



PRODUCT SPECIFICATION

FM VIDEO WITH BI-DIRECTIONAL DATA

VT/VR9930WDM



DESCRIPTION

The IFS VT/VR9930WDM video transmitter/data transceiver and video receiver/data transceiver units utilize frequency modulation for high video quality that meets the requirements of EIA RS-250C for Medium-Haul Transmission. These environmentally hardened units provide the simultaneous transmission of video and full-duplex data over one single-mode optical fiber and are ideal for use in unconditioned out-of-plant or roadside installations. Completely transparent to and universally compatible with any NTSC, PAL, or SECAM CCTV camera system, all standard pan-tilt-zoom control signals including RS-232, RS-422, and 2-wire RS-485 data are supported. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required. LED indicators are provided for rapidly ascertaining equipment operating status, and these units are available in either stand-alone or rack mount configurations.

APPLICATION EXAMPLES

- CCTV with PTZ Control

FEATURES

- Frequency Modulation for High Quality Video Transmission
- Exceeds Requirements For RS-250C Medium-Haul Transmission
- Directly Compatible with All NTSC, PAL, or SECAM CCTV Camera Systems
- LED Status Indicators Provide Rapid Indication of Critical Operating Parameters
- Integrated WDM for Greater Reliability
- Solid-State Current Limiters on All Power Lines Provide Equipment Protection
- Wide Optical Dynamic Range: Optical Attenuators are Never Required
- Exceeds NEMA TS-1/TS-2 and Caltrans Traffic Signal Control Equipment Environmental Specifications for Operating Temperature, Shock, Vibration, Humidity, and Voltage Transient Protection
- Robust Design Ensures Extremely High Reliability In Unconditioned Roadside Environments
- Lifetime Warranty



Available at: **www.ifs.com**

- A & E Specifications, (CSI)
- AutoCAD Drawings
- Operation Manuals
- Technical Bulletins

ORDERING INFORMATION

	PART NUMBER	DESCRIPTION	FIBERS REQUIRED	OPTICAL PWR BUDGET	MAX. DISTANCE*
SINGLE-MODE 9/125µm	VT9930WDM	Video Transmitter/Data Transceiver (1310/1550 nm)	1	23 dB	41 miles (66 km)
	VR9930WDM	Video Receiver/Data Transceiver (1550/1310 nm)			
OPTIONS	PS-24VACCT 24 volt AC Center Tap Power Supply (Included)				
	PS-24VACCT-230 24 Volt AC Center Tap Power Supply 230 VAC Input (Included if specified at time of order)				
	Add ‘-R3’ to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)				
	Add -SC for SC connector (Single-mode equipment only)				
	Add ‘-FC’ to model number for FC Optical Connector (Single-mode equipment only)				
	Add ‘-C’ for Conformally Coated Printed Circuit Boards (Extra charge, consult factory)				

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.

International Fiber Systems, Incorporated ■ DESIGN CENTER (888)999-9IFS or (203)426-1180
 FAX (203)426-3326 ■ sales@ifs.com
 Europe, Middle East, Africa TEL +44(0)1732-522777 ■ Asia Pacific TEL (852)291-41491
 Australia TEL (612)998-01544 ■ Latin America TEL (512)477-8787

www.DataSheet4U.com

ifs TECHNICAL SPECIFICATION VT/VR9930WDM FM VIDEO WITH BI-DIRECTIONAL DATA

SPECIFICATIONS

VIDEO

Video Input: 1 volt pk-pk, (75 ohms)
 Bandwidth: 5 Hz - 10 MHz min., @ -3 dB
 Differential Gain: <2%
 Differential Phase: <1.3°
 Tilt: <1%
 Signal-to-Noise Ratio: >60 dB @ Maximum Optical Loss Budget

DATA

Data Interface: RS-232, RS-422, RS-485 two-wire
 Data Format: NRZ, NRZI, Manchester, Bi-phase
 Operating Mode: Simplex or Full Duplex
 Data Rate: DC-100 Kbps (NRZ)
 Bit Error Rate: <1 in 10⁹ @ Maximum Optical Loss Budget

WAVELENGTH

1310/1550 nm, Single-mode

OPTICAL EMITTER

Laser Diode

NUMBER OF FIBERS

1

LED INDICATORS

VT Transmitter/ Data Transceiver Unit:
 • Video Input Sync Presence
 • Transmitted Data
 • Received Data
 • Optical Carrier Detect
 • Operating Power

VR Receiver/ Data Transceiver Unit:
 • Video Output Sync Presence
 • Transmitted Data
 • Received Data
 • Optical Carrier Detect
 • Operating Power

CONNECTORS

Power: Terminal Block w/Screw Clamps*
 Data: Type DB-25S
 Video: BNC (Gold Plated Center-Pin)
 Optical: Type ST, SC, or FC
 (see ordering information)

ELECTRICAL & MECHANICAL

Power:
 Surface Mount: VT: 24 VAC C.T. @ 300 mA
 VR: 24 VAC C.T. @ 600 mA
 Rack:
 Number of Rack Slots: From Rack
 Current Protection: 2
 Automatic Resettable Solid-State Current Limiters
 Meets IPC Standard
 Circuit Board:
 Size (in./cm.) (LxWxH)
 Surface Mount: 7.0 x 4.0 x 2.0 in., 17.8 x 12.5 x 5.1 cm
 Rack Mount: 7.7 x 5.0 x 2.0 in., 19.6 x 12.7 x 5.1 cm
 Shipping Weight: < 2 lbs./0.9 kg

ENVIRONMENTAL

MTBF: > 100,000 hours
 Operating Temp: -40° C to +74° C, ambient
 Storage Temp: -40° C to +85° C, ambient
 Relative Humidity: 0% to 95% (non-condensing)†

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

• Optional Type DB-9P: Specify connector style at time of order.

AGENCY COMPLIANCE

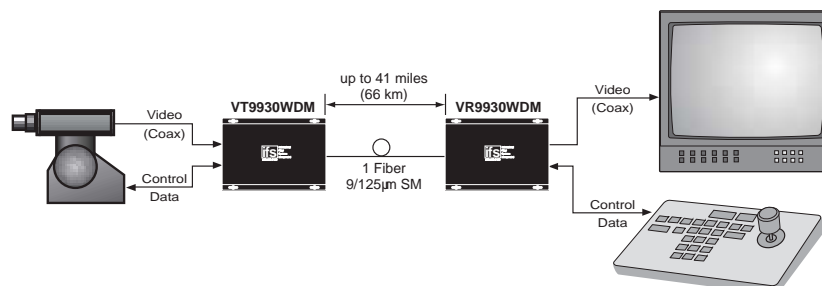
FCC PART 15 COMPLIANT     
 Emissions: FCC Part 15, ICES-003, AS/NZS 3548, EN55022
 Immunity: EN50204, EN61000-4-2, 3, 4, 5, 6, 11
 Safety: UL1950, CAN/CSA 22.2, NO.950-95 **MADE IN THE USA**

OPTICAL POWER BUDGET

FIBER	WAVELENGTH	TRANSMITTER		RECEIVER		OPTICAL PWR BUDGET	MAX. DISTANCE*
		MODEL	OUTPUT	MODEL	SENSITIVITY		
Single-mode 9/125µm	1310/1500 nm	VT9930WDM	200 µW (-7 dB)	VR9930WDM	1 µW (-30 dB)	23 dB	41 miles (66 km)

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.

SYSTEM DESIGN



ifs International
 Fiber
 Systems
 Incorporated

TEL (203)426-1180 ■ FAX (203)426-3326 ■ www.ifs.com ■ sales@ifs.com
 16 Commerce Road ■ Newtown, CT 06470

Due to our continued effort to advance technology, product specifications are subject to change without notice.

09/20/02

www.DataSheet4U.com