

**FVT/FVR2000 Series****Description**

The FiberPatrol® line of digital fiber optic video products provides the highest quality and consistency of video to be found anywhere. Unlike frequency modulated (FM) video, digital systems do not suffer from degrading signals over the optical attenuation range. Digital systems are appropriate for both single mode and multimode optical fiber transmission. Units provide a signal-to-noise ratio of >67 dB which meets or exceeds RS-250C short haul transmission requirements. FiberPatrol® units feature up to 10 bits/sample digital circuitry, and single or dual fiber options. Products can be mounted in a stand alone enclosure or in the RMC Communications Chassis.

Configurations are available with several different data, audio, and contact closure options, as well as with Up-the-Coax data. The unique digital design employed in this product line eliminates the traditional distance limitations in Up-the-Coax transmission systems offered by manufacturers including Bosch, Pelco, and Panasonic. Units meet FCC Part 15, Class B requirements for radiated emissions and feature automatically resettable polymer fuses on all power rails. As with all FiberPatrol® communication units, no optical or electrical adjustments are required.

**Features**

- **Up to 10 bits/sample**
- **Meets or exceeds RS-250C Short Haul Transmission Requirements**
- **Multiple mounting options**
- **Meets FCC Part 15, Class B requirements for radiated emissions**
- **Fiber transmission up to 48 miles**
- **Data, audio, and contact closure options**
- **Automatically resettable polymer fuses on all power rails**
- **Environmentally hardened**

**FVT/FVR2000 Series**  
**FVT/FVR2200 Series**  
**FVT/FVR2300 Series**

Video with Bi-directional Data and Contact Closure (One Way with Video)



## Ordering Information

### FVT/FVR2000 Series - One-Way Digital Video

Description	Part Number	Fiber	# Fibers	Power Budget (dB)	Maximum Fiber Distance	# RMC Slots
Digitally Encoded Video FVT = Transmitter FVR = Receiver	FVT2011 FVR2011	Multimode	1 (850 nm)	21	3 miles (5 km)	1
	FVT2051 FVR2051	Single Mode	1 (1310 nm)	26	48 miles (78 km)	

### FVT/FVR2200 Series - One-Way Digital Video and Contact Closure

Description	Part Number	Fiber	# Fibers	Power Budget (dB)	Maximum Fiber Distance	# RMC Slots
Digitally Encoded Video with Contact Closure FVT = Transmitter FVR = Receiver	FVT2211 FVR2211	Multimode	1 (850 nm)	21	3 miles (5 km)	1
	FVT2251 FVR2251	Single Mode	1 (1310 nm)	26	48 miles (78 km)	

### FVT/FVR2300 Series - Video with Bi-directional Data and Contact Closure (One Way with Video)

Description	Part Number	Fiber	# Fibers	Power Budget (dB)	Maximum Fiber Distance	# RMC Slots
Digitally Encoded Video with Bi-directional Data and Contact Closure FVT = Transmitter FVR = Receiver	FVT2312 FVR2312	Multimode	1 (850 nm)	21	3 miles (5 km)	1
	FVT2331 FVR2331		1 (1310/1550 nm)			
	FVT2371 FVR2371	Single Mode		23	43 miles (69 km)	

**FVT/FVR2400 Series**  
**FVT/FVR2700 Series**  
**FVT/FVR2800 Series**

Video with 2 Channels Bi-directional Audio and Data



**Ordering Information**

FVT/FVR2400 Series - Digital Video with Bi-directional Audio and Data

Description	Part Number	Fiber	# Fibers	Power Budget (dB)	Maximum Fiber Distance	# RMC Slots
Digitally Encoded Video with 2 Channels Bi-directional Audio and Data FVT = Transmitter FVR = Receiver	FVT2412 FVR2412	Multimode	2 (850 nm)	21	3 miles (5 km)	2
	FVT2431 FVR2431		1 (1310/1550 nm)			
	FVT2471 FVR2471	Single Mode	23	43 miles (69 km)		

Video with Up-the-Coax Data



**Ordering Information**

FVT/FVR2700 Series - Video with Up-the-Coax Data

Description	Part Number	Fiber	# Fibers	Power Budget (dB)	Maximum Fiber Distance	# RMC Slots
Digitally Encoded Video with Up-the-Coax Data FVT = Transmitter FVR = Receiver	FVT2712 FVR2712	Multimode	2 (850 nm)	20	3 miles (5 km)	1
	FVT2731 FVR2731		1 (1310/1550 nm)			
	FVT2771 FVR2771	Single Mode	37 miles (59 km)			

FVT/FVR2800 Series - Video with Up-the-Coax Data and (2) Contact Closures

Description	Part Number	Fiber	# Fibers	Power Budget (dB)	Maximum Fiber Distance	# RMC Slots
Digitally Encoded Video with Up-the-Coax Data and 2 Contact Closures FVT = Transmitter FVR = Receiver	FVT2812 FVR2812	Multimode	2 (850 nm)	20	3 miles (5 km)	1
	FVT2831 FVR2831		1 (1310/1550 nm)			
	FVT2871 FVR2871	Single Mode	37 miles (59 km)			

**Video**

Input:	1 volt pk-pk (75 ohms)
Bandwidth:	5 Hz-6.5 MHz
Differential Gain:	<2%
Differential Phase:	<.7 deg
Tilt:	<1%
Signal-to-Noise:	>67 dB @ maximum optical loss
Sampling Rate:	10 bits @ 16 MHz (9 bits with data)

**Data (excluding Up-the-Coax)**

Interface:	RS-232, RS-422, RS-485 (2w or 4w)
Data Encoding:	NRZ, NRZI, Manchester, Bi-phase
Data Rate:	DC-230 kbps (NRZ)
Bit Error Rate:	<1 x10 <sup>-9</sup>

**Contact Closure**

Response Time:	.5 msec
Input:	TTL, Dry contact closure
Output:	SPST relay, N.O., 300 mA, 24 VDC max

**Audio**

Impedance:	600 ohms
Encoding:	20 bit
Sample Rate:	58 KHz
Bandwidth:	20 Hz – 18 KHz @ -1 dB
Signal-to- Noise:	80 dB
Dynamic Range:	85 dB
Total Harmonic Distortion:	.001% @ 0 dBm Output
Channel Crosstalk:	90 dB
Maximum Level:	+ 6 dBm (600 ohms)
Interface:	Balanced or Unbalanced

**Connectors**

Video:	BNC (gold plated center pin)
Data:	Spring-cage terminal block
Contact Closure:	Spring-cage terminal block
Audio:	Spring-cage terminal block
Optical:	ST (SC optional)
Power:	Screw terminal block

**Electrical & Mechanical**

Input Voltage:	8-18 VDC or from RMC (<300 mA @ 12 VDC)
Protection:	Automatic resettable polymer fuses
Circuit Board:	Meets IPC Standard
<b>Size (LxWxH)</b>	
All except FV-2400 Series	
Stand Alone Module:	7.0 x 4.9 x 1.0 in. (17.8 x 12.4 x 2.5 cm)
RMC Module:	7.7 x 5.0 x 1.0 in. (19.6 x 12.5 x 2.5 cm)
FV-2400 Series	
Stand Alone Module:	7.0 x 4.9 x 2.0 in. (17.8 x 12.4 x 5.0 cm)
RMC Module:	7.7 x 5.0 x 2.0 in. (19.6 x 12.5 x 5.0 cm)
Shipping Weight:	<2 lbs. (.9 kg)

**Environmental**

MTBF:	>100,000 hours
Operating Temperature:	-40 C to + 74 C, ambient
Storage Temperature:	-40 C to + 85 C, ambient
Relative Humidity:	0% to 95% (non-condensing)

**Certifications & Compliance**

Radiated Emissions:	FCC Part 15, Class B
---------------------	----------------------