

Overview

The IFS VT/VR4000 Video Transmitter and Receiver series utilizes frequency modulation for transmission quality that meets some of the requirements for EIA RS-250C Medium-Haul Video Transmission. These environmentally hardened units provide transmission of NTSC, PAL, or SECAM video over one multimode or single mode fiber optic cable and are ideal for use in unconditioned out-of-plant or roadside installations. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required. LED indicators are provided for rapidly ascertaining equipment operating status, and this equipment is available in either stand-alone or rack mount configurations.

Application Examples

- CCTV (Fixed Video)

FM Video Transmitter and Receiver

Utilizes frequency modulation
for EIA RS-250C medium-haul
video transmission.



Standard Features

- Frequency Modulation for High Quality Video Transmission
- Meets Some Requirements for RS-250C Medium-Haul Transmission
- Directly Compatible with All NTSC, PAL, or SECAM CCTV Camera Systems
- Tested and Certified by an Independent Testing Laboratory for Full Compliance with the Environmental Requirements (Ambient Operating Temperature, Mechanical Shock, Vibration, Humidity with Condensation, High-Line/Low-Line Voltage Conditions and Transient Voltage Protection) of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.
- LED Status Indicators Provide Rapid Indication of Critical Operating Parameters
- Solid-State Current Limiters on All Power Lines Provide Equipment Protection
- Wide Optical Dynamic Range: Optical Attenuators are Never Required
- Optical Loss Relay Output
- Comprehensive Lifetime Warranty

Agency compliance



Made in the USA

Complies with FDA Performance
Standard for Laser Products, Title 21,
Code of Federal Regulations, Subchapter J



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Specifications subject to change without notice

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Specifications

Video	
Video Input:	1 volt pk-pk (75 ohms)
Bandwidth:	10 Hz - 10 MHz
Differential Gain:	<2%
Differential Phase:	<1.3°
Tilt:	<1%
Signal-to-Noise Ratio (SNR):	<60 Minimum @ Max. Optical Loss Budget
Wavelength	
	850 or 1310 nm, Multimode; 1310 or 1550 nm, Single Mode
Receiver Sensitivity	
	.5 μ w (-33 dBm)
Number Of Fibers	
	1
Led Indicators	
	VT: Video Sync Presence, Operating Power VR: Optical carrier Detect, Operating Power
Relays***	
	24 VAC/DC @ 100 mA
Connectors	
Optical:	ST, SC or FC (SM only)
Power:	Terminal Block with Screw Clamps
Video:	BNC (Gold Plated Center-Pin)
Electrical & Mechanical	
Power:	VTVR: 24 VAC C.T. @ 300 mA, VT: 12 VDC @ 200 mA (optional)
Surface Mount:	From Rack
Rack:	
Number of Rack Slots:	1
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size (in./cm.) (LxWxH)	
Surface Mount:	7.0 x 4.9 x 1.0 in., 17.8 x 12.4 x 2.5 cm
Rack Mount:	7.7 x 5.0 x 1.0 in., 19.6 x 12.7 x 2.5 cm
Shipping Weight:	< 2 lbs./0.9 kg
Environmental	
MTBF:	> 100,000 hours
Operating Temp:	-40° C to +74° C
Storage Temp:	-40° C to +85° C
Relative Humidity:	0% to 95% (non-condensing)†

†May be extended to condensation conditions by adding suffix '-C' to model number for conformal coating.

Ordering Information

	Part Number	Description	Fibers Required	Tx Output	Optical Pwr. Budget	Max. Distance*
Multimode 62.5/125 μ m**	VT4010	FM Video Transmitter (850 nm)	1	20 μ w (-17 dBm)	16 dB	2.8 miles (4.5 km)
	VR4010	FM Video Receiver (850 nm)				
	VT4020	FM Video Transmitter (1310 nm)	1	20 μ w (-17 dBm)	16 dB	10 miles (16 km)
	VR4030	FM Video Receiver (1310 nm)		250 μ w (-6 dBm)		
Single Mode 9/125 μ m	VT4025	FM Video Transmitter (1310 nm), LED	1	25 μ w (-16 dBm)	17 dB	31 miles (51 km)
	VR4030	FM Video Receiver (1310 nm)		250 μ w (-6 dBm)		
	VT4030	FM Video Transmitter (1310 nm), LASER	1	250 μ w (-6 dBm)	27 dB	50 miles (81 km)
	VR4030	FM Video Receiver (1310 nm)				
	VT4055	FM Video Transmitter (1550 nm), LED	1	25 μ w (-16 dBm)	17 dB	65 miles (104 km)
	VR4050	FM Video Receiver (1550 nm)		200 μ w (-7 dBm)		
VT4050	FM Video Transmitter (1550 nm), LASER	1	200 μ w (-7 dBm)	26 dB	42 miles (68 km)	
VR4050	FM Video Receiver (1550 nm)		200 μ w (-7 dBm)			26 dB

Accessories♦ PS-12VDC 12 Volt DC Plug-in Power Supply (Included)
 PS-12VDC-230 12 Volt DC Plug-in Power Supply, 230 VAC Input (Included if specified at time of order)

Options Add '-R3' to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)
 Add '-SC' to model number for SC Optical Connector (For Single Mode equipment only)
 Add '-C' for Conformally Coated Printed Circuit Boards (Extra charge, consult factory)
 Add '-FC' to model number for FC Optical Connector (For Single Mode equipment only)

*Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.
 Distance can also be limited by fiber bandwidth. **For 50/125 Fiber, subtract 4 dB from Optical Power Budget. ♦ All accessories are third party manufactured.

System Design

