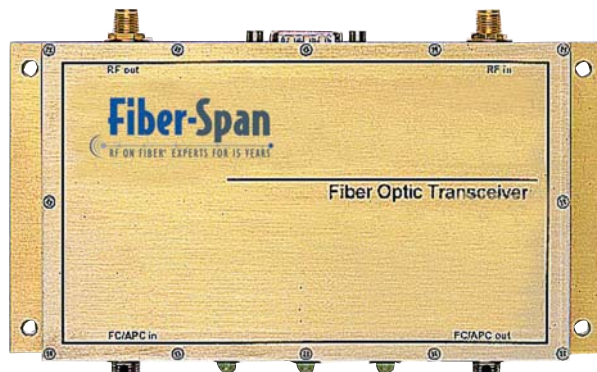


AC 224

Linear, low noise RF fiber optic link

- 2 to 2000 MHz Bandwidth
- 1.3 or 1.5 μm Low Noise DFB Laser
- Very High Dynamic Range
- Optical & Thermal Stabilization
- Monitoring and Alarm Capability
- Singlemode Fiber
- ITU grid DWDM Compliant



Description

The AC 224 is a linear, low noise RF fiber optic link for extremely high Spurious Free Dynamic Range (SFDR) applications. The transmitter utilizes a highly linear, low noise, cooled DFB laser operating at 1.3 or 1.5 μm over 9/125 μm single mode fiber with RF pre-amplification for desired noise performance. For enhanced reliability, the laser incorporates average optical power feedback that monitors and actively adjusts the laser for consistent

optical output over temperature and lifetime. The laser's temperature is monitored and controlled for stable wavelength and power. The receiver utilizes a high bandwidth, low distortion InGaAs PIN diode photo-detector, in addition to RF post-amplification, to deliver the required output level and performance. They are designed for low noise and stable performance over a wide temperature range. The transmitter and receiver offer several monitoring and alarm features. A

temperature LED and an alarm output indicates laser temperature in the proper operating range. A laser status LED, monitor and alarm output indicates proper laser operation, and a LED monitor and alarm output indicates proper received optical power. The monitor and alarm outputs are available at the 9 pin connector. The RF interface is via a 50 Ω SMA connector and the optical connection is via FC/APC optical connectors. Other connector types are available.

Specifications ($T_c = 25^\circ\text{C}$)

Parameter	Min	Typ	Max	Units
Optical Output Power		4		mW
Frequency Response, 2 MHz to 2.0 GHz		+/- 1.5		dB
Input and Output VSWR		1.5:1	2.0:1	--
Spur Free Dynamic Range (1)(2)		112		dB/Hz ^{2/3}
Link Gain (1 meter fiber)		0		dB
Noise Figure (1)(2)		30		dB
Input 3rd Order Intercept (1)(2)		24		dBm
RF Isolation		60		dB

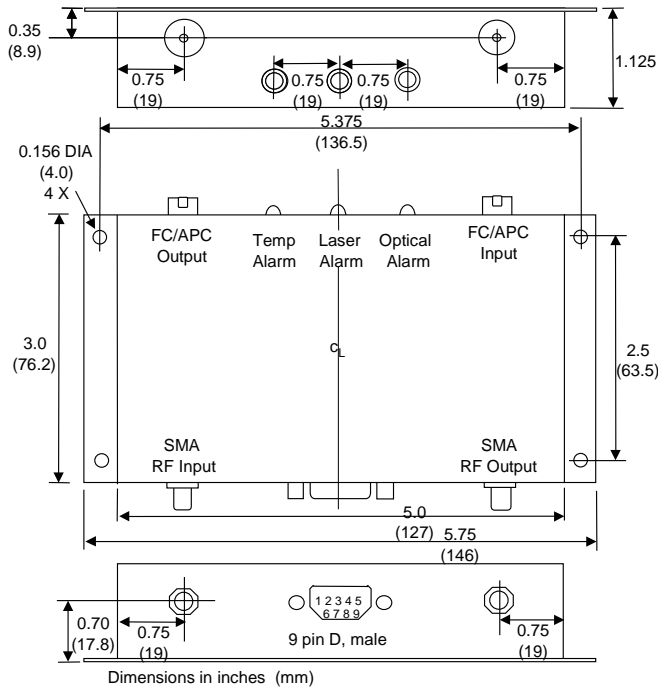
Notes:

(1) SFDR, Noise and IIP3 specified at a nominal 5dB optical loss budget.

(2) Assuming fiber interconnections with < -65dB return loss (Angle Polish Connectors (APC)).

Absolute Maximums

Parameter	
Operating Temperature (case)	-30 to +75OC
Storage Temperature	-40 to +85OC
Maximum RF Input to Transmitter	+10 dBm
Maximum Optical Input to Receiver	6 mW
D.C. Supply Voltage	+12 volts +/-5%



Pinout

1. Laser Disable (+12 v = Laser ON)
2. Ground
3. +12 volts (250 mA max)
4. Not Connected
5. Laser Temp Alarm (Open Collector, 25 mA)
6. Laser Bias Monitor (0.1 V = 10 mA)
7. Laser Bias Alarm (open collector, 25 mA)
8. Received Power Monitor (1V = 1mW)
9. Received Power Alarm (open collector, 25 mA)



Ordering Information

Identification:

Model Number: AC 224T	Description: 2 GHz, High SFDR, Fiber Optic Transmitter
Model Number: AC 224R	Description: 2 GHz, High SFDR, Fiber Optic Receiver

Please consult the Sales Department for available options.

The information is considered to be accurate however to provide the best product possible, Fiber-Span reserves the right to make changes and improvements to the specifications without notice.

LITERATURE ORDER CODE: DSAC224-0208v2