comnet
Communication Networks

FVT/FVR1014(M)(S)1

1-channel digital video + 4 bi-directional data channels 10-bit digital short-haul video

V 1 D 4

Description

The ComNet™ FVT/FVR1014 video transmitter/data transceiver and video receiver/data transceiver series utilize 10-bit digital encoding and decoding for high-quality video transmission that meets the requirements of EIA RS-250C for short-haul video transmission. These environmentally hardened units provide transmission of one independent video channel and four bi-directional data channels over one optical fiber and are ideal for use in unconditioned roadside or out-of-plant installations. These units are completely transparent to and universally compatible with any NTSC, PAL, or SECAM CCTV camera systems, data channels can be set independently for RS232, RS422 and 2 or 4-wire RS485 with tri-state support. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required. Bi-color (Red/Green) LED indicators are provided for rapidly ascertaining equipment operating status. Packaged in the exclusive ComNet ComFit housing, these units may be either wall or rack-mounted, or may be DIN-rail mounted by the addition of ComNet model DINBKT1 adaptor plate.

Applications

- High-Performance CCTV (Fixed Video)

Features

- 10-bit digital video transmission: transmits one real-time color video signal and 4 bi-directional data signals on one optical fiber
- Supports RS232, RS422, and 2 or 4-wire RS485 with tri-state data interfaces
- Exceeds all requirements for EIA RS-250C short-haul transmission: Extremely high video performance
- Exceptionally low video distortion with zero Performance Variation vs. Optical Path Loss
- Ideally suited to networks requiring multiple physical layers where video degradation may be a problem
- Compatible with all NTSC, PAL, or SECAM CCTV camera systems
- Tested and certified by an independent laboratory for full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) 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.
- Robust design ensures extremely high reliability in unconditioned out-of-plant environments
- Bi-color (Red/Green) LED status indicators provide rapid indication of critical operating parameters
- High Power 29 dB option available
- Interchangeable between stand-alone or rack mount use – ComFit
- Lifetime Warranty

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specifications

VIDEO

Video Input:	1 volt pk-pk (75 ohms)
Overload:	>1.5V pk-pk
# Input/Output Channels:	1
Bandwidth (minimum):	10 Hz - 6.5 MHz per channel
Differential Gain:	<2%
Differential Phase:	<0.7˚
Tilt:	<1%
Signal-to-Noise Ratio (SNR):	67 dB Typical
Max. RG-59 COAX Distance:	100m (300ft) Camera to Fiber Optic Module to maintain 6Mhz Bandwidth

DATA

Data Channels:	4
Data Interface:	RS232, RS422 and RS485 (2W/4W)
Data Format:	NRZ, NRZI, Manchester, Bi-Phase and Sensornet
Data Rate:	DC-250 Kbps (NRZ)
Bit Error Rate:	<1 in 10^{-9} @ Maximum Optical Loss Budget
Operating Mode:	Simplex or Full-Duplex
WAVELENGTH	1310/1550 nm, Multimode and Single Mode
NUMBER OF FIBERS	1
LED INDICATORS	- Video Sync Presence for Each Video Channel - Received Data - Transmitted Data - Optical Carrier Detect
OPTICAL EMITTER	Laser Diode

CONNECTORS

Optical:	ST
Power:	Terminal Block
Video:	BNC (Gold Plated Center-Pin)
Data:	RJ45 (5 pcs. Included)

ELECTRICAL & MECHANICAL

Power:	
Surface Mount:	8-15 VDC @ 4W
Rack Mount:	From Rack
Number of Rack Slots:	2
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size (in./cm) (L×W×H)	6.1 × 5.3 × 2.2 in., (15.5 × 13.5 × 5.6 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)*

* May be extended to condensation conditions by adding suffix '/C' to model number for conformal coating.

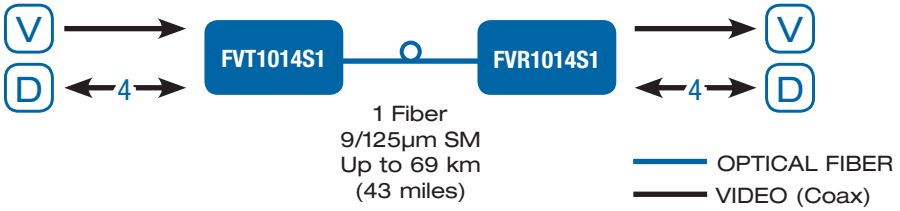
AGENCY COMPLIANCE

MADE IN THE USA

PART NUMBER	DESCRIPTION	FIBERS REQUIRED	FIBER	OPTICAL PWR BUDGET	MAX. DISTANCE†	# RACK SLOTS
FVT1014M1	Video Transmitter/Data Transceiver (1310/1550 nm)	1	Multimode 62.5/125µm	16 dB	3 km (2 miles)	2
FVR1014M1	Video Receiver/Data Transceiver (1550/1310 nm)					
FVT1014S1	Video Transmitter/Data Transceiver (1310/1550 nm)	1	Single Mode 9/125µm	23 dB	69 km (43 miles)	2
FVR1014S1	Video Receiver/Data Transceiver (1550/1310 nm)					

Accessories	9 Volt DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included)
	(5) RJ45 - RJ45 Breakout Wiring Kit (Includes cable and terminal block)
Options	Add '/C' for Conformally Coated Circuit Boards (Extra charge, consult factory)
	Add '/HP' for High Power 29 dB model
	DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT1)

NOTE: This product requires a fiber installation with a minimum 30 dB connector return loss. The use of Super Polish Connectors is recommended. † Distance may be limited by optical dispersion.
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.



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