

# IMP-1064-20-PM



## DEVICE

## 1064 nm, 20 GHz Intensity Modulator, PM Output

## OVERVIEW

The Optilab IMP-1064-20-PM Intensity Modulator is designed for external modulation of 1064 nm laser up to 17 GHz or 20.5 Gb/s. It is also applicable for pulse generation for Ytterbium-Doped Fiber Amplifier amplification (YDFA) in satellite links and active mode locked laser applications. It is a bias-stabilized lithium modulator that proves to be extremely stable for long periods of time, and features excellent stability in a biased circuit, operating from 1030 nm to 1090 nm. It has an excellent operating temperature tolerance ranging from -30° C to +75° C. The IMP-1064-20-PM uses a Polarization Maintaining (PM) input and output fiber, featuring separate RF and bias ports. Contact Optilab for more information.

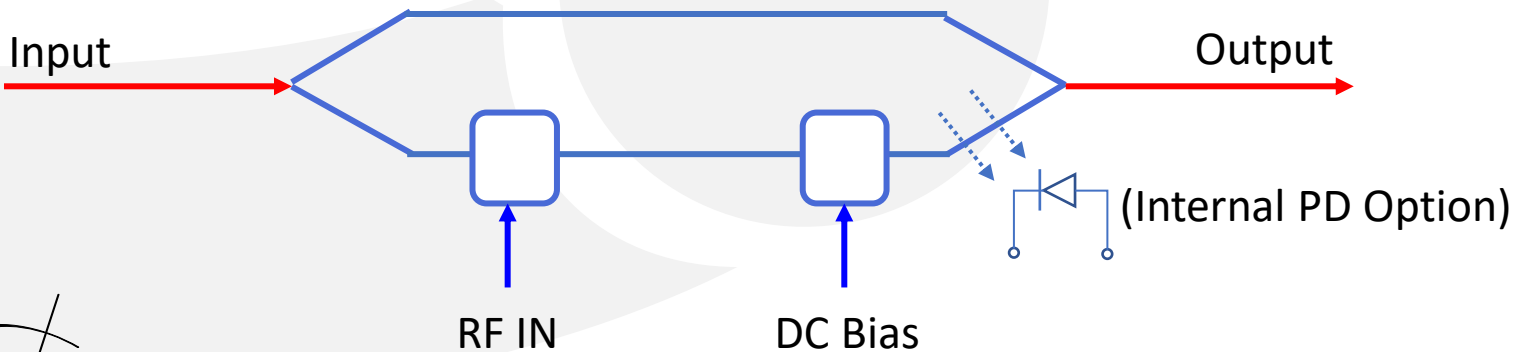
## FEATURES

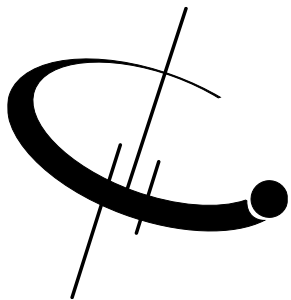
- 1030-1090 nm wavelength
- Low Drive Voltage
- 3 dB bandwidth up to 17 GHz
- PM input and output
- High extinction ratio
- Internal PD option

## USE IN

- Pulse generation for YDFA
- Up to 20.5 Gb/s Data Rate
- Satellite Link
- Active mode locked laser
- Research and development

## FUNCTIONAL DIAGRAM





# IMP-1064-20-PM

## SPECIFICATIONS

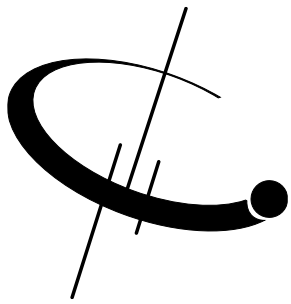
Input Optical Power	100 mW max.
Operating Wavelength	1030 to 1090 nm
Chirp Value	$< \pm 0.2$
Insertion Loss	5.0 dB max., 4.5 dB typ.
Extinction Ratio	20 dB min.
Optical Return Loss	45 dB min.
S21 Bandwidth (RF Port)	17 GHz typ.
S11 Return Loss (RF Port)	$\leq -10$ dB @ 20 GHz
V $\pi$ (RF Port)	$\leq 4.0$ V typ. @ DC
RF Input Power	26 dBm Maximum
Impedance (RF Port)	50 $\pm$ 5 $\Omega$
V $\pi$ (Bias Port)	3 V typ.
Impedance (Bias Port)	$> 1$ M $\Omega$

## GENERAL

Operating Temperature (Standard)	-30°C to +75 °C
Storage Temperature	-60 °C to +85 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	PM 980 - 250
Input/Output Connector	FC/APC (PM)
Material	LiNbO <sub>3</sub>
Crystal Orientation	X-cut, Y-propagating
RF Port Connectors	K type female
Cabling	900 $\mu$ m tubing
Dimensions	3.783" x 0.981" x 0.640"

## MECHANICAL

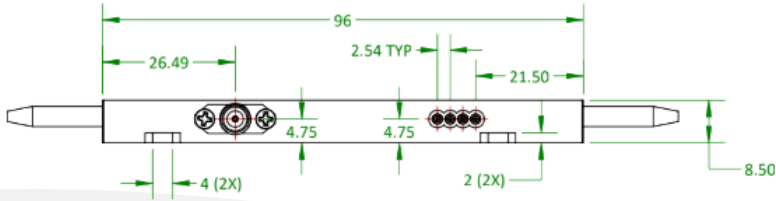
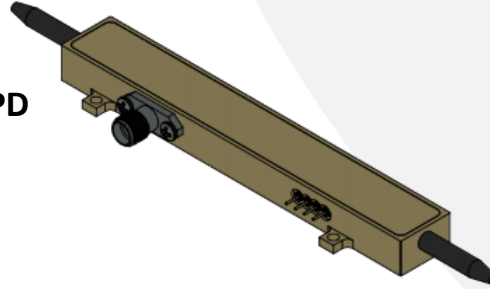




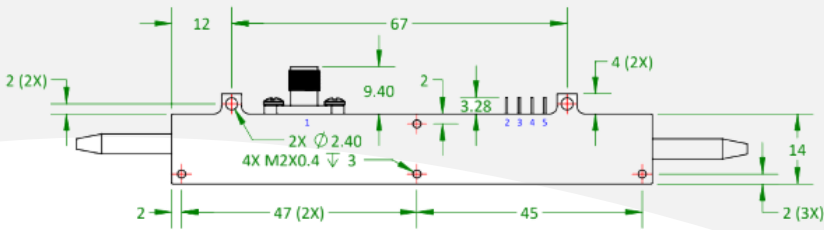
# IMP-1064-20-PM

## MECHANICAL DRAWING

### 1. IMP-1064-20-PM-PD Housing, W/Internal PD



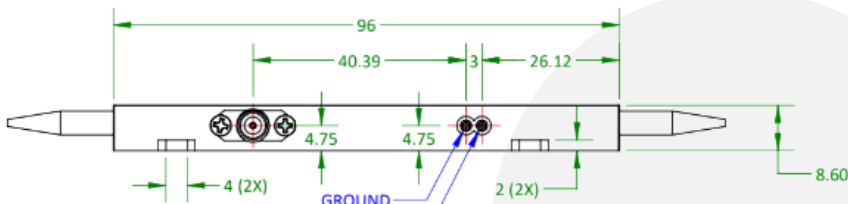
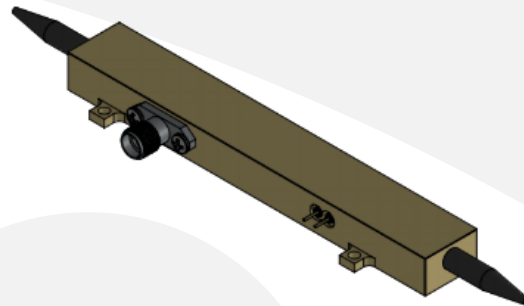
FRONT VIEW



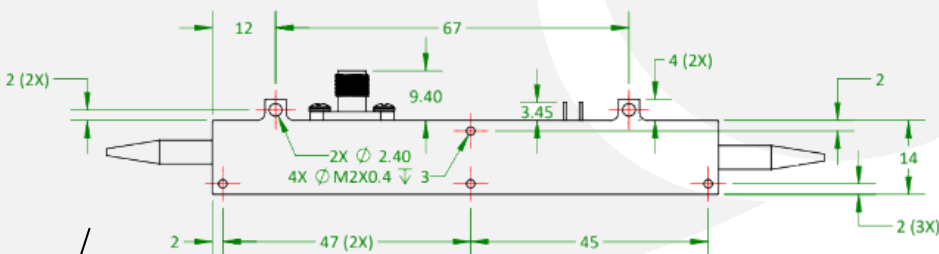
BOTTOM VIEW

PIN #	Symbol
1	RF
2	GND
3	B
4	PD-A
5	PD-C

### 2. IMP-1064-20-PM Housing, No Internal PD



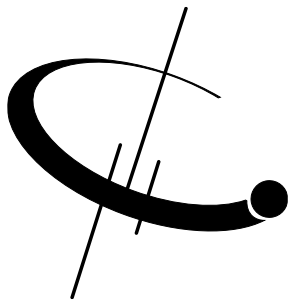
FRONT VIEW



BOTTOM VIEW

PIN #	Symbol
G	GND
B	DC BIAS





# IMP-1064-20-PM

ORDERING  
OPTIONS

**IMP-1064-20-PM-XX**  
**XX** PD: Internal PD

Available  
Accessories

- **BCB-4**



The Optilab BCB-4 is a compact bias control board designed for IMP-1064-20-PM modulator

- **YDFA-PA-MSA**



The Optilab YDFA-PA-MSA is a high-gain Dual Stage Pre-amplifier module in a multiple source agreement footprint housing.

