


VF-100 Series

VF-30RR

VF-100/VF-30 Series FM Single-Channel Fiber-Optic Video Transmission System

- **Compatible with NTSC/PAL, RS170A/RS-343A**
- **Standalone or rack-mount versions**
- **Transmits one channel of video over one multimode fiber**
- **Video, power and optical diagnostics**
- **Full color transmission**
- **FM video transmission**

The VF-100/VF-30 series fiber-optic video transmission system provides superior performance and reliability in closed-circuit video systems. The VF-100 system consists of transmitter and receiver and is designed to transmit one channel of high-quality FM video on one multimode optical fiber at 850 nm. The VF-30 receiver contains the electronics and optics of three VF-100 units mounted on one printed circuit board to save space and reduce cost. The VF-30 receiver converts three FM modulated optical inputs into three separate video outputs using an 850 nm wavelength detector for each signal.

The VF-100 series can withstand an optical signal loss of up to 12 dB over 62.5- μ cable. The VF-100 is set up for 62.5- μ cable, but will work on 50- μ cable. It requires no field adjustments. The transmitter and receiver are available in standalone or rack-mount configurations. Refer to Table 1.

A 12 VDC power supply is included with the standalone unit. Rack-mount models are powered by the power supply built into the VF-SR-20/2 card cage.

OPTICAL CABLE RECOMMENDATIONS

Vicon recommends that a professional fiber company install and terminate the optical cable. The cable should meet the application requirements for physical properties, such as strength and weatherproofing. The fiber contractor will provide recommendations for exact cable type based on the details of the installation.

COAXIAL CABLE RECOMMENDATIONS

Using the correct coaxial cable is critical for proper system operation. The cable must meet these requirements: (1) pure copper center conductor; (2) pure copper braid shield with a minimum of 95% coverage; (3) polyethylene dielectric. If the cable is connected to a camera on a pan-and-tilt, use a multistrand center conductor. Other cable properties, such as outer jacket material, will be determined by the physical requirements of the installation. With RG-59/U type cable made of the materials above, the fiber-optic transmitter or receiver may be located up to 100 feet (about 30 meters) from the video source or video destination.

The VF-100/VF-30 series meets requirements for an FCC Class A device and Canadian industry (ICES0-3) Class A.

ASSOCIATED EQUIPMENT AND ACCESSORIES

Model VF-SR-20/2 Card Cage with Power Supply, Product Code 8423-00: Rack with built-in power supply can accommodate up to 14 modules with a total current requirement of 1 A. Modules must be rack-mounted versions. Product Specification V164-60.

Model VF-BPS, Product Code 8424-00: Blank panel for VF-SR-20/2 Power Supply. Product Specification V164-60.

Table 1: Models. Product Codes and Descriptions

Model	Product Code	Description
VF-100T	8409-00	Video transmitter, standalone module
VF-100TR	8409-02	Video transmitter, rack-mount module
VF-100R	8410-00	Video receiver, standalone module
VF-100RR	8410-02	Video receiver, rack-mount module
VF-30RR	8411-02	3-channel video receiver, rack-mount module

Vicon Product Facts		Model No: Refer to Table 1	Product Code: Refer to Table 1	SEC: 10	SPEC: V164-00	REV: 108
		Vicon part number 8009-7164-00-00				

ELECTRICAL

Power Requirements: Standalone: 12 VDC.
Rack Mount: power supplied from card cage.

Current: See Table 2.

Power Consumption: See Table 2.

Heat Equivalent: See Table 2.

Radio Emission Standard: FCC Class A.

VIDEO

Number of Channels: VF100 Series: 1.
VF30RR: 3.

Modulation Type: Frequency Modulation (FM).

Formats Supported: NTSC and PAL

Video Bandwidth: 8 MHz.

Horizontal Video Resolution: 640 TV lines.

Video Input/ Output Impedance: 75 ohms.

Video Input Signal: 1 V p-p nominal, composite video.

Video Output Signal: 1 V p-p.

Differential Phase: 5°.

Differential Gain: 5%.

Signal-to-Noise Ratio: 60 dB.

Interconnection Distance (recommended): 100 ft (30 m) (video equipment to transmitter or receiver).
Recommended cable type: RG59/U coaxial cable (Belden no. 9259 or equivalent).

OPTICAL

Optical Wavelength: 850 nm.

Maximum Optical Attenuation (Loss Budget): 12 dB (62.5).

Fiber Type: 50 or 62.5 μ.

Maximum Transmission Distance*: 1.6 mi (2.5 km).

*Pending optical cable loss.

CONNECTORS AND INDICATORS

Power: Standalone: 2-pin screw terminal.
Rack Mount: connector in rack.

Video: BNC.

Optical: ST type.

Diagnostics Indicators: Video, power and optical presence bi-color/green LEDs.

MECHANICAL

Dimensions: Standalone
Height: 0.8 in. (20 mm).
Width: 3 in. (76 mm).
Depth: 2 in. (51 mm).
Rack Mount: 1 slot.

Weight: See Table 3.

Construction: Aluminum.

Finish: Standalone: Blue.
Rack mount: Black paint.

Mounting: No. 8 (3 mm) hardware, 4 places.

Shipping Dimensions: See Table 3.

Shipping Weight: See Table 3.

Shipping Volume: See Table 3.

ENVIRONMENTAL

Operating Temperature Range: -40 to 165° F (-40 to 74° C), noncondensing.

Humidity Range: Up to 95%, relative.

Storage Temperature Range: -40 to 185° F (-40 to 85° C)

Table 2: Electrical Information

Model Number	Current (mA)	Power Consumption (W)	Heat Equivalent* [btu/min (cal/min)]
VF-100T	100	1.2	0.068 (0.017)
VF-100TR	180	2.7	0.154 (0.039)
VF-100R	90	1.1	0.062 (0.016)
VF-100RR	140	2.1	0.120 (0.030)
VF-30RR	270	4.1	0.231 (0.059)

*Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

Table 3: Dimensions

Model Number	Weight (lb/kg)	Shipping Dimensions H x W x L (in./mm)	Shipping Weight (lb/kg)	Shipping Volume (ft ³ /m ³)
VF-100T	0.3/0.14	1.2 x 6 x 10.5 (30 x 152 x 268)	1.3/0.6	0.044/0.0012
VF-100TR	0.45/0.2	1.2 x 6 x 8.8 (30 x 152 x 223)	0.6/0.3	0.37/0.01
VF-100R	0.3/0.14	3.1 x 6 x 10.5 (79 x 152 x 268)	1.3/0.6	0.11/0.003
VF-100RR	0.45/0.2	1.2 x 6 x 8.8 (30 x 152 x 223)	0.6/0.3	0.37/0.01
VF-30RR	0.5/0.23	1.2 x 6 x 8.8 (30 x 152 x 223)	0.7/0.3	0.37/0.01



89 Arkay Drive
Hauppauge, NY 11788
www.vicon-cctv.com

TEL: 631-952-2288
FAX: 631-951-2288
TOLL FREE: 800-645-9116