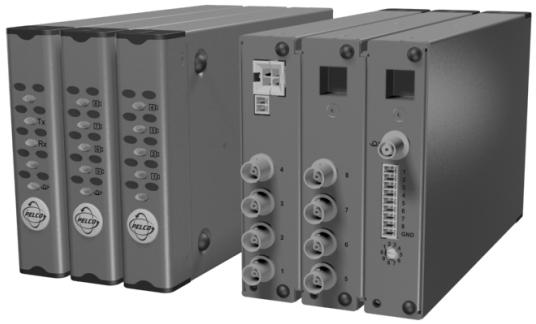
FT85081/FR85081 Fiber Transmitter and Receiver

EIGHT-CHANNEL DIGITALLY ENCODED VIDEO WITH BIDIRECTIONAL DATA

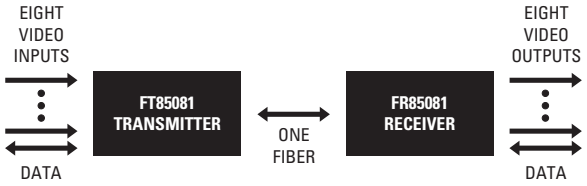
Product Features

- 8-Bit Digitally Encoded Video for High-Quality Multichannel Video Transmission over a Single Fiber
- Bidirectional Data Channel That Supports RS-232, RS-422, RS-485 (2-wire/4-wire), Manchester, and Bi-Phase Communication
- Wavelength Division Multiplexing (WDM) in a Single Fiber
- Multimode Fiber Support for Distances up to 1 km
- Single-Mode Fiber Support for Distances up to 30 km
- Exceeds All Requirements for the RS-250C Medium-Haul Transmission Specification
- Compatible with NTSC, PAL, and SECAM Video Standards
- Meets NEMA TS 2 and Caltrans Traffic Signal Control Equipment Environmental Standards
- No Performance Adjustments Required
- 12 VDC or 24 VAC Power Supply
- Stand-Alone and Rack-Mountable Modular Design
- LED Indicators for Monitoring of Signal Status, Laser Status, Data Activity, and Operating Power



The **FT85081/FR85081** fiber transmitter and receiver provide the ability to transmit up to eight unidirectional composite video channels and one bidirectional data channel over one optical fiber. The **FT85081** transmitter and the **FR85081** receiver are available in multimode and single-mode versions.

Modular in design, the **FT85081** and **FR85081** units can be rack mounted or can be used as stand-alone modules. Rack mounting is accomplished using the RK5000 Series rack mount chassis. Stand-alone modules can be placed on a desktop or can be mounted to a wall.



TECHNICAL SPECIFICATIONS

MODELS

Model No.		Fiber Optic Connector Type	Wavelength (Video/Data)	Optical Power Budget	Maximum Transmission Distance
Transmitter	Compatible Receiver				
Multimode (62.5/125 µm)					
FT85081MSTR	FR85081MSTR	ST	1310/850 nm	20 dB*	1 km (0.6 mi)†
Single-Mode (9/125 µm)					
FT85081SSTR	FR85081SSTR	ST	1310/1550 nm	20 dB	30 km (18.6 mi)‡
FT85081SFCR	FR85081SFCR	FC	1310/1550 nm	20 dB	30 km (18.6 mi)‡

*When using 50/125 µm multimode fiber, subtract 3 dB from the optical power budget.

†Maximum transmission distance is limited by fiber bandwidth.

‡Maximum transmission distance is based on attenuation of 0.5 dB/km plus a 5 dB buffer for connector and splice losses.

Notes:

- For conformal coated models, replace the first letter *F* in the model number with the letter *C*. The conformal coated version of FT85081MSTR, for example, is CT85081MSTR.
- For models with higher optical power budgets, contact the factory.

Supplied Accessories

- Regulated switching power supply with multiple plug adapters (North American, Australian, United Kingdom, and European); 100-240 VAC, 50-60 Hz input, 12 VDC output

  Note: In extreme temperature conditions, it is recommended that an industrial-rated outdoor power supply such as the Pelco® WCS1-4 power supply be used.
- Wall clip for attachment of single module to wall

VIDEO

Number of Channels	8
Modulation Type	Pulse code modulation, 8-bit resolution
Video Input (FT85081)/ Video Output (FR85081)	1.0 Vp-p, 75 ohms; NTSC, PAL, and SECAM
Bandwidth	6.5 MHz
Gain	Unity
Crosstalk	-50 dB typical at 3.58 MHz
Differential Gain	<1%
Differential Phase	<1.2°
Tilt	<1%
Signal-to-Noise Ratio	>60 dB (CCIR weighted)

DATA

Number of Channels	1
Data Communication	RS-232, RS-422, RS-485 (2-wire/4-wire), Manchester, Bi-Phase
Maximum Baud Rate	500 kbps

GENERAL

Operating Temperature	-40° to 167°F (-40° to 75°C)
Input Power Requirements	12 VDC or 24 VAC, 600 mA
LED Indicators	Power Video Present (per channel) Optic Fault Data Tx Data Rx
Dimensions	8.75" D x 3.48" W x 4.81" H (22.23 x 8.84 x 12.22 cm)
Unit Weight	3.50 lb (1.59 kg)
Shipping Weight	6 lb (2.72 kg)

MECHANICAL

Connectors

Video	BNC (per channel)
Rack Power/Alarm	4-pin connector
Stand-Alone Power	2-pin connector, screw terminal
Data	9-pin connector, screw terminal
Fiber Optic	ST for multimode fiber ST or FC for single-mode fiber

CERTIFICATIONS

- CE, Class A
- UL Listed
- UL Listed to Canadian safety standards
- FCC, Class A
- C-Tick
- Complies with FDA requirements for Class 1 laser products
- Meets NEMA TS 2 and Caltrans traffic signal control equipment standards for ambient operating temperature, mechanical shock and vibration, humidity with condensation, high-line/low-line voltage conditions, and transient voltage protection—certified by an independent testing laboratory

  Note: Conformal coating is required for operation in environments with relative humidity above 95% (condensing).

OPTIONAL ACCESSORIES

WM5003-3U	Wall mount kit for triple-width module
RK5000-3U	19-inch rack mount chassis for 14 slots, no power (3 RUs)
RK5000PS-3U	19-inch rack mount chassis for 12 slots with power (3 RUs)
EPS5000-120	External rack power supply, 1 RU, dual 120 W power outputs
RK5001B-3U	Blank filler panel, single width
RK5002B-3U	Blank filler panel, double width
RK5003-1UEXP	Adapter kit that allows a 3 RU triple-width fiber module to be used in RK5000PS-5U rack mount chassis

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