

microwave photonic systems

OFW-400

Intermediate Frequency Fiber Optic Subsystem



Long Haul Fiber Optic Transmission of 2 MHz to 512 MHz IF Signals

The OFW-400 Intermediate Frequency (IF) Fiber Optic Interfacility Link (IFL) System is the principle hardware for long-haul transmission of IF signals in the frequency range of 2 MHz to 512 MHz over singlemode fiber optic cable. The standard system configuration supports transmission distances up to 50 km. An optional extended-range configuration can be specified that increases the link range to 80 km. The system's optical conversion process is transparent to the IF carrier's data rate and modulation format, which supports Analog and next generation Software Defined Radios.

The core Fiber Optic Transmitters (FO TX) and Fiber Optic Receivers (FO RX) contained within the OFW-400 also have integrated User adjustable RF attenuators which allow for up to 30 dB of RF level adjustment. The use of these attenuators can be used to trade off between system sensitivity and maximum system gain.

The OFW-400 provides status monitoring through the use of an onboard processor that communicates with a host computer over a Serial and/or a Ethernet interface. The I/O parameters included laser bias current, optical receive power, internal temperature and alarm monitoring. In addition, an optional Low Noise amplifier (LNA) or integrated Bias-T for remote LNA powering may be specified.

The OFW-400 can when specified with 75 Ohm input/output impedance option which provides a high performance, cost-effective solution for CATV Return Path signal distribution in Hybrid Fiber Coax (HFC) Networks.

The OFW-400 can be packaged in various styles of form factors including: 1RU x 19" rack chassis with up to 4 hot swap modules, a 4RU x 19" high-density plug-in card chassis, or a Harsh Environment / Outdoor Enclosure.

Information: Call us toll-free at 888-868-8967 or email info@b2bphotonics.com

Applications:

- SATCOM Uplink/Downlink Remoting
 - IF Distribution of 70/140 MHz
 - 5/10 MHz Frequency Reference
 - IRIG B, 1 PPS Timing
- CATV Return Path Link
- HF, VHF and UHF Signal Transmission
- Software Defined Radio Remoting

Features:

- CWDM Compatible
- Wide Bandwidth, 2MHz to 512 MHz
- High Spur Free High Dynamic Range
- RF Link Gain Control
 - RF or Optical AGC (Opt)
- Low Noise RF Front-end (Opt)
- LNB Powering (Opt)



Harsh Environment
Outdoor Enclosure

Microwave Photonic Systems, Inc.

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Intermediate Frequency Fiber Optic Interfacility Link System

Specifications

RF Channel Specifications:

Frequency Response	2.0 MHz to 512 MHz
RF Link Gain (typ)	+0.0 dB, ± 1.0 dB @ 3.0 dBo Optical Loss, +10 dB (max)
Flatness (max)	± 1.0 dB, full bandwidth
VSWR (max)	2.0:1
Noise Figure (max)	38 dB @ 3.0 dBo Optical Loss
Noise Figure Adjustment	20 dB to 40 dB, user selectable via RF attenuators
Maximum RF Input, Non Damage	+20 dBm
RF Input Signal Range	-110 dBm to +13.0 dBm, 25 kHz BW
1 dB Comp. Level (min)	+13.0 dBm
Input IP3 (min)	+30.0 dBm
Spur Free Dynamic Range	+110.0 dBm * Hz ^(2/3)

Optical Specifications:

Standard Operating Wavelength	1310 nm, 1550 nm
CWDM Operating Wavelength	All CWDM Bands Available - User Specified
Output Power (typ)	+3 dBm (output powers available up to +13 dBm)
Allowed Backreflection (max)	45 dB @ full specs
E/O Diff. Eff. (min)	0.12 W/A

General Specifications:

Power Supply	Universal AC Auto Ranging or Customer Defined DC
AC Receptacle	IEC 320
Optical Input / Output Port	FC/APC, SC/APC, AVIM APC or User Specified

Note: All specifications stated with 3 dBo optical loss budget

