

FTV10D1/FRV10D1 Fiber Transmitter and Receiver

SINGLE-CHANNEL DIGITALLY ENCODED VIDEO WITH BIDIRECTIONAL DATA

Product Features

- 10-Bit Digitally Encoded Video for High-Quality Video Transmission over a Single Fiber
- Bidirectional Data Channel that Supports RS-232, RS-422, RS-485 (2-wire/4-wire), Manchester, Bi-Phase, and Coaxitron® Communication
- Supports Pelco Coaxitron "Up-the-Coax" Control Signals for a Distance up to 48 km (30 mi)
- Multimode Fiber Support for Distances up to 3 km (2 mi)
- Single-Mode Fiber Support for Distances up to 69 km (43 mi)
- Exceeds All Requirements for RS-250C Short-Haul Transmission
- Laser Diode for Transmission of Optical Signals
- Compatible with NTSC, PAL, and SECAM Video Standards
- Designed to Meet NEMA TS-1/TS-2 and Caltrans Traffic Signal Control Equipment Environmental Standards
- Stand-Alone and Rack-Mountable Modular Design
- LED Status Indicators for Monitoring All Critical Operating Parameters

Available in multimode and single-mode versions, the **FTV10D1/FRV10D1** fiber transmitter and receiver allow transmission of one unidirectional composite video channel and one bidirectional data channel over one optical fiber. In addition, the "up-the-coax" technology allows Coaxitron® pan/tilt/zoom (PTZ) control data to be transmitted the full distance of the fiber (up to 48 km for single-mode fiber). When using single-mode fiber, the **FTV10D1** transmitter and the **FRV10D1** receiver offer an optical power budget of 23 dB.

The **FTV10D1** transmitter and the **FRV10D1** receiver are compatible with each other and other fiber models. The **FRV10D1** receiver is also backward compatible with the FSV10D1 transmitter.



FRV10D1S1ST

The **FTV10D1/FRV10D1** plug-and-play design ensures ease of installation by requiring no electrical or optical adjustments. Modular in design, **FTV10D1** and **FRV10D1** units can be rack-mounted using the EURACK/USRACK chassis, or stand-alone modules can be placed on a desktop or mounted to a wall (wall mount kit not required).

For stand-alone and wall mount installations, external power is required for the **FTV10D1/FRV10D1** units. The units can be powered with the recommended FEXTPS fiber external power supply.

TECHNICAL SPECIFICATIONS

MODELS

Transmitter	Compatible Receiver	Fiber Optical Connector Type	Number of Fibers	Wavelength	Optical Power Budget	Maximum Transmission Distance*
Multimode (62.5/125 µm)						
FTV10D1M1ST	FRV10D1M1ST	ST	1	1310/1550 nm	16 dB	3 km (2 mi)
Single Mode (9/125 µm)						
FTV10D1S1ST	FRV10D1S1ST	ST	1	1310/1550 nm	23 dB	69 km (43 mi)
FTV10D1S1FC	FRV10D1S1FC	FC	1	1310/1550 nm	23 dB	69 km (43 mi)
Note: This product requires a fiber installation with a minimum 30 dB connector return loss.						
*Distance may be limited by optical dispersion.						

VIDEO

Video Input	1.0 Vp-p, 75 ohms
Overload	>1.5 Vp-p
Bandwidth	5 Hz to 10 MHz
Differential Gain	<2%
Differential Phase	<0.7°
Tilt	<1%
Signal-to-Noise Ratio	67 dB at maximum optical loss budget
Max. Coaxial Cable (RG59)	100 m (300 ft) camera to fiber optic module to maintain 6 Mhz bandwidth

DATA

Interface	RS-232, RS-422, RS-485 (2- or 4-wire), and UTC (up-the-coax)
Rate	DC-115 Kbps (NRZ)

ELECTRICAL

Wavelength	1310/1550 nm, multimode and singlemode
Power	
Surface Mount	8 to 15 VDC at 2 W
Rack Mount	Provided by rack
Number of Fibers	1
Optical Emitter	Laser diode
LED Indicators	Link, Video, Data

MECHANICAL

Connectors	
Optical	ST or FC
Power	Terminal block
Video	BNC (gold-plated center pin)
Data	Terminal block
Number of Rack Slots	1

GENERAL

Dimensions	15.00 × 13.20 × 2.75 cm (5.90" L × 5.20" W × 1.10" H)
MTBF	>100,000 hours
Operating Temperature	-40° to 75°C (-40° to 167°F)
Storage Temperature	-40° to 85°C (-40° to 185°F)
Relative Humidity	0% to 95%, noncondensing
Unit Weight	0.7 kg (1.5 lb)
Shipping Weight	0.9 kg (2.0 lb)

CERTIFICATIONS/RATINGS

- CE, Class A
- FCC, Class A
- UL/cUL Listed
- C-Tick
- Designed to meet NEMA TS 1/TS 2 and Caltrans traffic signal control equipment environmental standards

RECOMMENDED ACCESSORIES

EURACK	4 RU rack accessory with European power supply (includes EU, UK, and AUS power line cords)
USRACK	4 RU rack accessory with North American power supply
FEXTPS	Fiber External Power Supply with multiple plug adaptors (North American, Australian, United Kingdom, and European); 100 to 240 VAC, 50 to 60 Hz input, 9 VDC output

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