10-Bit Digital Video with One Bi-Directional Data Channel + 1 10/100 Mbps Fast Ethernet Port

FVT/FVR10D1E(M,S)

POWER SUPPLY	HARDENED	10/100 ETHERNET	DATA	VIDEO
INCLUDED	-40° TO +75°	1	1	1

The ComNet FVT/FVR10D1E series video transmitter/receiver and data transceiver supports the simultaneous transmission of short haul quality 10-bit EIA RS-250C digital video with one bi-directional data channel plus one 10/100 Mbps fast Ethernet port. The modules are universally compatible with major CCTV camera manufacturers and supports RS232, RS422 and 2 or 4-wire RS485 data interfaces and most data protocols. It also supports "up-the-coax" data transmission from most major manufacturers. Packaged in the exclusive ComNet ComFit housing, the FVT/FVR10D1E units may be either wall or rack-mounted, or may be DIN-rail mounted by the addition of ComNet model DINBKT1 adaptor plate.

FEATURES

› 10-bit digital video transmission

› One bi-directional data channel

› One 10/100 BASE-T/TX fast Ethernet port

› IEEE 802.3 compliant

› Automatic MDI/MDI-X crossover

› Exceeds all requirements for RS-250C short-haul transmission: True broadcast video performance

› Compatible with all NTSC, PAL, or SECAM CCTV camera systems

› Certified to the requirements of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.

› Voltage transient protection on all power and signal input/output lines provides unconditional protection from power surges and other voltage transient events.

› Automatic resettable fuses on all power lines

› Distances up to 30 miles (48 km)

› Bi-color (Red/Green) LED status indicators provide rapid indication of critical operating parameters

› Circuit boards are conformally coated to extend humidity tolerance to condensation conditions.

› FVT/FVR10D1E(M,S) is a hot-swappable rack module

› FVT/FVR10D1E(M,S) is interchangeable between stand-alone or rack mount use – ComFit

› Lifetime Warranty

APPLICATIONS

› Surveillance Systems with Control

› Hybrid Ethernet Systems

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SPECIFICATIONS

Video

Video Input	1 volt pk-pk (75 ohms)
Overload	>1.5V pk-pk
Bandwidth	5 Hz - 10 MHz
Differential Gain	<2%
Differential Phase	<0.7˚
Tilt	<1%
Signal-to-Noise Ratio (SNR)	67 dB @ Maximum Optical Loss Budget
Max. RG-59 COAX Distance	100m (300ft) Camera to Fiber Optic Module to maintain 6Mhz Bandwidth

Data

Data Interface	RS232, RS422 and RS485 (2W/4W), UTC (Up-the-Coax)
Data Format	NRZ, NRZI Manchester, Bi-phase and Sensornet
Data Rate	DC-250 Kbps (NRZ)

Ethernet

Data Interface	10/100 BASE-T/TX
Data Rate	10/100 Mbps Full Duplex

Fiber Optic

Wavelength	1310/1550 nm, MM and SM
Number of Fibers	1
Optical Emitter	Laser Diode

Connectors

Optical	1 ST connector
Power	Terminal Block
Video	BNC (Gold Plated Center-Pin)
Data	RJ45
Ethernet	RJ45

Electrical & Mechanical

LED Indicators	› Link › Video › Data › Ethernet Activity
Operating Voltage	8-15 VDC @ 350 mA
Current Protection	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Dimensions (L×W×H)	6.1 × 5.3 × 1.1 in (15.5 × 13.5 × 2.8 cm)
Shipping Weight	<2 lb/0.9 kg

Environmental

MTBF	>100,000 hours
Operating Temp	-40˚ C to +75˚ C
Storage Temp	-40˚ C to +85˚ C
Relative Humidity	0% to 95% (non-condensing)[1]

AGENCY COMPLIANCE
FC PART 15 COMPLIANT CE cULus RoHS

MADE IN THE USA

ORDERING INFORMATION

Part Number	Description	Fibers Required	Fiber	Optical PWR Budget	Max. Distance[2]
FVT10D1EM	Video Transmitter/Data Transceiver	1	Multimode 62.5/125µm	16 dB	3 km (2 mi)
FVR10D1EM	Video Receiver/Data Transceiver	1	Multimode 62.5/125µm	16 dB	3 km (2 mi)
FVT10D1ES	Video Transmitter/Data Transceiver	1	Single Mode 9/125µm	16 dB	48 km (30 miles)
FVR10D1ES	Video Receiver/Data Transceiver	1	Single Mode 9/125µm	16 dB	48 km (30 miles)
Accessories	DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included, for benign 0° to 50°C applications only. Hardened power supply available, consult factory)				
Options	[1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT1)				

NOTE: This product requires a fiber installation with a minimum 35 dB connector return loss. The use of Super Polish Connectors is recommended. Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J. In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

[1] Distance may be limited by optical dispersion. Check with control system manufacturer for distance limits on up-the-coax systems..

TYPICAL APPLICATION

OPTICAL FIBER
COPPER

V →
D ↔
E ↔
FVT10D1ES — FVR10D1ES
 → V
 ↔ D
 ↔ E