

PD-40-M



PD-40-M

40 GHz Photodiode, Module

The Optilab PD-40-M is a 40 GHz bandwidth PIN receiver module designed for RF over Fiber, antenna remoting, and broadband RF transmission applications using single mode optical. The PD-40-M can accept input power of up to 40 mW. The PD-40-M utilizes a high input power, low distortion PIN photodiode that provides optical to RF conversion out to the frequency range beyond 40 GHz. This compact, cost-effective receiver module can provide users with status monitoring through the use of an on-board processor that communicates to a host computer over an RS-232 I/O interface via a standard USB 2.0 port. When the PD-40-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 ultra-wideband RF to fiber conversion applications, go to optilab.com for more details.

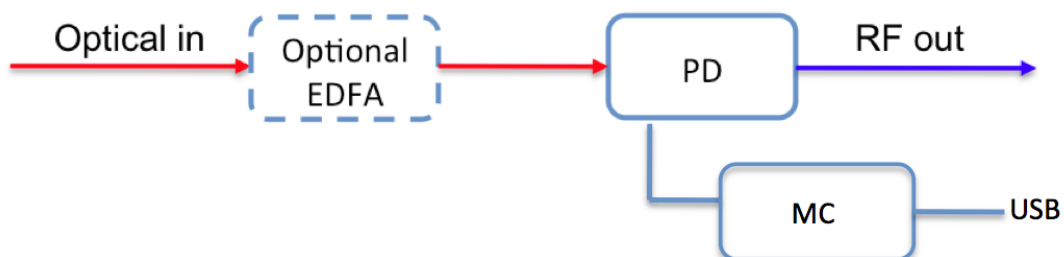
Features

- Ultra-wide Bandwidth up to 40 GHz
- High Dynamic Range
- High Input Power Handling Capacity of 40 mW
- Highly Linear for Analog Signals Transmission
- No TIA for intrinsic phase linearity
- Status Monitoring: RS-232 (standard)
- Power and Remote Monitoring via [USB port](#)
- **3 year warranty standard**

Applications

- Wideband RF Transmission over Fiber
- RF/IF Signal Distribution
- Satcom microwave antenna signal distribution
- EW Systems
- Broadband delay-line and signal processing
- LIDAR Receivers
- Phased and interferometric array antenna

Functional Diagram



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OPTIONS

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TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

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Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

General Specifications	
Photodiode Wavelength Range	1000 nm to 1650 nm
Operational Bandwidth	60 KHz to 40 GHz
Optical Input Level	40 mW max.
Repsonsitivity	0.55 A/W @ 1550 nm typ. 0.60 A/W @ 1310 nm typ. 0.30 A/W @ 850 nm typ.
S21 3 dB Bandwidth	35 GHz min., 37 GHz typ.
S22 Characteristics	< -10 dB @ 30 GHz
Optical Return Loss	-30.0 dB typ.
2nd Harmonics Distortion	-70.0 dBc max.
3rd Harmonics Distortion	-75.0 dBc max.
Optical PDL @ 1550 nm	0.05 dB max.
Output Coupling	AC Coupled
RF Impedence	50 Ω
Ripple over Bandwidth	±1.0 dB max.
Link Performance with LT-30	
SFDR	113 dB Hz ^{2/3}
Link Loss	-25 dB @ 10 dBm optical
Mechanical Specifications	
Operating Temperature	-10° C to +50° C
Storage Temperature	-20° C to +80° C
Power Supply Requirements	+5 V DC, 500 mA max.
Optical Connector	FC/APC, SC/APC Optional
RF Input Connector	K Connector Female, 50 Ω
DC Connector	Plug-in typ.
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface (Standard) via USB
Dimensions	82 mm x 56 mm x 25 mm
Accessories Included	110 V - 240 V AC USB Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum

Typical S21 Bandwidth Mechanical Drawing

