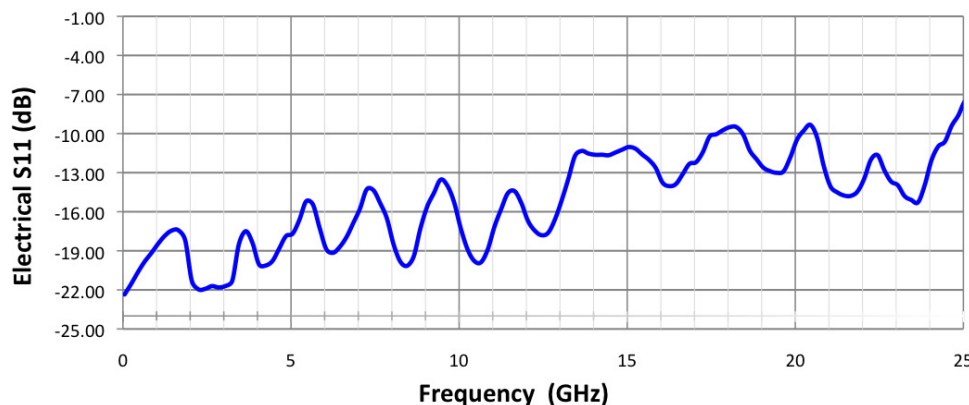
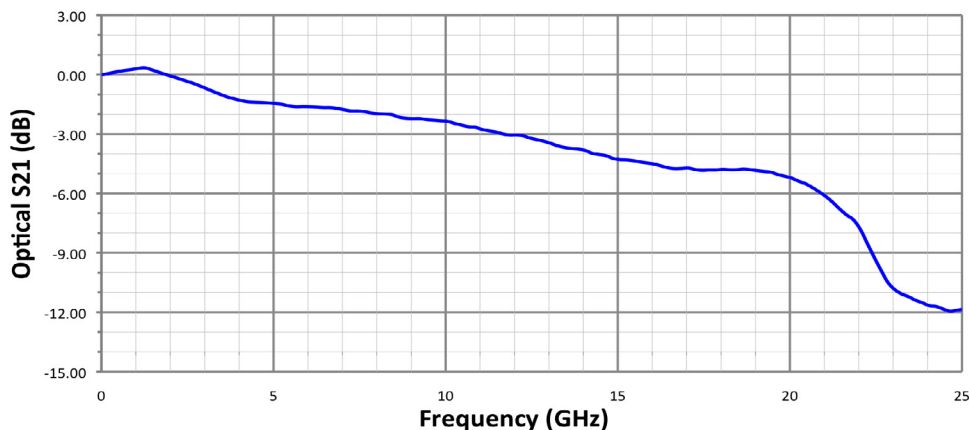
## Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

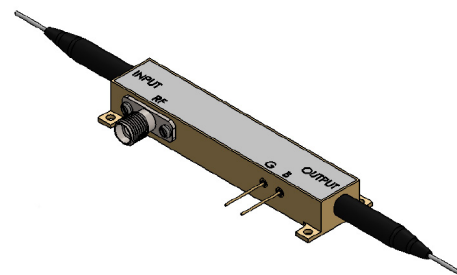
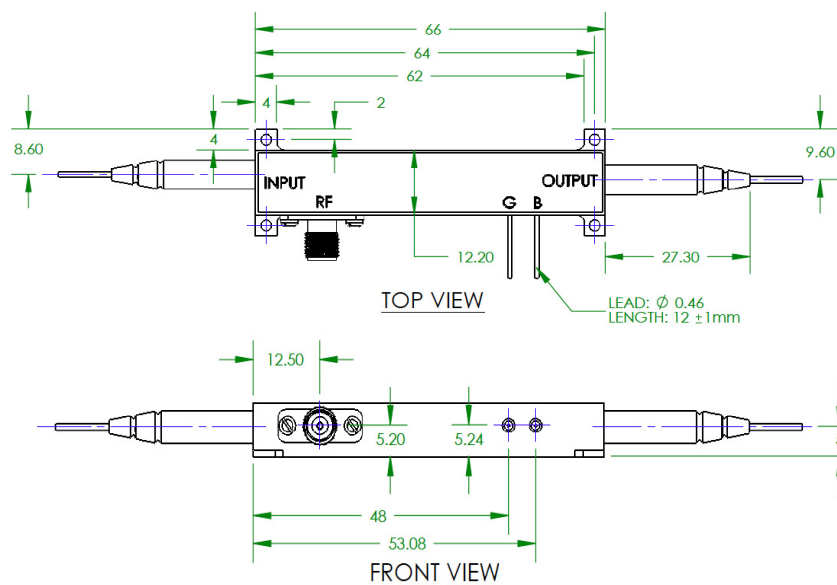
General Specifications	
Input optical power	70 mW typ., 100 mW max.
Operating wavelength	1530 nm to 1610 nm
Chirp Value $\alpha$	$\pm 0.2$ (zero chirp design)
Insertion Loss	4 dB typ., 4.5 dB max.
Extinction Ratio	$\geq 30$ dB typ. @ DC
Optical return loss	$\leq -45$ dB max.
PRBS Electrical drive voltage	5.0 Vpp typ. @ 1 GHz
S21 3 dB Bandwidth (RF Port)	10 GHz min., 12 GHz typ.
S11 Return Loss (RF Port)	$\leq -13$ dB min up to 9 GHz
$V_{\pi}$ (RF Port)	$\leq 6.1$ V @ 10 Gb/s
RF Input power	26 dBm
Impedance (RF Port)	50 $\Omega$ typ.
S21 Bandwidth (Bias Port)	200 MHz min.
$V_{\pi}$ (Bias Port)	$\leq 10$ V @ DC
Impedance (Bias Port)	100 k $\Omega$ min.
Analog Link Performance	
IIP3 @7 GHz	31 dBm
1 dB Compression Point @10 GHz	16.0 dBm
Mechanical Specifications	
Operating Temperature	Standard range: -30 °C to +75 °C; Extended range: -55 °C to +80 °C (optional)
Storing Temperature	-60 °C to +85 °C
Operating Humidity	0% to 90% Relative Humidity
Input Fiber Type	PANDA - PM
Output Fiber Type	PANDA - PM
Input Connector	PM FC/APC, PM FC/UPC
Output Connector	PM FC/APC, PM FC/UPC optional
Material	LiNbO3
Crystal Orientation	X-cut, y-propagating
Waveguide Process	Ti-indiffused
Bias Port Connector	2 Pins
RF Port connectors	Anritsu K
Cabling	900 $\mu$ m tubing
Dimensions	66 mm x 22 mm x 9 mm

# 1550 nm, 12 GHz Intensity Modulator w/ PM input/output

## Typical S21 and S11 Bandwidth



## Mechanical Drawing



Pin #	Description
G	GND
B	DC BIAS

\* Dimension unit: mm