LR-30-M

LR-30-M

30 GHz Lightwave Receiver

The Optilab LR-30-M is a 30 GHz bandwidth PIN receiver module designed for RF over fiber, antenna remoting, and broadband RF transmission applications using single mode optical. The LR-30 can accept input power of up to 40 mW. The LR-30-M utilizes a high input power, low distortion PIN photodiode that provides optical to RF conversion out to the frequency range beyond 30 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. When the LR-30 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 30 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)

Applications

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

Functional Diagram

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OPTIONS

LR-30-M

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

WEB ORDER

To order, please click below.

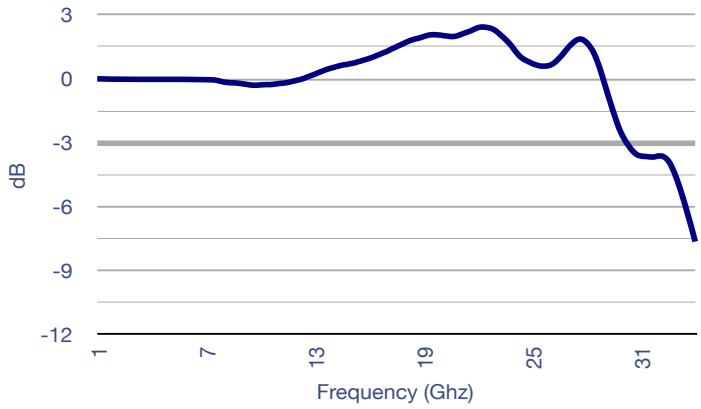
OEQuest.com

Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

General Specifications	
Photodiode Wavelength Range	1000 nm to 1650 nm
Operational Bandwidth	60 KHz to 30 GHz
Optical Input Level	40 mW max.
Repsonsitivity	0.85 A/W @ 1550 nm typ. 0.90 A/W @ 1310 nm typ. 0.40 A/W @ 850 nm typ.
S21 3 dB Bandwidth	29 GHz min., 31 GHz typ.
S22 Characteristics	< -10 dB @ 20 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.
Mechanical Specifications	
Operating Temperature	-30° C to +85° C
Storage Temperature	-55° C to +125° 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)
Dimensions	82 mm x 56 mm x 25 mm
Accessories Included	110 V - 240 V AC Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum

Typical S21 Bandwidth



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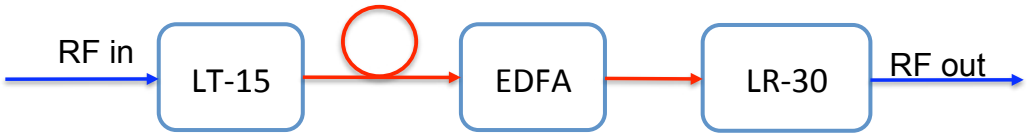
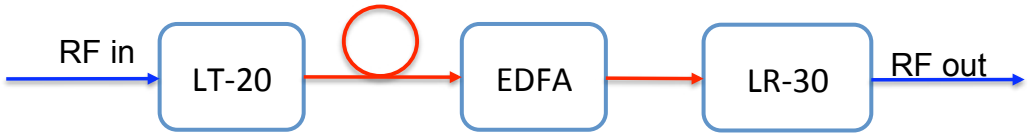
15 GHz RF over Fiber Link Configuration

The LR Series can be ordered as RF over Fiber 15 GHz Link. This link, the LL-15 series form a high-performance set that include the 15 GHz transmitter and 30 GHz Receiver. Below is a diagram of how the RF over Fiber link functions. Go to optilab.com/LL15 for more information.



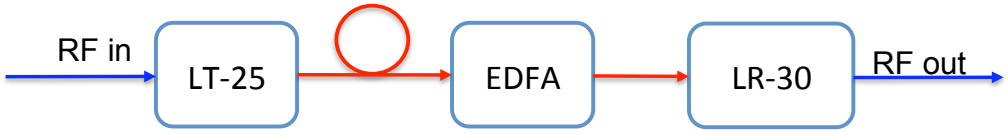
25 GHz RF over Fiber Link Configuration

The LR Series can be ordered as RF over Fiber 25 GHz Link. This link, the LL-25 series form a high-performance set that include the 20 GHz transmitter and 30 GHz Receiver. Below is a diagram of how the RF over Fiber link functions. Go to optilab.com/LL25 for more information.



28 GHz RF over Fiber Link Configuration

The LR Series can be ordered as RF over Fiber 28 GHz Link. This link, the LL-28 series form a high-performance set that include the 25 GHz transmitter and 30 GHz Receiver. Below is a diagram of how the RF over Fiber link functions. Go to optilab.com/LL28 for more information.



Link Configuration using Multiple Wavelengths

The LL series of products can have multiple wavelengths intergrated using WDM multiplexers. Up to 8 wavelengths can be installed into a single rackmountable chassis. Below is an illustration of a typical 4 wavelength RF over Fiber link using WDM multiplexers.