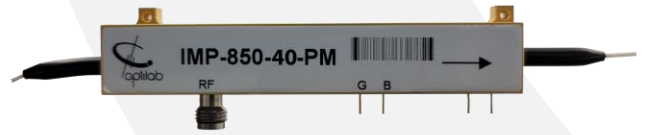


# IMP-850-40-PM



## DEVICE

### 850 nm, 40 GHz Intensity Modulator, PM Output

## OVERVIEW

The Optilab IMP-850-40-PM Intensity Modulator is designed for analog modulation of up to 40 GHz for satellite links, antenna remoting, and RF over Fiber. Featuring an Annealed Proton Exchange (APE) waveguide, this modulator provides low insertion loss, low  $V_{pi}$ , and high-power handling capability. It has an operating temperature tolerance ranging from  $-10\text{ }^{\circ}\text{C}$  to  $+55\text{ }^{\circ}\text{C}$ , and superior insertion loss provides for its maximum transmission power. The IMP-850-40-PM uses Polarization Maintaining (PM) input and output fibers. Contact Optilab for more information.

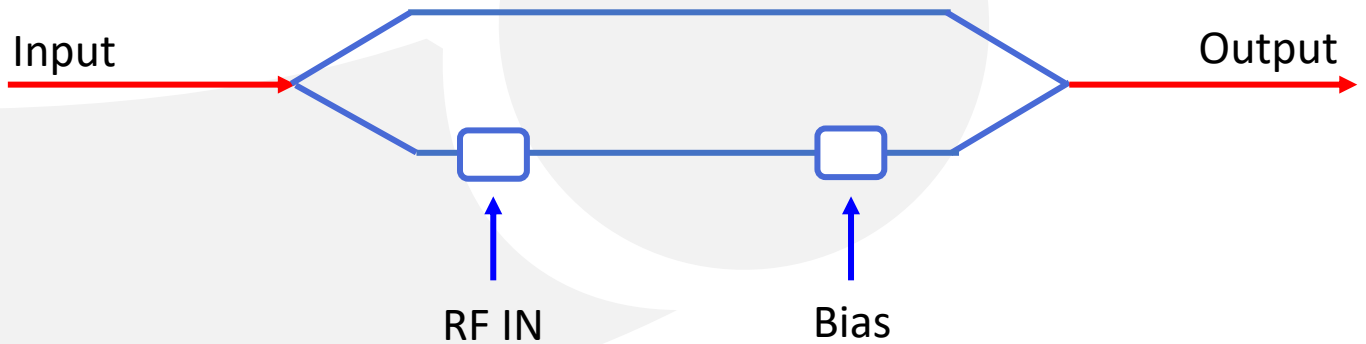
## FEATURES

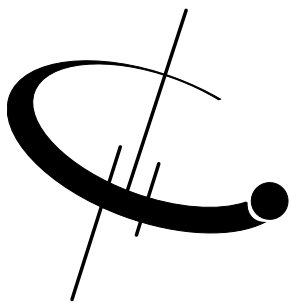
- 40 GHz Bandwidth
- Polarization Maintaining output
- 850 nm operating wavelength
- Low insertion loss, low  $V_{pi}$
- High input power handling capability
- Push-Pull Electrode design

## USE IN

- Analog Modulation
- Pulse Generation
- Research & Development
- Quantum Photonics
- Active Mode Locking Laser

## FUNCTIONAL DIAGRAM





# IMP-850-40-PM

## SPECIFICATIONS

Material	LiNbO3
Crystal Orientation	X-cut, Y-propagating
Waveguide Process	Annealed Proton Exchange
Operating Wavelength	850 +/- 20 nm
Optical Input Power	20 mW max.
Insertion Loss	4.2 dB typ., 5 dB max.
Extinction Ratio	≥ 20 dB min. (≥ 30 dB min. HER version)
S21 Bandwidth, 3 dB drop	35 GHz Min.
Electrical Return Loss S11	≤ -10 dB up to 10 GHz
RF Port Vpi	≤ 6.5 V @ 20 GHz
Bias Port Vpi	≤ 7 V @ 1 kHz
Chirp Value	< ± 0.2 (zero chirp design)
Optical Return Loss	≤ -45 dB
RF Port Connectors	1.85 mm female (V)

## MECHANICAL & Environment

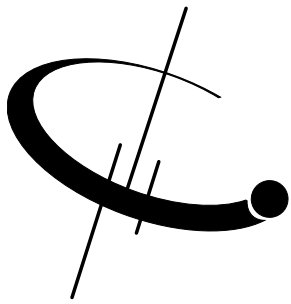
Operating Temperature (Standard)	-10 °C to +55 °C
Storage Temperature	-30 °C to +80 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	Corning PM85-U400
Cabling	900 μm loose tube
Input/Output Connector	FC/APC
Dimensions	87mm x 14.5 mm x 10 mm

## OPTIONS

**IMP-850-40-PM-XXX**

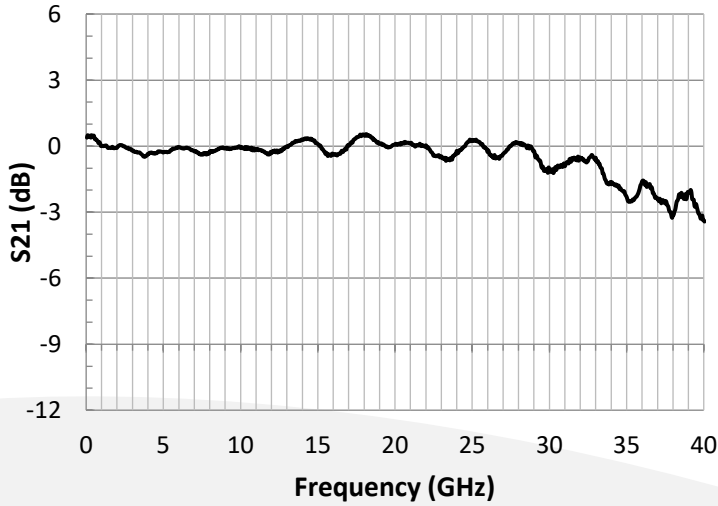
**XXX HER:** High Extinction Ratio



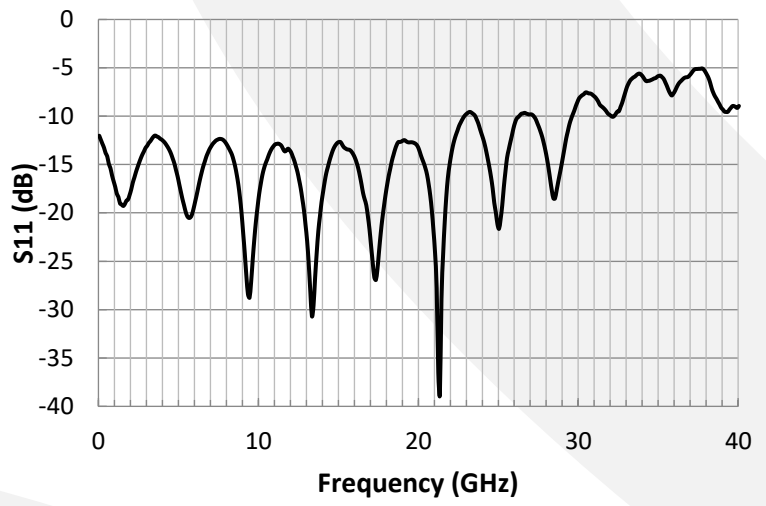


# IMP-850-40-PM

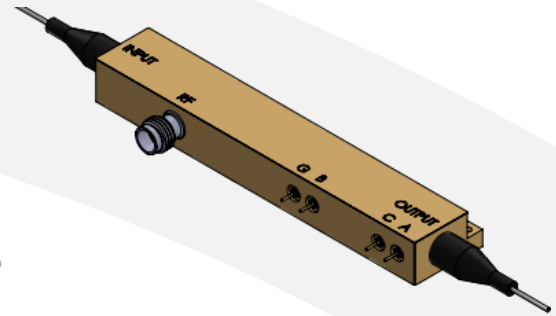
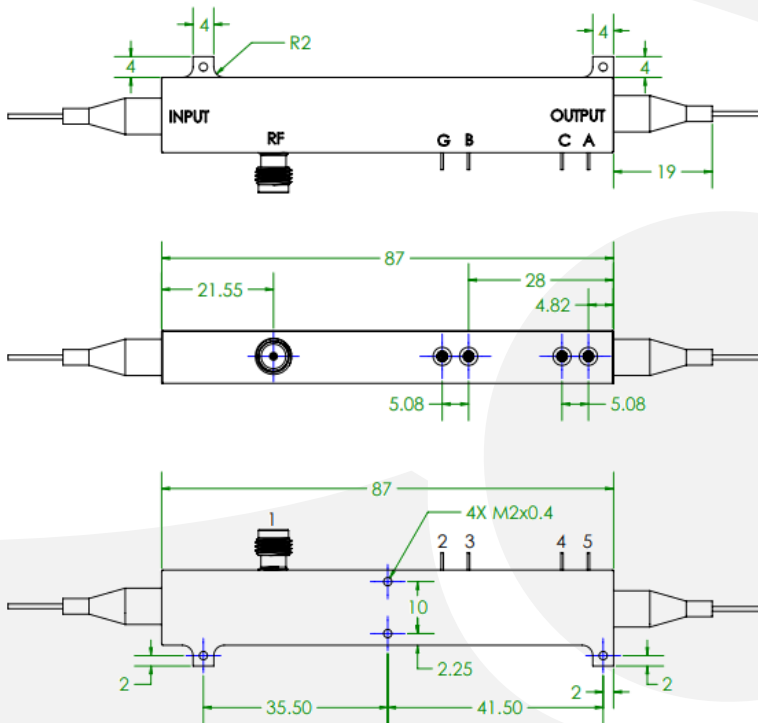
E to O S21



Electrical Return Loss

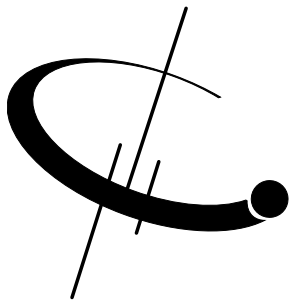


## MECHANICAL DRAWING



PINOUT	
PIN	DESCRIPTION
1	RF INPUT
2	GROUND
3	DC BIAS
4	PD CATHODE
5	PD ANODE





# IMP-850-40-PM

## Available Accessories

- **BCB-4**



The Optilab BCB-4 is a compact bias control board designed to maintain the linear operating point of optical intensity modulators.

