PHOTONICSystems, Inc.®
We Light the Way®

PSI-2600-20AT
Amplified RF Photonic Transmitter

Features

» Extremely Wideband >20 GHz
» High Dynamic Range
» Customization Available
» Fully Integrated Module
» Complete Link Option
» Includes RF pre-amplifier

Applications

» Replaces Coax Cable
» Radio Over Fiber
» Radio Astronomy
» Remote Antenna Sites
» Phased Array Radar
» EW/ECM
» Optical Delay Lines
» SATCOM

PHOTONIC SYSTEMS INC.

900Middlesex Turnpike
Building 5
Billerica, MA 01821
USA

Phone: 978-670-4990
Fax: 978-670-2510
psi.sales@photonicsinc.com
www.photonicsinc.com

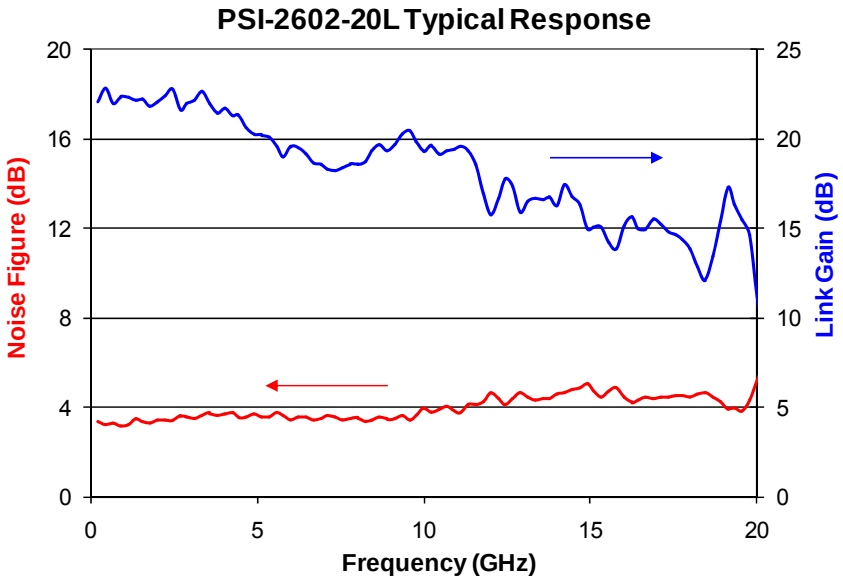
Description

The PSI-2600-20AT is a high performance microwave photonic transmitter with an RF pre-amplifier providing wideband electrical to optical (E/O) conversion for RF input signals beyond 20 GHz. Along with a PSI-2600-20xR receiver module, the PSI-2600-20AT provides a complete fiber optic link solution designed to replace low loss 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 packaging, connectors and link gain configurations are also available. **Please contact PSI with your application needs.**

RF Link Performance

Parameter	Condition	Min	Typ	Max	Units
Operating Bandwidth		0.45		20	GHz
Link Gain	@ 10 GHz	10	13		dB
Noise Figure	@ 10 GHz		4	6	dB
Input IP3	@ 10 GHz	-12	-11		dBm
Spur Free Dynamic Range	1 Hz band @ 10GHZ	104	106		$dB/Hz^{2/3}$
Gain Flatness	1-20 GHz			±5	dB
	Any 100 MHz band			±0.5	dB

Note: RF link specifications with PSI-2600-20UR receiver and a 3m jumper.



Rev. 8-18

RF Characteristics

Parameter	Condition	Min	Typ	Max	Units
Maximum RF Input				-10	dBm
1 dB Compression Point		-22			dBm
RF Input Impedance			50		Ω
RF Return Loss		9.5	15		dB
RF Input Connector	SMA Female				

Optical Characteristics

Parameter	Condition	Min	Typ	Max	Units
Wavelength		1520	1550	1556	nm
Optical Output Power		0.5		10	mW
Connector Return Loss		55			dB
Optical Output Connector	FC/APC				

Notes:
1. User supplied fiber optic cable should be singlemode Corning SMF-28 or equivalent
2. To minimize distortion caused by optical reflections the optical cable return loss should be >55 dB using angled-polished connectors
3. ITU channel wavelength selection is possible, please contact PSI with requirements

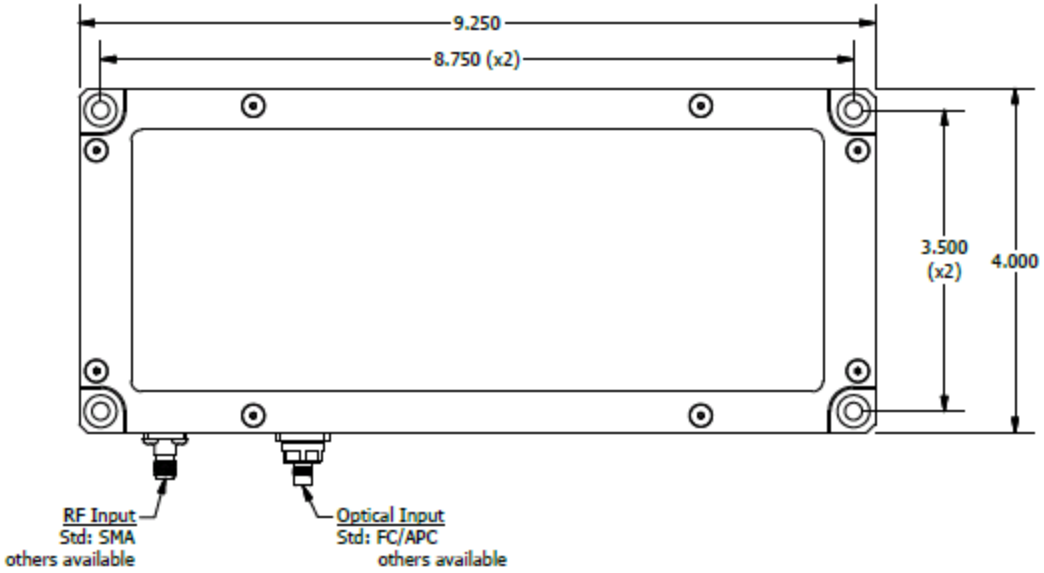
Environmental Characteristics

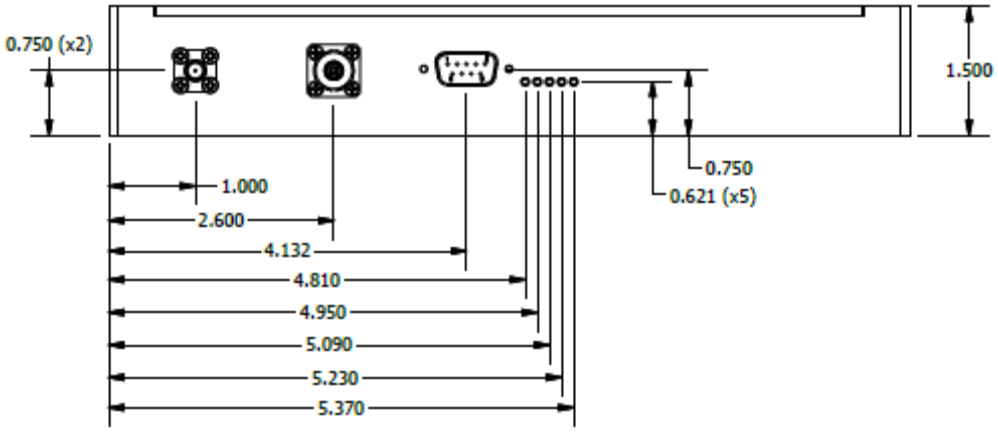
Parameter	Condition	Min	Typ	Max	Units
Operating Temperature	Within Specifications	-10		60	°C
Storage Temperature	No damage	-20		70	°C
Humidity		0		95	%

DC Power and D-Connector Pin Out

Pin	Description
1	+12 V_{DC} at 350mA max.
2	Ground
3	+5 V_{DC} at 1850mA max.
4	-5 V_{DC} at 1500mA max.
5	-12 V_{DC} at 80mA max.
6	Laser Disable
7	Ground
8	NC
9	NC (modulator reset)

Mechanical Dimensions





Ordering Information

PSI Part Number	Description
PSI-2600-20AT	Amplified E/O Transmitter Module
PSI-2602-20L	Microwave Photonic Link Includes: • PSI-2600-20AT Amplified Transmitter Module • PSI-2600-20UR Receiver Module
PSI-2604-20L	Microwave Photonic Link Includes: • PSI-2600-20AT Amplified Transmitter Module • PSI-2600-20AR Amplified Receiver Module