PR-3-M

DEVICE

3 GHz PhotoReceiver, Module

OVERVIEW

The Optilab PR-3-M is a 3 GHz photodiode module designed for RF over Fiber, antenna remoting, and other RF transmission applications over optical fiber. The PR-3-M utilizes a linear PIN photodiode and low distortion TIA (Transimpedance Amplifier), providing optical to RF conversion beyond 3 GHz. This compact, cost-effective receiver module can provide users with status monitoring via a USB 2.0 port. When the PR-3-M RF over fiber receiver module is linked with the LT series of RF over fiber transmitter modules, the combination provides an excellent solution for wideband RF to fiber conversion applications, go to optilab.com for more details.

FEATURES

- Remote Monitoring via USB Port
- Status Monitoring: RS-485 (standard)
- Highly Linear for Analog Signals Transmission
- High Dynamic Range
- Integrated TIA
- RF Bandwidth up to 3 GHz

USE IN

- RF Transmission over Fiber
- RF/IF Signal Distribution
- Broadband Delay-line
- LIDAR Receivers
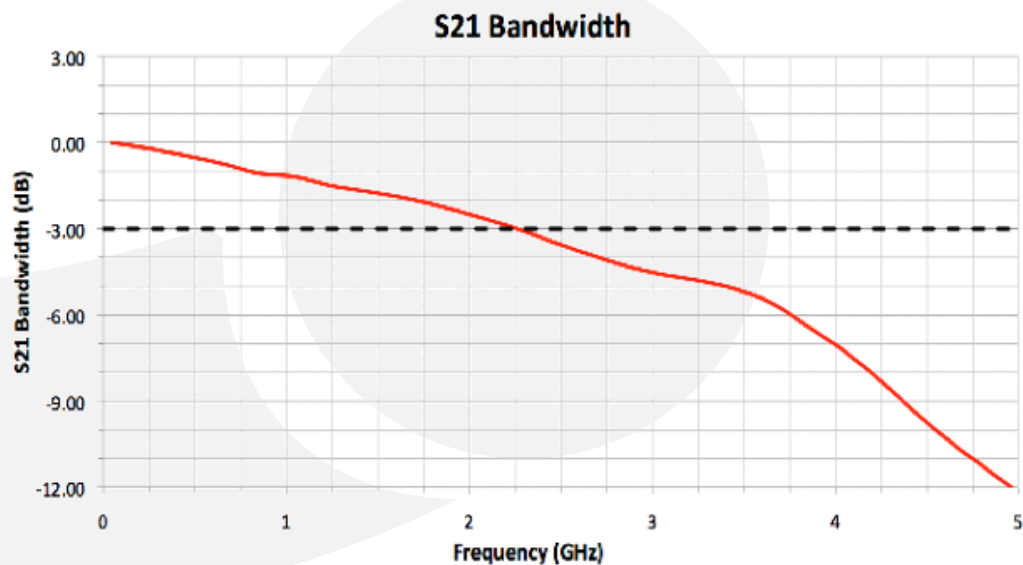- Phase Array Antenna

FUNCTIONAL DIAGRAM

PR-3-M

SPECIFICATIONS

GENERAL

Transimpedance gain	600 ohm typ.
Conversion gain	500 V/W typ.
Photodiode Wavelength Range	1260 nm to 1600 nm
Operational Bandwidth	60 KHz to 3.5 GHz
Optical Input Level	1 mW max.
Responsivity	0.85 A/W @ 1550 nm typ., 0.80 A/W @ 1310 nm typ.
S21 3 dB Bandwidth	2 GHz typ.
S22 Characteristics	< -10 dB @ 2 GHz
Optical Return Loss	- 30.0 dB typ.
Output Coupling	DC Coupled
RF Impedance	50 Ω
Ripple over Bandwidth	± 1.0 dB max.
NEP	$10 \text{ pW}/\sqrt{H_2}$ max.

MECHANICAL

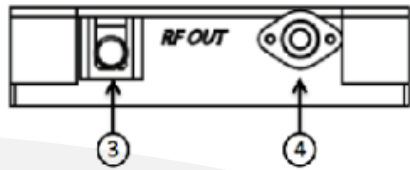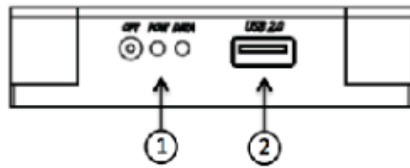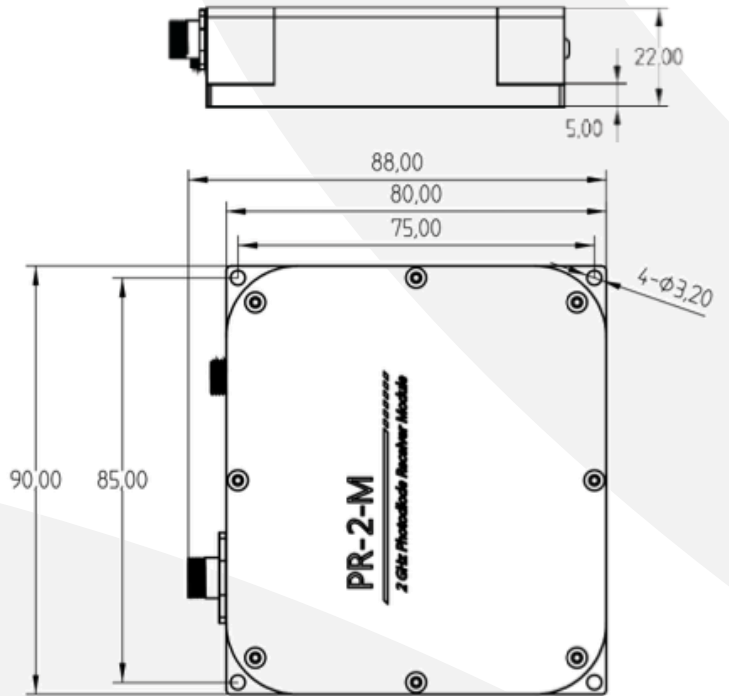|	
Operating Temperature	-10 ºC to +50 ºC
Storage Temperature	-20 ºC to +80 ºC
Power Supply Requirements	+5 V DC, 500 mA max.
Optical Connector	FC/APC, SC/PAC Optional
RF Input Connector	SMA Connector Female, 50 Ω
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface (standard) via USB
Dimensions	90 mm x 80 mm x 22 mm
Accessories Included	USB Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum

S21 Bandwidth

PR-3-M

MECHANICAL DRAWING

Port	Function	Description
1	Status LED	
2	USB 2.0	
3	RF Output	
4	Optical Input	

REMOTE LABVIEW INTERFACE

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