

WRX-20/40

PRODUCT BRIEF

20 / 40 GHz Analog Links

Fiber Optic Receiver



FEATURES

- 50MHz to 40GHz Frequency Range
- 1300~1600 nm Wavelength
- RF Input Standard K-Connector / 2.4mm
- Single +12V Supply
- Wide Operating Temperature
- Designed for use with the Opsys-Tech Wide Bandwidth Analog Receiver
- 19" Rack and custom packaging available

APPLICATIONS

- Analog Signal Distribution
- Antenna Remoting
- Phase Array Radar Remoting and Distribution
- Delay Lines
- Secure Communications
- Ultra Wide Bandwidth Analog Communications

MODELS

Type	Communication Link
WRX-2-0	22GHz Receiver, 1300~1600nm, FC/APC
WRX-4-0	40GHz Receiver, 1480~1620nm, FC/APC



OVERVIEW

OPSYS-Tech's line of high performance fiber optic analog receivers are designed exclusively for the unique requirements demanded by analog signal transport applications.

The analog product line builds upon established high performance digital transponders including the incorporation of microprocessor control and hermetically sealed optical components.

This broadband product operates at 1550nm and is optimized for no-compromise gain, noise figure and dynamic range performance for span lengths ranging from 1 meter to 2 kilometers, which encompasses most applications.

A single +12V power supply and a user accessible pin with voltage proportional to the received photocurrent is incorporated in the receiver.

OPTICAL SPECIFICATIONS

Parameter		Value	Unit	Note
Total Spectral Range	WRX-2	1300~1600	nm	Full working range of detector
	WRX-4	1480~1620	nm	Full working range of detector
Input Power		+10	dBm	
Optical Return Loss		27	dB	With FC/APC connector
Optical Connector Type		FC/APC		Others available upon request

RF SPECIFICATIONS ⁽³⁾

Parameter	Value	Unit	Note
Frequency Range	0.05 to 22/40 ⁽²⁾	GHz	See plot for performance
RF Output Impedance	50	Ohms	Nominal, internal matching resistor
RF Connector ⁽²⁾	2.9mm (K-Connector)		WRX-2: Female (2.92mm, 3.5mm + SMA compatible K-Connector)
	2.4 mm		WRX-4: Female (2.4 mm or 1.85mm)
RF Return Loss	10	dB	
SFDR	110	dB	
NF	32 ⁽¹⁾	dB	
OIP3	-2	dBm	
Link Gain	-26	dB	External RF Amplifier Option Available for 0dB Link Gain

⁽¹⁾ External amplifier available for 15dB noise figure option

⁽²⁾ Depends on WRX Model Type (20 / 40 GHz)

⁽³⁾ All parameters are referred to OPSYS-Tech WTX & WRX Back-To-Back Link

DB-9 PIN ASSIGNMENTS

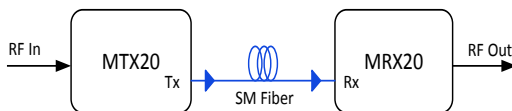
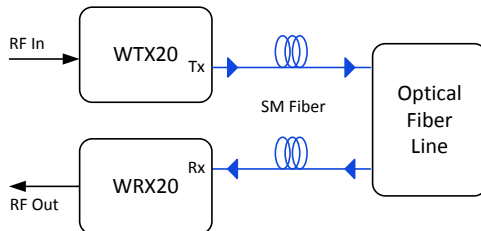
Pin #	Signal Name	
1	Input Power	12 VDC nom
2	Ground	Power and Signal Return
3	Factory Use	Do not connect any signal
4	Ground	Power and Signal Return
5	Optical Power Mon	
6	NC	
7	Factory Use	Do not connect any signal
8	NC	
9	Temperature Mon	

INTERFACE and DIMENSIONS

Parameter	Type
Optical Connector	FC/APC
Electrical Connector	DB-9, 2-Row, Male
RF Connector ^(2, 3)	K-Connector / 2.4mm
Size L x W x H [mm]	96 L X 76 W X 29 H
Case Material	Aluminum 6061
Case Coating	Chemical Conversion Clear, MIL-DTL-5541 , class 3

⁽²⁾ Dépends by WRX Model Type (20 / 40 GHz)

TYPICAL LINK APPLICATIONS

RF-to-RF Link ApplicationDelay Line Application

GENERAL SPECIFICATIONS

Parameter	Type
Relative Humidity (non-condensing)	85 [%]
Std. Operating Temperature	WRX-2 -10 to +70 [°C] ⁽⁴⁾
	WRX-4 0 to +70 [°C]
Storage Temperature	-40 to +85 [°C]
Supply Voltage	+11VDC to +13VDC

⁽⁴⁾ For Extended Temperature (-40°C~+85°C) contact OPSYS-Tech sales

ORDERING INFORMATION

MODEL	Communication Link
WRX-2-0	22GHz Receiver, 1300~1600nm, FC/APC
WRX-4-0	40GHz Receiver, 1480~1620nm, FC/APC