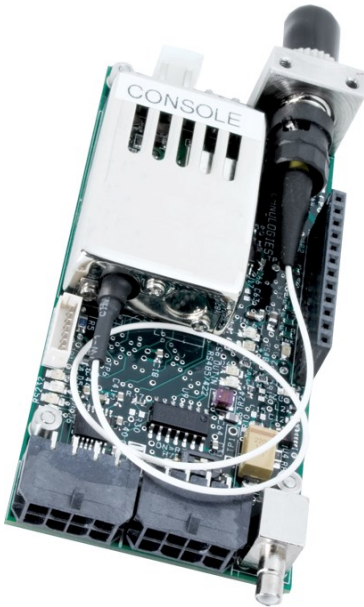# Fiber Optic Multiplexer
Model 914-R/C

Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom marine products for harsh environments and is a leading manufacturer of high performance and high quality multiplexers. Contact Focal for any assistance in selecting the best solution for your requirements.

Features

- Standalone, single card multiplexer in a small profile
- High speed RS-485/422
- Expansion port for 2 extra data channels
- High quality digitized video with bidirectional option
- Singlemode and multimode bidirectional transceivers
- Integrated ST fiber bushing for external connection

Benefits

- Simplified interfaces for minimal configuration
- Extremely small size allows installation in less than 2 inch diameter enclosures
- Less prone to fiber damage with no loose pigtails
- Operates reliably at extended temperatures
- Low cost

Applications

- Small subsea remotely operated vehicles (ROV's)
- Pipe inspection robots
- Bomb disposal robots
- Security and defense applications
- Industrial sensor systems
- Armored vehicles

The 914-R/C video and data multiplexer provides digital fiber optic transmission for 1 high quality video channel and up to 6 bidirectional data channels in the industry's smallest package. The 914 offers: extremely small size; rugged design with extended operational temperature range; bidirectional operation over 1 singlemode or multimode fiber; broadcast quality video with 10-bit digitization and greater than 6 MHz bandwidth for high resolution cameras; 4 bidirectional serial data channels (2 x RS-232, 1 x high speed RS-485, 1 x high speed RS-485/422); connector types and pin wiring compatible with the Focal 907; on-board LED diagnostics for data, video, and optical link status; and options for bidirectional video, daughter card expansion and CWDM upgrades.

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Specifications

Video

Number of Channels	1
Format	Composite (NTSC, PAL), 1 Vpp nom.
Digitization	10 bit @ 30 MHz sampling
Bandwidth	6.0 MHz, minimum
SNR	> 60 dB, typical
Impedance	75 Ohms
Options	Bi-directional video

Data

RS-232	2 bidirectional channels, 120 kbaud
RS-422/485	1 bidirectional channel, up to 5 Mbaud
RS-485	1 bidirectional channel, up to 5 Mbaud
Options	Expansion cards including Ethernet, audio, serial data (RS-232/485/22), Tritech ARCNET, MS-900/971, TTL, and hydrophone

Optical

Optical Fiber	1 singlemode or multimode
Data Rate	600 Mbaud uplink and downlink
Wavelength	1310 nm uplink, 1550 nm downlink standard
Flux Budget	16 dB min., 20 dB typical
Maximum Link Distance	2 km (50/125 µm multimode fiber) 4 km (singlemode fiber, FP lasers) 10 km (singlemode fiber, DFB lasers)
Options	850 nm uplink/downlink on 2 fibers; DFB or CWDM lasers; higher flux budgets

Electrical

Power Voltage	+5 VDC regulated input required
Power Used	< 3 W typical, each end
Grounding	Shared common for power, data, video
Options	Isolated power cord (DC-DC)

Mechanical

Dimensions	1.60" x 3.50"
Weight	90 g (0.20 lb)
Enclosures	Standard and custom versions available

Connectors

Optical	ST/PC bushing (FC/PC optional)
Video	SMB
Data	2 x 8-pin Molex, dual row Micro-Fit Series
Power	1 x 2-pin Molex, 0.156" pin spacing

Environmental

Temperature	-40°C to +85°C (operating) -40°C to +85°C (storage)
Humidity	85% relative, non-condensing
Vibration	MIL-STD-167-1 (ships)
Shock	MIL-STD-810E

Diagnostics

LED	Power, Link, Video, Data Channel Activity