

Microwave Photonic Systems, Inc. 888-868-8967



OFW-2320TRX UHF Fiber Optic Interfacility Link (IFL) System

The OFW-2320TRX UHF Fiber Optic Interfacility Link (IFL) System is the principle hardware for long-haul transmission of UHF signals in the frequency range of 225 MHz to 400 MHz over singlemode fiber optic cable. The OFW-2320TRX is designed to provide full duplex signal transmission between a UHF Ground Station and its transmit/receive antenna complex with as much as 50 km of optical cabling. The OFW-2320TRX system architecture consists of a Remote Unit located at the antenna complex such that it is optically interconnected to a Local Unit at the ground station. The OFW-2320TRX is compatible with UHF SATCOM Transceivers and can replace the conventional RF Coax Cables that interconnect the transceivers to their respective antennas. The system function is independent of the RF carrier's data modulation format. The links have low noise and high dynamic range characteristics, a wide operating temperature range and provide turnkey installation. The system provides status monitoring through the use of an onboard processor that communicates with a host computer over a RS-232 or RS-485 I/O interface.

Applications

Interfacility Link Remoting
SATCOM Uplink & Downlink Remoting
UHF Distribution, 225 MHz to 400 MHz

Features

CWDM Compatible
High Dynamic Range
Low Noise RF Front-end
LNA Powering (opt)
80 km Extended Range (opt)
RS-232 or RS-485 Data Port (opt)
1 Year Full, 2 Year Limited Warranty

A typical antenna installation configuration would resemble an architecture where the OFW-2320TRX remote unit is installed such that it is interconnected to the Antenna via an uplink/downlink duplexer. Specifically, the uplink optical channel connects to the Power Amplifier (PA), the downlink optical channel connects to the Low Noise Amplifier (LNA). Similarly, the ground station installation configuration would resemble an architecture where the OFW-2320TRX uplink and downlink optical channels are mated to the radio SATCOMM transceivers. With the addition of an optional WDM module will enable the system to have bi-directional uplink/downlink transmission over a single fiber optic cable.

Specifications

Optical

Operating Wavelength	1310 nm \pm 2 nm, 1550 nm \pm 2 nm or CWDM Bands
Laser Diode	Class 3A
Output Power	+3 dBm \pm 0.5 dBm
Allowed Backreflection (max)	36 dB @ full specs
E/O Diff. Eff. (min)	0.06 W/A

RF Channel Uplink/Downlink

Modulation Bandwidth	100 MHz to 2500 MHz
Flatness (max)	\pm 2.0 dB
VSWR (max)	2.0:1
1 dB Comp. Level (min)	15.0 dBm ⁽¹⁾
Input IP-3 Min @ 2x+3 dBm	26.0 dBm ⁽¹⁾
Input Damage Level	+27.0 dBm ⁽¹⁾
RF Link Gain (typ)	+0.0 dB @ 1.0 dB Optical Loss ⁽¹⁾
Noise Figure (max)	35 dB @ 1.0 dB Optical Loss ⁽¹⁾
Note (1): Overall link performance as measured RF input to RF output.	

General

Power Supply, DC	+8 VDC to +24 VDC @ 500 mA
Optical Connector	FC/APC, SC/APC, AVIM APC or User Specified
RF Connector	SMA(f), 50 ohm or F(f), 75 ohm
Storage Temperature	-40°C to +85°C
Operating Temperature	-40°C to +71°C
Local Alarm	LED: Optical Power Failure, LED: Line Power On
Optical Power Monitor	1 V/mW \pm 10%
Remote Alarms	Open Collector & RS-232 Interface or RS-485
Dimensions	5.6" x 6.0" x 1.35"



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