



### 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<sub>in</sub> to RF<sub>out</sub> 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

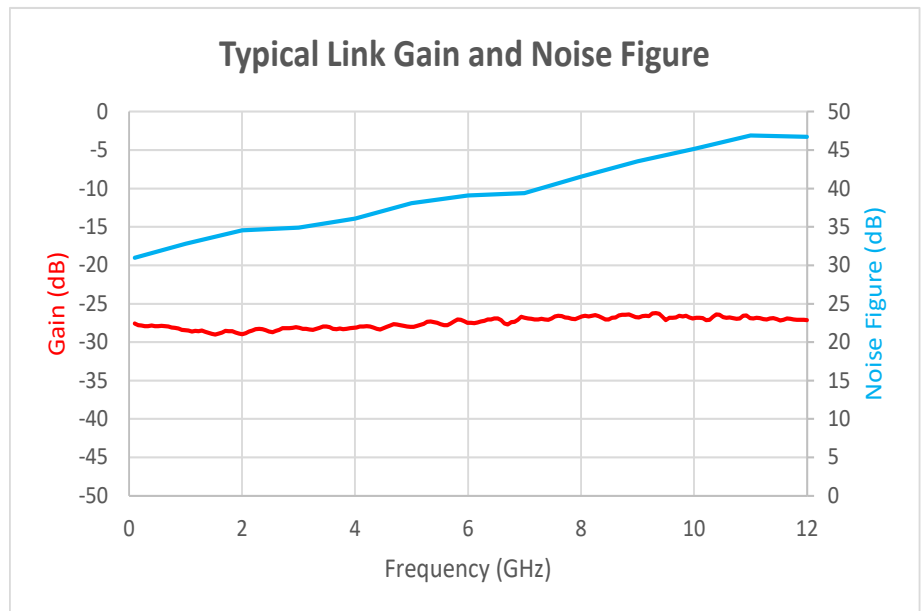
### PHOTONIC SYSTEMS INC.

900 Middlesex Turnpike  
Building 5  
Billerica, MA 01821 USA  
P: 1-978-670-4990  
F: 1-978-670-2510  
E: [psi.sales@photonicinc.com](mailto:psi.sales@photonicinc.com)  
[www.photonicinc.com](http://www.photonicinc.com)

### 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	42	dB
Input IP3	@ 5 GHz	18	22		dBm
Spur Free Dynamic Range	1 Hz band @ 5 GHz	100	105		dB/Hz <sup>2/3</sup>
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



**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

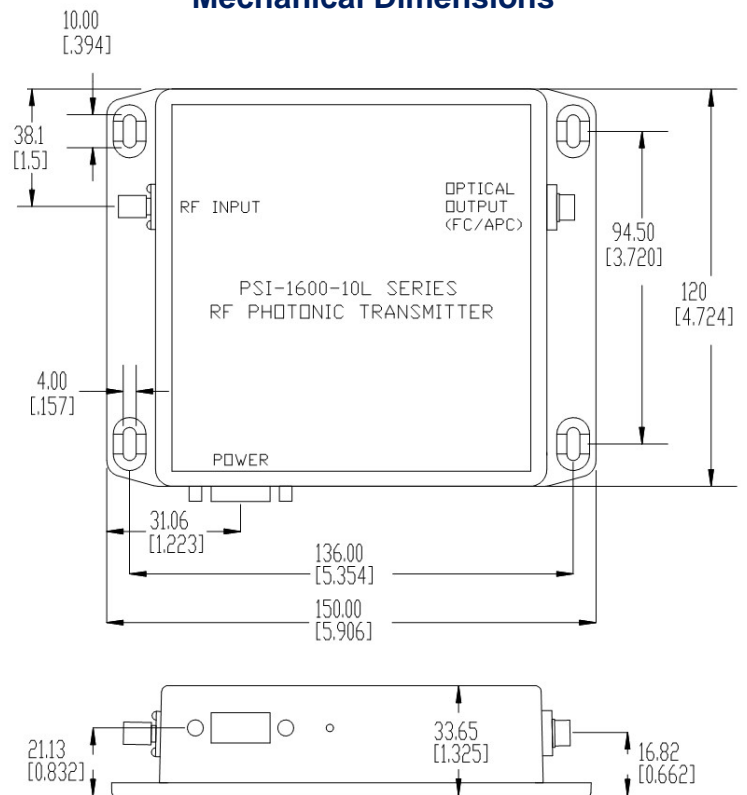
**Environmental Characteristics**

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 <sub>DC</sub> at 1.8A Max.
4	Ground
5	-5V <sub>DC</sub> 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