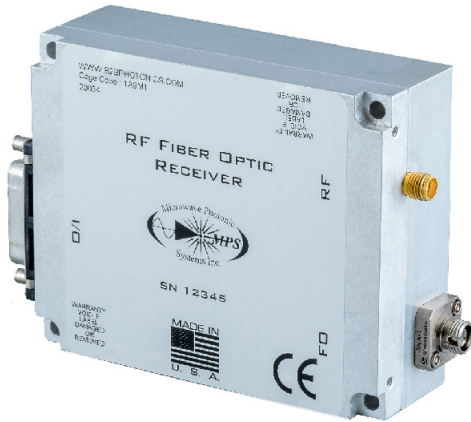


## MP-2320TX Series Microwave Fiber Optic Transmitter

## 3.5 GHz RF Analog Fiber Optic Transmitter



Designed to provide electrical-to-optical (E/O) conversion of broadband RF signals over the 1 MHz to 3500 MHz frequency range.

The MP-2320TX is a comprehensive family of RF/Fiber Optic Transmitters that are designed to provide electrical-to-optical (E/O) conversion of broadband RF signals over a frequency range of 1.0 MHz to 3500 MHz. The transmitter family can be optimized over a unique frequency range as indicated in the part number generator tool on page two. Further system optimization can be achieved by using the integrated RF attenuators which have a 30 dB adjustment range.

The utilization of the MP-2320TX, in conjunction with the appropriate MP-2320RX RF/Fiber Optic Receiver, forms a broadband link capable of supporting the transmission of RF signals over singlemode optical fiber for use in a wide array of communication applications. The link applications include antenna remoting, time and frequency reference distribution, RF delay lines, telemetry tracking, and point-to-point RF transmission.

The transmitter utilizes a low noise, high dynamic range Distributed Feedback (DFB) laser with integrated temperature stability control. The transmitter operates over link distances up to 50 km. An optional longhaul Distributed Feedback (DFB) laser can be specified that extends the link range to 80 km. The unit provides the user with status monitoring through the use of an onboard processor that communicates to a host computer over an RS-232 I/O interface. The I/O parameters include laser bias current, temperature and alarm status.

Information: Call us toll-free at 888-868-8967 or email [info@b2bphotonics.com](mailto:info@b2bphotonics.com)

## Applications:

- Wideband RF Transmission
- Microwave Antenna Remoting
- L-Band SATCOM Links
- GPS Antenna Remoting
- Wireless / PCS
- Phased array Antenna Systems
- Satellite Radio: XM

## Features:

- 1.0 MHz to 3.5 GHz Bandwidth
- CWDM / DWDM Compatible
- Adjustable RF Front End Attenuator
- Low Noise Pre-amplifier
- High Dynamic Range
- Optional Integrated Bias-T
- Small Form Factor Flange Mount
- Hot Swappable, Plug-In Module
- Compatible with MPS-1911, MPS-1914, MPS-1915 Rack Chassis Systems



1914 Plug-In Style Module

MP-2320TX Series Microwave Fiber Optic Transmitter

## General Specifications

### Optical

Parameter	Min	Typ	Max	Unit	Notes
Operational Wavelength (1310nm)	1270	1310	1430	nm	CWDM Available
Operational Wavelength (1550nm)	1470	1550	1610		CWDM Available
Optical Output Power	2	3	5	mW	
Optical Connector Type	FC/APC, SC/APC, E2000, PC/APC, AVIM				Others Available
Optical Back Reflection		-40		dB	

### Electrical - RF

Parameter	Min	Typ	Max	Unit	Notes
Frequency Response	1		3500	MHz	
Input/Output RF Impedance	50			Ohms	
Input/Output Return Loss	-16	-20		dB	
RF Connector Type	SMA (f) female				Others Available
RF Link Gain	-30	0	+20	dB	Higher Link Gains Available
RF Link Gain Flatness		+/- 2		dB	1 MHz to 3.5 GHz Bandwidth
RF Link Noise Figure	20	+35		dB	
Input 1dB Compression Point		+10		dBm	IP1dB
Input Third Order Compression Point	+23			dBm	IIP3
Spur Free Dynamic Range	108	110		dB*Hz <sup>2/3</sup>	SFDR
Input Signal Range	-75		+5	dBm	
Intermod Products	-40			dBc	two-tone @ 0 dBm / tone
RF Input Power			+16.0	dBm	No Damage

### Mechanical and Environmental

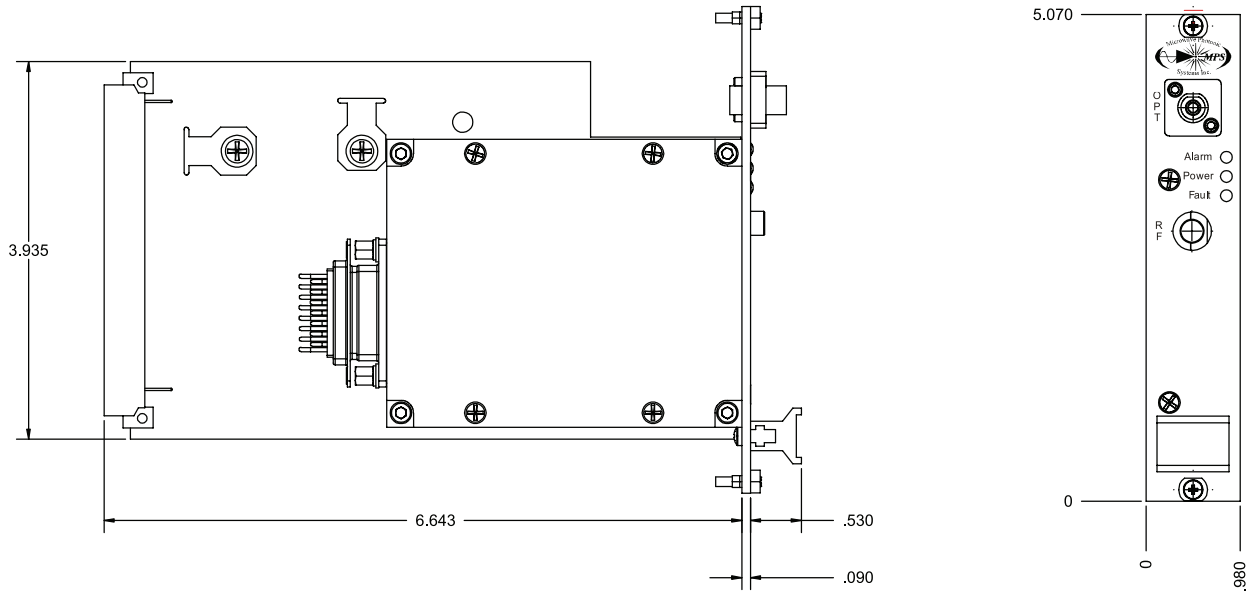
Parameter	Min	Typ	Max	Unit	Notes
Power Supply	+8	+15	+24	VDC	350 mA max.
Operating Temperature	-20		+70	°C	
Storage Temperature	-45		+85	°C	
Operating Humidity			95	%	Non-Condensing
Operating Altitude			50,000	ft	
Dimensions	3.0 x 3.7 x 1.26			in	Flange Mount
Local Alarms	LED: Power and BIT Fault (Plugin Units)				
Remote Alarms	Open Collector, RS-232				
Power & I/O Connector	DB15 Male				Flange Mount

Note (1) : Performance stated with TX Output applied to MP-2320RX Receiver Module

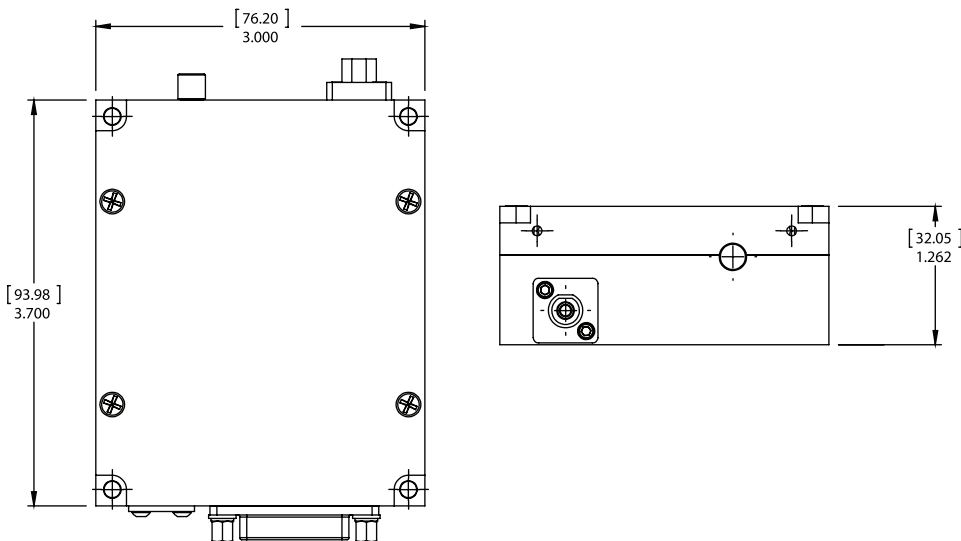
MP-2320TX Series Microwave Fiber Optic Transmitter

Outline Drawings

Case Type 1, 1914 Plug-In Module



Case Type 3, Flange Mount Module

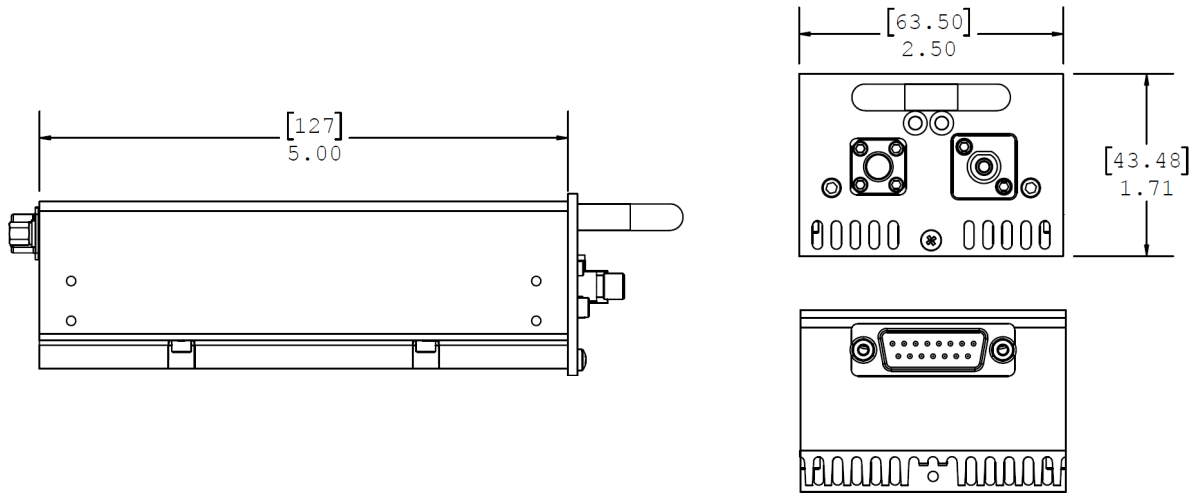


I/O CONNECTOR PINOUT	
PIN	FUNCTION
1	PWR GROUND
2	OPEN COLLECTOR ALARM Low = NO ALARM, 1A Max, Clamped at +20V
3	RS-232 RX DATA (IN )
4	RS-232 TX DATA (OUT )
5	NO CONNECTION
6	NO CONNECTION
7	NO CONNECTION
8	+15 VDC
9	ANALOG MONITOR RTN
10	ANALOG OPTICAL MON
11	RS-232 SIGNAL GROUND
12	NO CONNECTION
13	NO CONNECTION
14	NO CONNECTION
15	NO CONNECTION

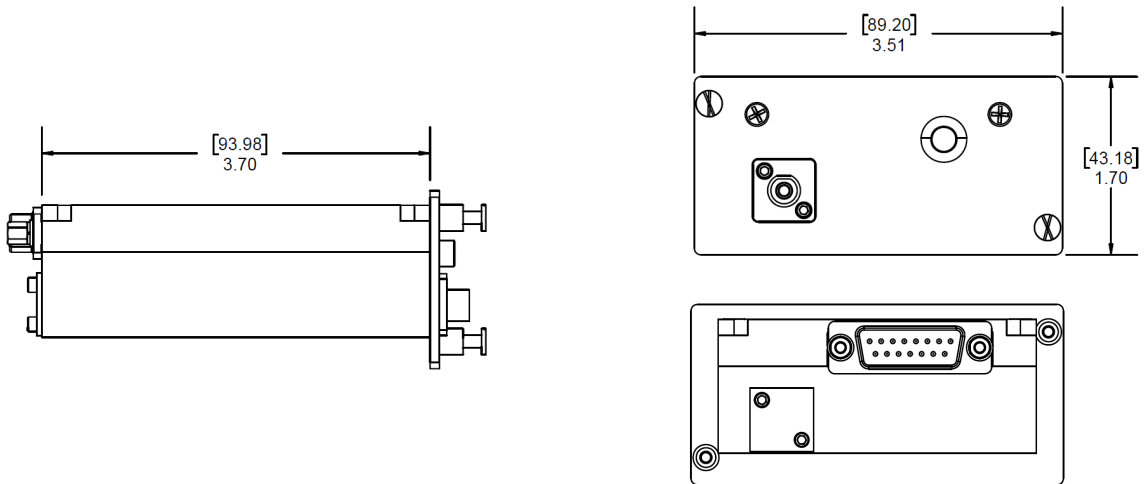
MP-2320TX Series Microwave Fiber Optic Transmitter

Outline Drawings

Case Type 5, 1911 Plug-In Module



Case Type 7, 1915 Plug-In Module



MP-2320TX Series Microwave Fiber Optic Transmitter

Part Number Generator

MP2320TX	F	W	I	R	RA	CN	CT
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Example PN: **MP2320TX-E-15-5-S-2-4-3**

100 to 3000 MHz Frequency Range  
 1550nm Optical Wavelength  
 50 Ohm Impedance  
 50 km Range  
 RS-232 Alarm  
 SC/APC Optical Connector  
 Flange Mount unit

**F** Frequency Range

- A = 1.0 MHz to 300 MHz
- B = 50 MHz to 1000 MHz
- D = 100 MHz to 2500 MHz
- E = 100 MHz to 3000 MHz
- F = 500 MHz to 3500 MHz
- G = 50 MHz to 3500 MHz
- H = 50 MHz to 3000 MHz
- J = 1 MHz to 3000 MHz

**CT** Case Type

- 1 =MPS-1914 Plug-In
- 3 = 3.0" x 3.7" x 1.26"
- 5 =MPS-1911 Plug-In
- 7 =MPS-1915 Plug-In

**W** Wavelength

- 01 = 1270 nm
- 02 = 1290 nm
- 03 = 1310 nm
- 04 = 1330 nm
- 05 = 1350 nm
- 06 = 1370 nm
- 07 = 1390 nm
- 08 = 1410 nm
- 09 = 1430 nm
- 10 = 1450 nm
- 11 = 1470 nm
- 12 = 1490 nm
- 13 = 1510 nm
- 14 = 1530 nm
- 15 = 1550 nm
- 16 = 1570 nm
- 17 = 1590 nm
- 18 = 1610 nm

**I** Impedance

- 5 = 50 Ohms
- 7 = 75 Ohms

**R** Range

- S = 50 km
- E = 80 km

**RA** Remote Alarm Interface

- 2 = RS-232
- 4 = RS-485
- N = None

**CN** Connector

- 0 = None
- 2 = FC/APC
- 4 = SC/APC
- 6 = Special
- 7 = LC/APC
- 8 = AVIM / APC