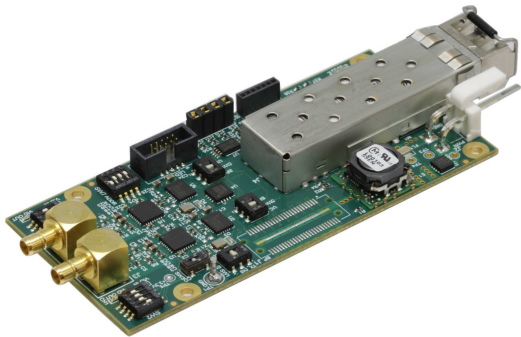# Dual HD Video Media Converter

Model 914-HDV2

Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom marine products for harsh environment applications 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.

The Focal 914-HDV2 is an extremely compact, harsh environment, single card solution for dual High Definition (HD) video.

The 914-HDV2 is targeted for use with small Remotely Operated Vehicles (ROVs), HD video broadcast, or ROV survey upgrades. A great solution for upgrading or designing a new system. With its compact size and no enclosure, the 914-HDV2 can fit in very small spaces and allows for minimal pressure bottle diameters.

The fiber-optic transmitter in the video input can be provided in four standard CWDM wavelength pairs, or tailored with almost any combination of CWDM wavelengths. The fiber-optic transmitter uses powerful CWDM lasers and the fiber-optic receiver uses a sensitive fiber-optic receiver to maintain a high link budget. Focal also provides other fiber-optic multiplexer cards to work with the 914 form-factor.

To help with sparing, both the video input and video output units use the same base card assembly, only the SFP is different. Video input or video output is controlled by a DIP switch and the installed transceiver.

Features

- Supports SD-SDI, HD-SDI and 3G-SDI
- Real-time diagnostics and Graphical User Interface (GUI)
- Rugged design for harsh environments
- LED header for enclosure diagnostics
- Reclocked video

Benefits

- Two independent HD video channels in a small package
- Simplifies troubleshooting with advanced diagnostics

Applications

- Remotely Operated Vehicles (ROVs)
- Pipe Inspection Robots
- Bomb Disposal Robots
- Camera Add-ons for ROVs
- Remote Video Security Platforms
- Remote Video Broadcast Platforms

The 914-HDV2 supports advanced features, such as real-time diagnostics over a dedicated RS-232 channel. Diagnostic readings may be accessed via an RS-232 serial link in real time by using Focal Graphical User Interface (GUI) software, based on the Microsoft® .NET Framework, or by using a customer's own software configured to read Focal's serial ASCII protocol.

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Specifications

Video

Number of Channels	2
Format	3G-SDI (SMPTE-424M) HD-SDI (SMPTE-292M) SD-SDI (SMPTE-259M-C)
Data Rates	3G-SDI: 2.970 Gbps HD-SDI: 1.485 Gbps SD-SDI: 270 Mbps
Impedance	75 Ω
Latency	< 1 µs (not including fiber)

Optical

Optical Fiber	2 singlemode (9/125 um)
Baud Rate	Same as video rate
Wavelength	CWDM
Optical Budget	> 24 dB
Options	Higher or lower optical budgets, multimode

Environmental

Temperature	-10°C to +60°C (Operational) -40°C to +85°C (Storage)
Humidity	85% RH, non-condensing
Shock	30 g, 11 ms half sine, 3 axis
Vibration	5 g, 25 - 1000 Hz, 3 axis
ESD	±15 kV air/HBM, ± 8 kv contact
Options	Extended temperature

Electrical

Power Voltage	+4.5 to +13.5 VDC
Power Dissipation	2.8 W typ., 3.2 W max.
Protection	Overvoltage, undervoltage, reverse voltage, time delay fuse

Diagnostics

LEDs	Power status, video status
LED Header	Power status, video status, optical status
RS-232 to PC	Diagnostics from console through GUI
Insertion Loss	1 dB typical

Mechanical

Weight	< 80g (0.18 lb)
Dimensions	40.6 x 88.9 mm (PCB)

Connectors

Video	SMB (75 Ω)
Power	2-pin Molex, 0.156" pin spacing
Diagnostics	Molex 1.2 mm W-T-B Connector
LED Header	FCI Minitek 127