



Description

The PSI-1600-10UT is a high performance microwave photonic transmitter providing wideband electrical to optical (E/O) conversion for RF input signals up to 12 GHz. Along with a PSI-1600-10UR receiver module, the PSI-1600-10UT 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. Part of the PSI-1600-10L series of microwave links, the PSI-1600-10UT transmitter does not incorporate any RF pre-amplification.

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

Features

- Wide Operational and Instantaneous Bandwidth
- RF_{in} to RF_{out} Solution
- Complete TX and RX Modules
- High Dynamic Range
- Customization Available

Applications

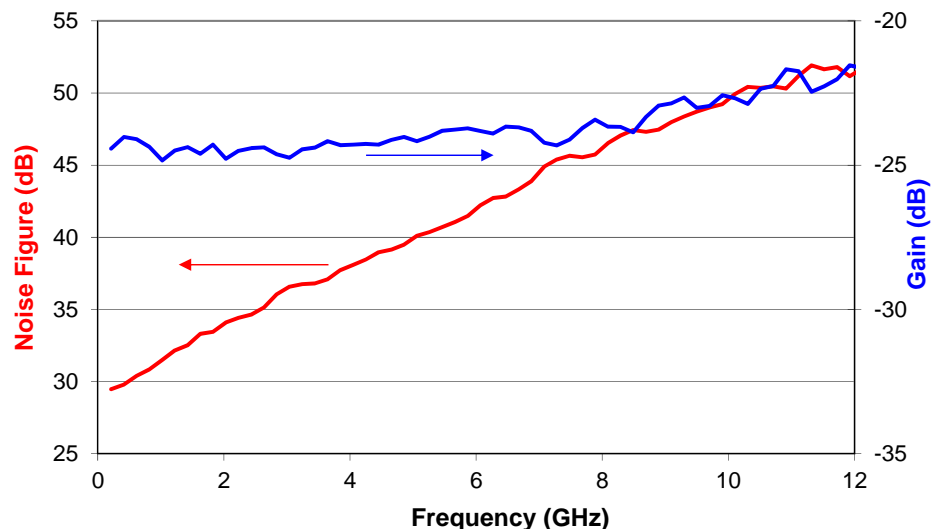
- Replace High Loss Coax Cable
- Remote Antenna Sites
- Radio Over Fiber
- Radio Astronomy
- Phased Array Radar
- EW/ECM
- SATCOM
- Delay Lines

RF Link Performance Summary

Parameter	Condition	Min	Typ	Max	Units
Operating Bandwidth		0.045		12	GHz
Link Gain	@ 5 GHz	-32	-30		dB
Noise Figure	@ 5 GHz		38	40	dB
Input IP3	@ 5 GHz	20	25		dBm
Spur Free Dynamic Range	1 Hz band @ 5 GHz	103	106		dB/Hz ^{2/3}
Gain Flatness	1 - 12 GHz			±3	dB
	In any 100 MHz band			±0.5	dB

Note: RF link performance specifications with PSI-1600-10UR receiver module

PSI-1601-10L Typical Response Over Frequency



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RF Characteristics

Parameter	Min	Typ	Max	Units
Maximum RF Input			+18	dBm
Input 1dB Compression	+15			dBm
RF Input Impedance		50		Ohm
RF Return Loss	9.5	15		dB
RF Input Connector	SMA Female			

Optical Characteristics

Parameter	Min	Typ	Max	Units
Wavelength	1520	1550	1580	nm
Optical Power Out	0.5		10	mW
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

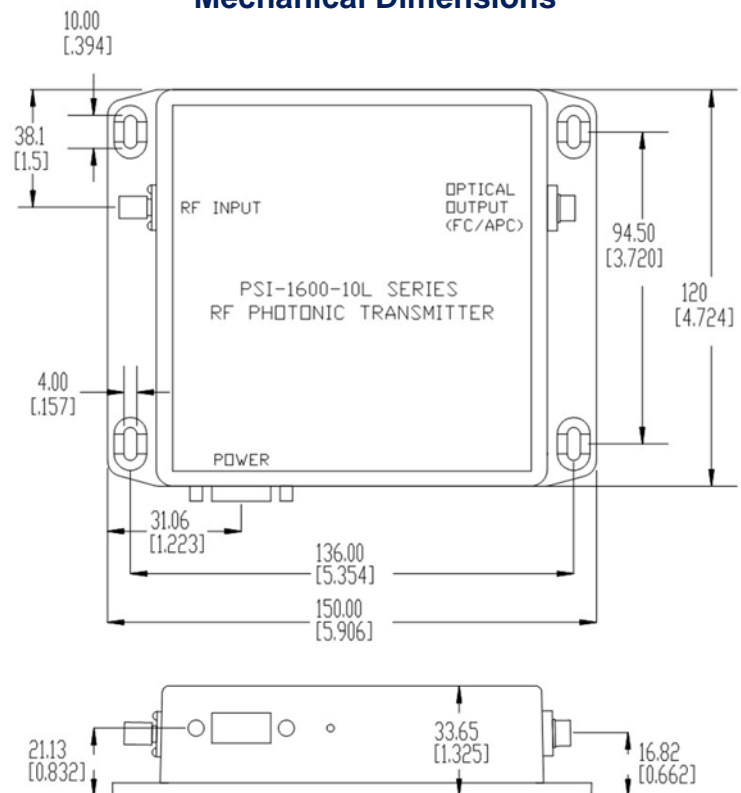
Environmental Characteristics

Parameter	Min	Typ	Max	Units
Operating Temperature	-5	25	70	°C
Optical Power Out	-20		85	°C

DC Power & 9-pin D-Connector Pin Out

Pin	Description
1	NC
2	Ground
3	+5V _{DC} at 1.8A Max.
4	Ground
5	-5V _{DC} at 1.5A Max.
6	NC
7	Ground
8	Ground
9	NC

Mechanical Dimensions



Ordering Information

Part Number	Description
PSI-1600-10UT	Transmitter Only
PSI-1601-10L	Link includes PSI-1600-10UT transmitter and PSI-1600-10UR receiver
PSI-1603-10L	Link includes PSI-1600-10UT transmitter and PSI-1600-10AR amplified receiver