

FTV10D1A2/FRV10D1A2 Transmitter and Receiver

SINGLE-CHANNEL BIDIRECTIONAL VIDEO WITH BIDIRECTIONAL DATA, AUDIO, AND CONTACT CLOSURE

Product Features

- 10-Bit Digitally Encoded Bidirectional Video for High-Quality Transmission over a Single Fiber
- 1 Bidirectional Data Channel Supports RS-232, RS-422, and RS-485 (2-wire/4-wire), Manchester, and Bi-Phase Communication
- 2 Bidirectional 24-Bit (96 kHz) Digitally Encoded Audio Channels with 600-Ohm Balanced Line-Level Audio (up to +6 dBm) and 20 to 18 kHz Audio Bandwidth
- 1 Bidirectional Contact Closure
- Multimode Fiber Support for Distances up to 4 km (2.5 mi)
- Single-Mode Support for Distances up to 48 km (29.8 mi)
- Exceeds All Requirements for the EIA RS-250C Short-Haul Transmission Specification
- Laser Diode for Transmission of Optical Signals
- Compatible NTSC, PAL, and SECAM Video Standards
- Designed to Meet NEMA TS 1/TS 2 and Caltrans Traffic Signal Control Equipment Environmental Standards
- Voltage Transient Protection on All Power and Signal Input/Output Lines
- LED Status Indicators for Monitoring All Critical Operating Parameters

The **FTV10D1A2/FRV10D1A2** fiber transmitter and receiver provide simultaneous transmission of one bidirectional video channel, one bidirectional data channel, two bidirectional audio channels, and one bidirectional contact closure over one optical fiber in a two-slot wide design. Units are available in single-mode and multimode versions.

The **FTV10D1A2** transmitter and **FRV10D1A2** receiver provide transmission of two bidirectional 24-bit (96 kHz) audio signals with sample rate digital encoding for superior transmission of balanced line-level audio. Data selection offers a choice of RS-232, RS-422, and RS-485 (2-wire/4-wire), Manchester, and Bi-Phase Communication.



FTV10D1A2S1FC

- Hot-Swappable Rack Modules
- Stand-Alone or Rack-Mountable Modular Design

The **FTV10D1A2/FRV10D1A2** plug-and-play design ensures ease of installation by requiring no electrical or optical adjustments. Modular in design, **FTV10D1A2** and **FRV10D1A2** 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 **FTV10D1A2/FRV10D1A2** units. The units can be powered with the recommended FEXTPS fiber external power supply.

TECHNICAL SPECIFICATIONS

MODEL

Transmitter	Compatible Receiver	Fiber Optical Connector Type	Number of Fibers	Wavelength	Optical Power Budget	Maximum Transmission Distance*
Multimode (62.5/125 µm)						
FTV10D1A2M1ST	FRV10D1A2M1ST	ST	1	1310/1550 nm	16 dB	4 km (2.5 mi)
Single Mode (9/125 µm)						
FTV10D1A2S1ST	FRV10D1A2S1ST	ST	1	1310/1550 nm	16 dB	48 km (29.8 mi)
FTV10D1A2S1FC	FRV10D1A2S1FC	FC	1	1310/1550 nm	16 dB	48 km (29.8 mi)
Note: This product requires a fiber installation with a minimum 30 dB connector return loss. *Distance may be limited by optical dispersion.						

VIDEO/ELECTRICAL

Number of Channels	1
Video Input (FTV10D1A2)/	
Video Output (FRV10D1A2)	1.0 Vp-p, 75 ohms; NTSC, PAL, SECAM
Overload	>1.5 Vp-p
Bandwidth	10 Hz to 6.5 MHz per channel
Differential Gain	<2%
Differential Phase	<0.7°
Tilt	<1%
Signal-to-Noise Ratio	67 dB typical
Max. Coaxial Cable (RG59)	100 m (300 ft) camera to fiber optic module maintains 6 Mhz bandwidth
Power	
Surface Mount	8 to 15 VDC at 4 W
Rack Mount	Provided by rack
MTBF	>100,000 hours
LED Indicators	Link, Video, Data, Audio, Contact Closure, Power

DATA

Number of Channels	1
Data Communication	RS-232, RS-422, and RS-485 (2-wire/4-wire), Manchester, and Bi-Phase
Maximum Baud Rate	250 Kbps
Operating Mode	Simplex or full-duplex
Bit Error Rate	<10 ⁻⁹ at maximum optical loss budget

AUDIO

Audio Channels	2 (balanced)
Audio Input/Output Signal	Maximum 4.4 Vp-p (+6 dBm)
Bandwidth	20 Hz to 18 kHz
Total Harmonic Distortion	0.02%
Signal-to-Noise Ratio (SNR)	85 dB (typical)

CONTACT CLOSURE

Number of Channels	1
Contact Interface	0.5 ms response time
Input	Dry
Output	SPST relay, 0.15 A contact rating, normally open

MECHANICAL

Connectors	
Optical	ST or FC
Power	Terminal block
Video	BNC
Data	Terminal block
Audio	Terminal block
Alarm	Terminal block
Contact	Terminal block
Number of Rack Slots	2

GENERAL

Dimensions	15.5 × 13.5 × 5.6 cm (6.1" D × 5.3" W × 2.2" H)
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	0.5 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

[†]At the time of this printing, all certifications are pending. Please consult the factory, our Web site (www.pelco.com), or the most recent B.O.S.S.[®] update for the current status of certifications.

RECOMMENDED ACCESSORIES

EURACK	4 RU rack accessory with European power supply
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

Pelco by Schneider Electric

3500 Pelco Way, Clovis, California 93612-5699 United States
USA & Canada Tel (800) 289-9100 Fax (800) 289-9150
International Tel +1 (559) 292-1981 Fax +1 (559) 348-1120
www.pelco.com

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