

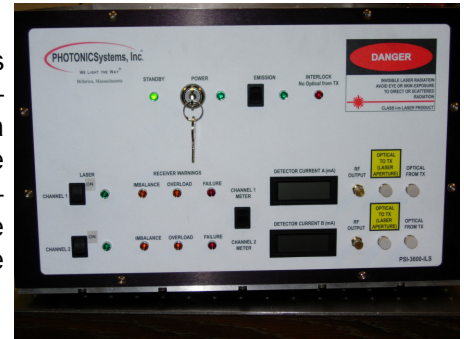


PSI-3600 SERIES MICROWAVE PHOTONIC COMPONENTS

PSI-3600-LNLS HIGH POWER LOW NOISE LIGHT SOURCE MODULE

SYSTEM DESCRIPTION

The PSI-3600 microwave photonic system consists of a family of components that offer unparalleled performance in a wide range of applications. Components of the system include a high power optical light source, PSI-3600-LNLS, a transmitter module, PSI-3600-TX and a receiver module, PSI-3600-RX. These modules may be purchased individually or as a complete photonic system depending upon application requirements. When operated as a complete photonic link, the PSI-3600 offers the widest dynamic range and best noise figure performance of any commercially available product.



LOW NOISE LIGHT SOURCE

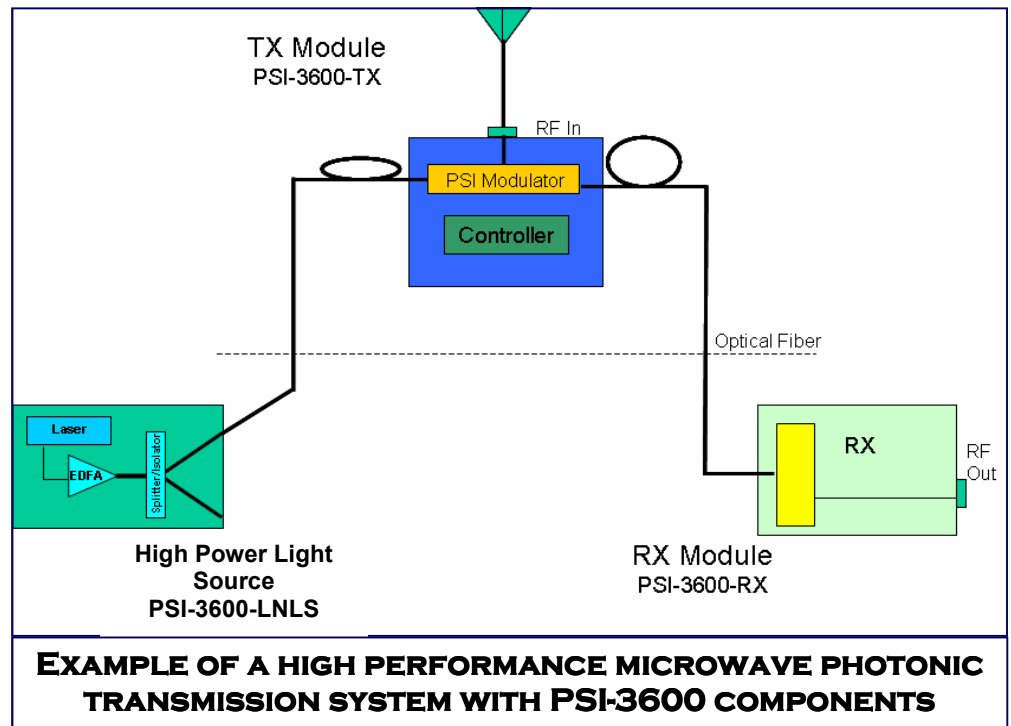
The PSI-3600-LNLS high power, low noise light source provides an optical carrier for use in extremely high performance photonic transmission links. The source may be used with the PSI-3600-TX and PSI-3600-RX to reach previously unattainable performance or used independently in other applications. This product is available with optical power output levels optimized for specific application requirements. Multiple optical output taps are available to support light source sharing among multiple links. The PSI-3600-RX may optionally be built into the light source for applications where the light source and detector are co-located.

BENEFITS

- ✓ Eliminates high transmission line loss
- ✓ Reduces electronic amplification noise figure penalty
- ✓ Microwave bandwidth transmission over long distances through optical fiber
- ✓ Offers signal security and integrity
- ✓ Allows future system growth through wavelength multiplexing

Applications

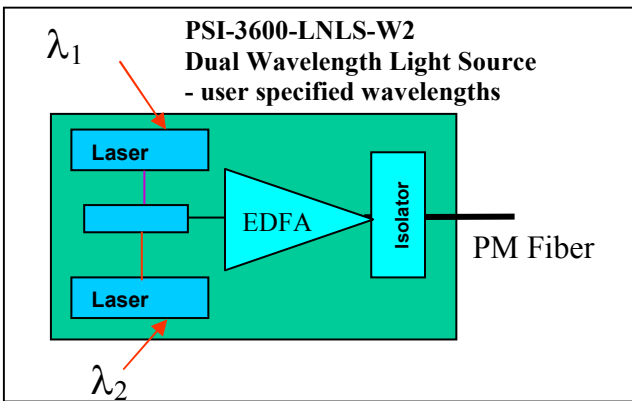
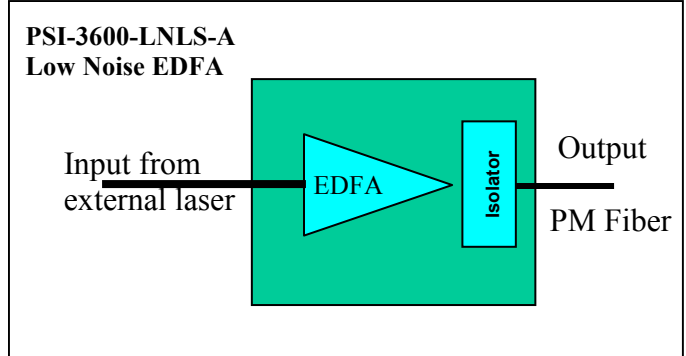
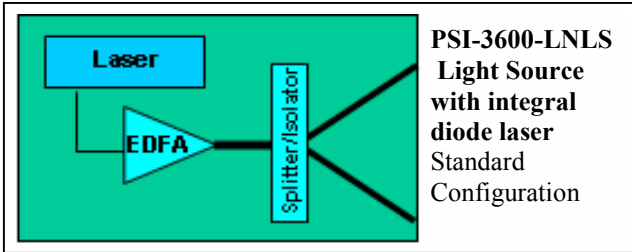
- Antenna remoting
- Phased array radar
- Optical delay lines
- Signal concentration
- Remote imaging



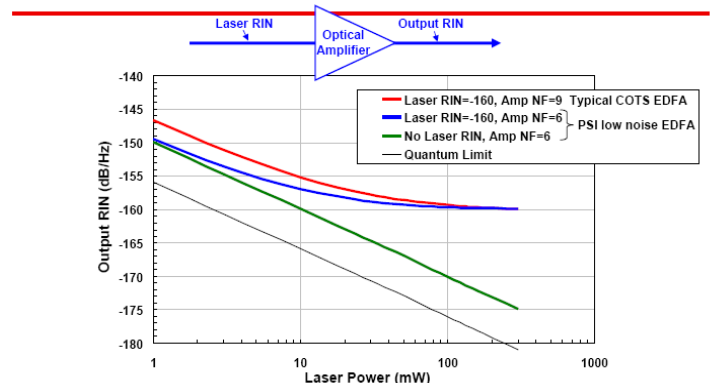
978-670-4990
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Light Source Module Specification Highlights

Parameter	Typical Value	Units
Optical Output Power	1-10, defined by user application	Watts
Operating Wavelength	1545-1565, user specified on ITU 100GHz grid	nm
Relative Intensity Noise (of source laser)	<-150, 100MHz to 10GHz	dBHz
Source Laser	Diode laser	—
Amplifier Technology	EDFA	--
Optical Fiber Type	Polarization maintaining, PANDA Fujikura SM-15P or equivalent	—
Optical Output Connectors	FC/APC, Slow axis	—
Unit Dimensions	19" W, height and depth dependent on power	inches
Operating Temperature Range	0 to 50	Deg C
Power Requirements	120	VAC



RIN of Optical Amplifiers



- NOTES:
- Quantum Limit is signal-to-shot noise ratio of input signal
 - RIN=-160 dB/Hz is typical of low-noise semiconductor laser
 - Fiber laser has no significant RIN above ~100 MHz

UNCLASSIFIED

Photonic Systems, Inc. (PSI) is a recognized expert in the design, analysis development and production of high performance fiber optic systems.

With decades of collective experience, the PSI team offers comprehensive fiber optic engineering solutions to government, military and commercial customers.