



Description

The PSI-1600-10AR is a high performance microwave photonic receiver with a post RF amplifier providing wideband optical to electrical (O/E) conversion for RF signals up to 12GHz. Along with a PSI-1600-10xT transmitter module, the PSI-1600-10AR provides a complete fiber optic link solution designed to replace coaxial cable or microwave repeaters for applications in military systems, satellite communications, radio astronomy, optical delay lines, cellular/wireless base stations or other RF/Microwave related systems.

Custom performance, packaging, connectors and link gain configurations are also available. **Please contact PSI with your application needs.**

Features

- Wide Operational and Instantaneous Bandwidth
- High Dynamic Range
- Customization Available
- Complete Link Option Available

Applications

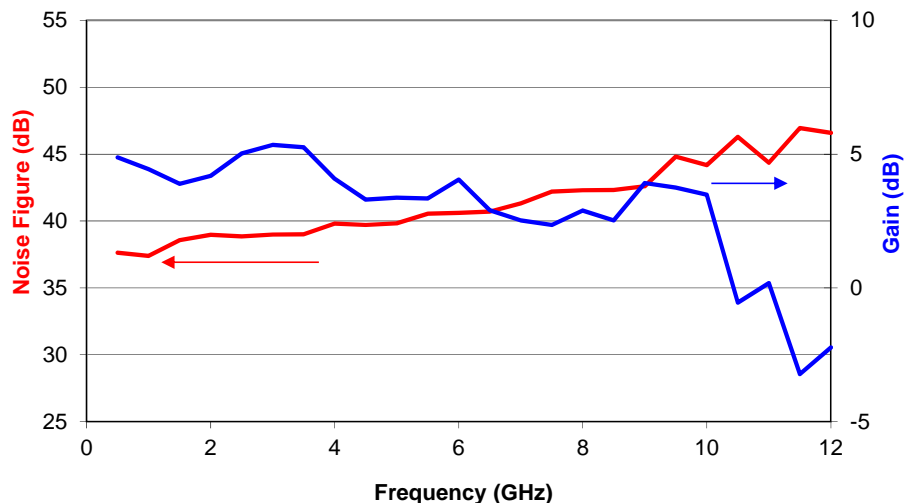
- Replace High Loss Coax Cable
- Remote Antenna Sites
- Radio Over Fiber
- Radio Astronomy
- Phased Array Radar
- EW/ECM
- SATCOM
- RF Optical Delay Lines

RF Link Performance Summary

Parameter	Condition	Min	Typ	Max	Units
Operating Bandwidth		0.1		12	GHz
Link Gain	@ 5 GHz	- 1	0		dB
Noise Figure	@ 5 GHz		38	43	dB
Input IP3	@ 5 GHz	20	25		dBm
Spur Free Dynamic Range	1 Hz band @ 5 GHz	100	103		dB/Hz ^{2/3}
Gain Flatness	1 - 12 GHz			±4	dB
	In any 100 MHz band			±0.5	dB

Note: RF link performance specifications with PSI-1600-10UT transmitter module

PSI-1603-10L Typical Response Over Frequency



PHOTONIC SYSTEMS INC.
900 Middlesex Turnpike
Building 5
Billerica, MA 01821 USA
P: 1-978-670-4990
F: 1-978-670-2510
E: psi.sales@photonicsinc.com
www.photonicsinc.com

RF Characteristics

Parameter	Min	Typ	Max	Units
RF Amplifier Gain		32		dB
RF Output Impedance		50		Ohm
RF Return Loss	8	15		dB
RF Input Connector	SMA Female			

Optical Characteristics

Parameter	Min	Typ	Max	Units
Wavelength	1300		1600	nm
Optical Input Power			10	mW
Responsivity @ 25°C	0.7	0.9		A/W
Optical Connector	FC/APC (see notes)			

Notes:

1. Contact PSI for other connector options
2. User supplied fiber optic interconnect cable should be singlemode Corning SMF-28 or equivalent
3. Optical cable return loss should be >55dB by using angled-polished optical connectors

Environmental Characteristics

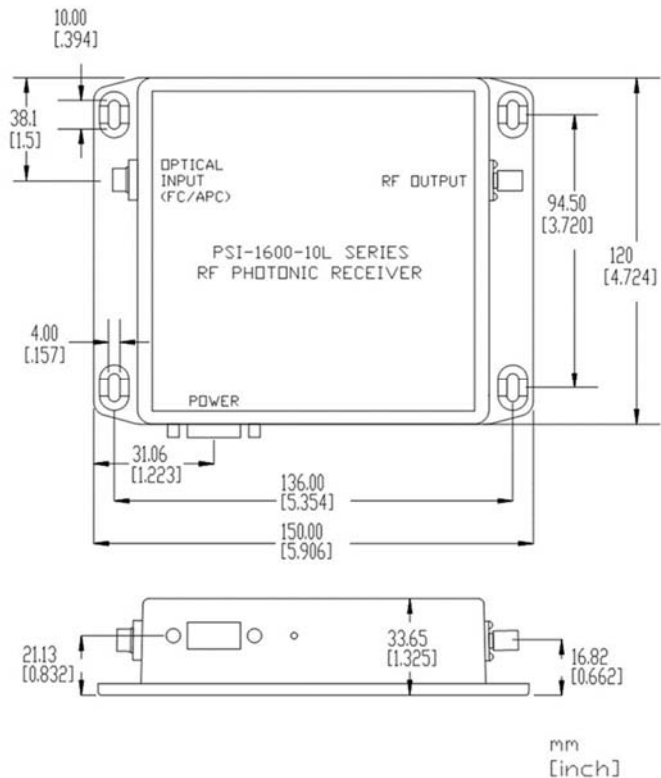
Parameter	Min	Typ	Max	Units
Operating Temperature	-20	25	85	°C
Optical Power Out	-20		85	°C

DC Power & 9-pin D-Connector Pin Out

Pin	Description
1	+12 VDC at 400mA Max.
2	Ground
3	NC
4	Ground
5	NC
6	NC
7	Ground
8	Ground
9	NC

Note: Pins 2, 4, 7 and 8 all internally tied to case ground

Mechanical Dimensions



Ordering Information

Part Number	Description
PSI-1600-10AR	Amplified Receiver Only
PSI-1603-10L	Link includes PSI-1600-10UT transmitter and PSI-1600-10AR amplified receiver
PSI-1604-10L	Link includes PSI-1600-10AT amplified transmitter and PSI-1600-10AR amplified receiver