

PR-10-H-M



DEVICE

10 GHz High-Gain Photo Receiver

OVERVIEW

The Optilab PR-10-H-M is a 10 GHz bandwidth high-gain PIN photodiode receiver module designed for RF over fiber, antenna remoting, and broadband RF signal transmission applications using single mode optical fiber. The PR-10-H-M utilizes a wide bandwidth PIN photodiode plus a high-gain Trans-Impedance Amplifier (TIA) of 2000 that provides optical to RF conversion to the frequency range beyond 10 GHz. The PR-10-H-M is a highly linear O/E converter that can be used for both analog and digital signal, with remote status monitoring through an RS-232 I/O interface. When the PR-10-H-M receiver module is linked with the LT-15-M lightwave transmitter module, the combination provides an excellent solution for ultra-wideband RF to fiber conversion applications. Contact Optilab for more information.

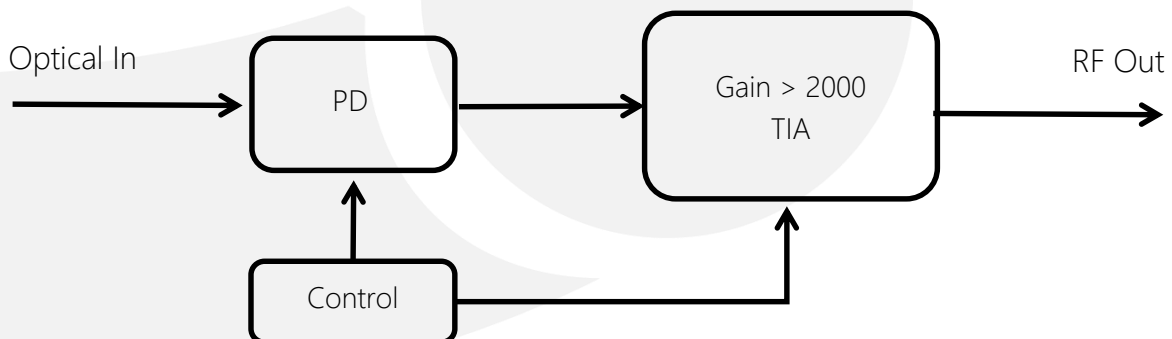
FEATURES

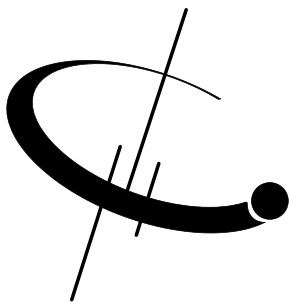
- RFoF to 10 GHz
- High RF Output Power
- Highly Linear for Analog Transmission
- High TIA Gain of 2000 Ω
- RS-232 Monitor Interface
- Housing Shields RF & Thermal Interface

USE IN

- Wideband Transmission Over Fiber
- RF/IF Signal Distribution
- Satcom Microwave Antenna Signal Distribution
- EW Systems
- Broadband Delay-Line & Signal Processing
- Radar System Calibration
- Phased & Interferometric Array Antenna

FUNCTION DIAGRAM





PR-10-H-M

SPECIFICATIONS

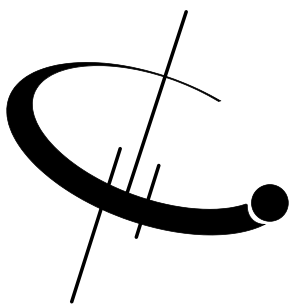
Photodiode Wavelength Range	1250 nm to 1650 nm
Operational Bandwidth	100 KHz to 10 GHz
Optical Input Level	+3 dBm Maximum
Responsivity	0.85 A/W @ 1550 nm Typical
Trans-Impedance Gain	2000 Ω Typical
Bandwidth	8 GHz Typical
S22 Characteristics	<-10 dB to 10 GHz Typical
Optical Return Loss	-30.0 dB Typical
2 nd Harmonic Distortion	-60.0 dBc Maximum
3 rd Harmonic Distortion	-70.0 dBc Maximum
Optical PDL @ 1550 nm	0.05 dB Typical, 0.1 dB Maximum
Output Coupling	AC Coupled
RF Impedance	50 Ω
Ripple Over Bandwidth	\pm 1.0 dB

GENERAL

Operating Temperature	-15°C to +70 °C
Storage Temperature	-55 °C to +85 °C
Power Supply Requirements	+12 VDC, 500 mA Maximum
Optical Connector	FC/APC
RF Input Connector	K Connector Female, 50 Ω
DC Connector	DB-9
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface (optional)
Dimensions	130mm x 70mm x 35mm
Included Accessories	110 V - 240 V AC Adaptor & Cable
Housing	Precision Mach, Anodized Aluminum

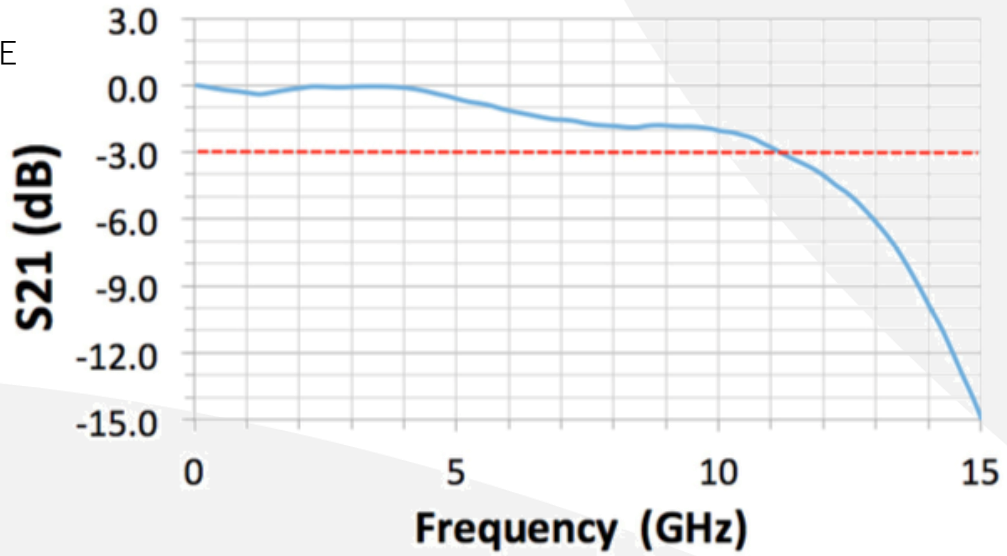
MECHANICAL



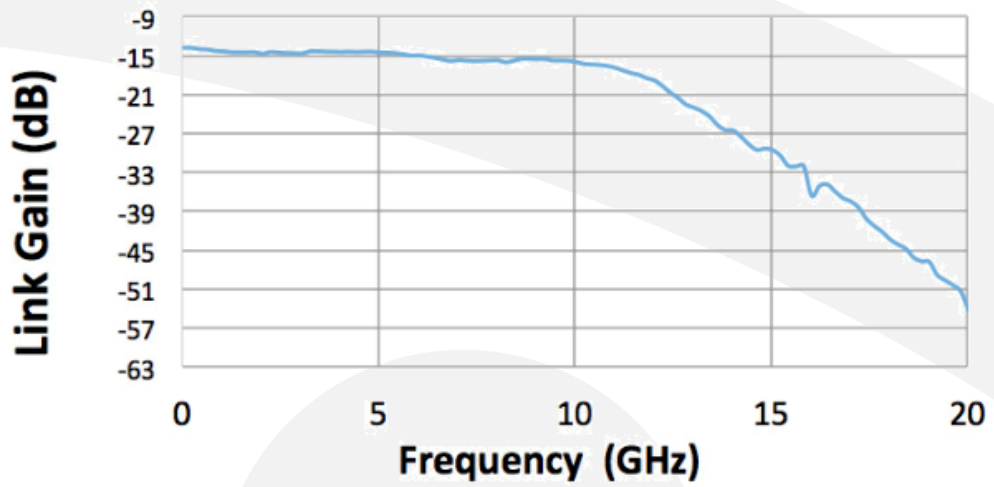


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TYPICAL S21 RESPONSE

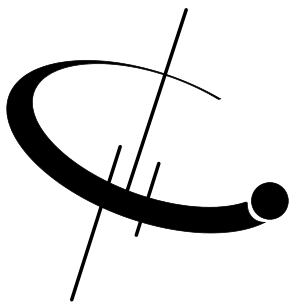


LINK GAIN



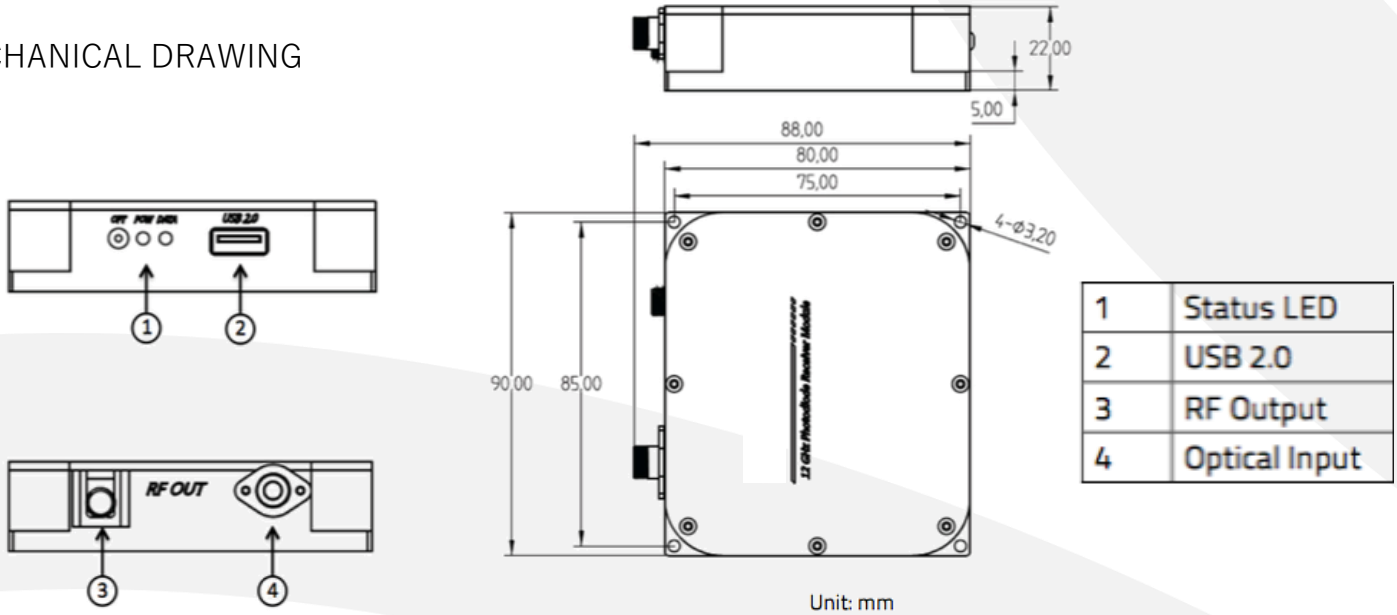
TEST CONDITIONS & LINK GAIN MEASUREMENTS





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MECHANICAL DRAWING



REMOTE LABVIEW INTERFACE

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

