

LaserPlus Model LP-OLAR - Advanced L-Band Receiver

Features / Benefits

Fully compatible with all Olson Technology, Inc.'s L-Band transmitters.

Extreme bandwidth range of 10MHz to 4,000MHz handles all satellite signals.

Excellent L-Band performance with digital gain control over a 25dB RF range in 1dB steps.

Optional APD Detector for enhanced sensitivity. PIN detector is standard.

Optical input range from -15dBm to +3dBm with standard PIN detector or -22dBm to -3dBm with optional APD detector.

Operational wavelengths range from 1270nm to 1610nm.

Built-In test points, LED indicators and alarms for easy setup and maintenance.

Available with a variety of 75 Ohm or 50 Ohm Connectors. 75 Ohm "F" connector is standard.

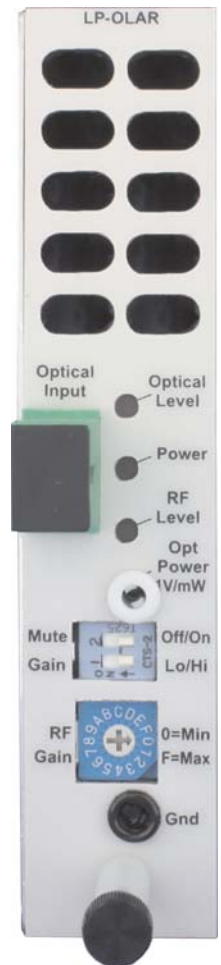
SC/APC optical connector standard, FC/APC connector optional.

The Olson *LaserPlus* LP-OLAR Advanced L-Band Receiver offers a feature-rich, versatile system in a compact rack-mount package. The Advanced L-Band Receiver has been engineered to meet today's high performance standards for L-Band transport with an extreme bandwidth range that will also allow the system to handle the next generation of satellite signals. The Advanced L-Band system is ideal for a wide variety of communications applications, including L-Band satellite antenna remoting, trunking radio, telemetry tracking, and time and frequency reference distribution. The extended frequency range to 4GHz allows this system to accommodate additional transponders coinciding with common European satellite communication applications.

The enhanced bandwidth to 4GHz is also unique in that it facilitates stacked LNB applications to accommodate additional transponders containing enhanced DBS programming services (e.g., HDTV, local channels, etc.) over single-mode fiber for DBS television distribution in campus, fiber-to-the-premise (FTTx), and multiple dwelling unit (MDU) environments. The receiver is offered with 75 Ohm impedance using "F" connectors or 50 Ohms with SMA connectors. Optical connector options include SC/APC and FC/APC.

The standard PIN-detector receiver offers high sensitivity for a maximum optical link budget. An optional APD detector increases optical sensitivity by 7dB. Built-in test points, LED indicators and alarms allow the receiver to be easily set up and maintained.

The LP-OLAR Receiver is housed in a machined Aluminum enclosure that fits the standard *LaserPlus* chassis allowing up to 14 or 15 modules in a 3RU space. (The exact number is determined by the number of power supplies in the chassis, single or dual).



Receiver Specifications

Optical Characteristics (with SM 9/125µm Fiber)

	Min	Typ	Max	Units
Operating Wavelength	1290		1610	nm
Optical Input Power (PIN)	-15		+3	dBm
Optical Input Power (APD)	-22		-3	dBm
Optical Return Loss		>55		dB
Optical Loss Budget (PIN)	7		25	dB
Optical Loss Budget (APD)	13		32	dB
Optical Connector (Standard)		SC/APC		
Optical Connector (Optional)		FC/APC		

Physical Characteristics

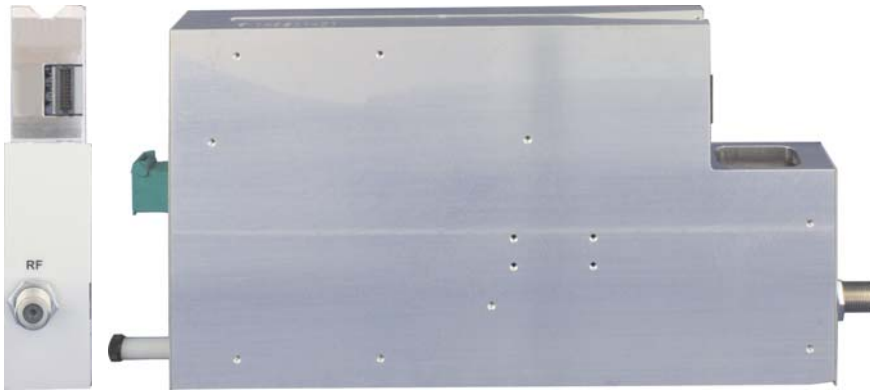
	Min	Typ	Max	Units
Rx Weight		14.1		oz.
		0.40		kg
Receiver Dimensions	4.5H x 1.125W x 8.75D			in.
	114H x 29W x 222D			

RF and System Characteristics

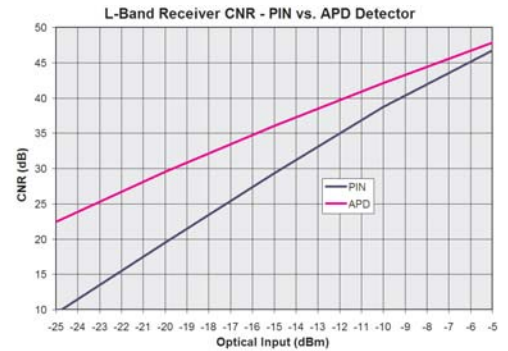
	Min	Typ	Max	Units
Frequency Response	10		4,000	MHz
Amplitude Flatness	Any 500MHz / ±1.5			
	Any 40MHz / ±0.35			
Return Loss	10			dB
Output Impedance (Standard)		75		Ohms
Output Impedance (Optional)		50		Ohms
Link Gain	-50		+30	dB
Noise Figure (See manual)	10		45	dB
Rx Output IP3		+12		dBm
Rx Output P _{1dB}		-2		dBm
Hi/Lo Gain Switch	0		+10	dB
Hexadecimal Rotary Gain Switch	0		+15	dB

NOTES:

- 1) The RF gain changes 2dB for each 1dB of optical loss.
- 2) The receiver P_{1dB} and IP3 is almost constant over the full RF gain range.
- 3) Noise figure is a complex variable that is influenced by the Tx and Rx attenuator settings as well as the optical loss. See the manual for detailed data.
- 4) The Hi/Lo Gain switch on the front panel changes the gain by +10dB. The hexadecimal rotary switch on the front panel changes the gain in 1dB steps. The "0" setting on the rotary switch is the lowest gain (0dB). The "F" setting on the rotary switch is the highest gain (+15dB).
- 5) Optical Loss Budget based on +10dBm transmitter launch power (DWDM DFB Laser).



Rear and Side Views of the LP-OLAR *LaserPlus* Advanced L-Band Receiver



Adv. L-Band Rx CNR with PIN & APD

Ordering Information

LP-OLAR-X4000-75-FA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, PIN Detector, 75 Ohm F Connector, FC/APC
LP-OLAR-X4000-75-SA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, PIN Detector, 75 Ohm F Connector, SC/APC
LP-OLAR-X4000-50-FA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, PIN Detector, 50 Ohm SMA Connector, FC/APC
LP-OLAR-X4000-50-SA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, PIN Detector, 50 Ohm SMA Connector, SC/APC
LP-OLAR-X4000S-75-FA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, APD Detector, 75 Ohm F Connector, FC/APC
LP-OLAR-X4000S-75-SA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, APD Detector, 75 Ohm F Connector, SC/APC
LP-OLAR-X4000S-50-FA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, APD Detector, 50 Ohm SMA Connector, FC/APC
LP-OLAR-X4000S-50-SA	<i>LaserPlus</i> Advanced L-Band Receiver, 4GHz, APD Detector, 50 Ohm SMA Connector, SC/APC