

# FTD4/FRD4 Fiber Transmitter and Receiver

## 4-CHANNEL BIDIRECTIONAL DATA

### Product Features

- 4 Bidirectional Data Channels Support RS-232, RS-422, RS-485 (2-wire/4-wire), Manchester, and Bi-Phase Communication
- Multimode Fiber Support for Distances up to 3 km (1.9 mi)
- Single-Mode Support for Distances up to 69 km (42.9 mi)
- Laser Diode for Transmission of Optical Signals
- Designed to Meet NEMA TS 1/TS 2 and Caltrans Traffic Signal Control Equipment Environmental Standards
- LED Status Indicators for Monitoring All Critical Operating Parameters
- Voltage Transient Protection on All Power and Signal Input/Output Lines
- Hot-Swappable Rack Modules
- Stand-Alone or Rack-Mountable Modular Design



FTD4S1ST

The **FTD4/FRD4** fiber transmitter and receiver provide transmission of four bidirectional data channels over one optical fiber in a two-slot wide design. The **FTD4** transmitter and **FRD4** receiver can be used with multimode or single-mode optical fiber. When using single-mode fiber, the **FTD4/FRD4** transmitter and receiver offer an optical budget of 23 dB and provide a transmission distance of 69 km (42.9 mi).

The **FTD4/FRD4** plug-and-play design ensures ease of installation by requiring no electrical or optical adjustments. Modular in design, **FTD4** and **FRD4** 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 **FTD4/FRD4** units. The units can be powered with the recommended FEXTPS fiber external power supply.

# TECHNICAL SPECIFICATIONS

## MODELS

| Transmitter   | Compatible Receiver | Fiber Optical Connector Type | Number of Fibers | Wavelength   | Optical Power Budget | Maximum Transmission Distance |
|---|---------------------|------------------------------|------------------|--------------|----------------------|-------------------------------|
| <b>Multimode (62.5/125 µm)</b>  |                     |                              |                  |              |                      |                               |
| FTD4M1ST  | FRD4M1ST            | ST                           | 1                | 1310/1550 nm | 16 dB                | 3 km (1.9 mi)                 |
| <b>Single Mode (9/125 µm)</b>   |                     |                              |                  |              |                      |                               |
| FTD4S1ST  | FRD4S1ST            | ST                           | 1                | 1310/1550 nm | 23 dB                | 69 km (42.9 mi)               |
| FTD4S1FC  | FRD4S1FC            | FC                           | 1                | 1310/1550 nm | 23 dB                | 69 km (42.9 mi)               |
| <b>Note:</b> This product requires a fiber installation with a minimum 30 dB connector return loss. |                     |                              |                  |              |                      |                               |

## DATA

|                    |   |
|--------------------|---|
| Number of Channels | 4   |
| 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     | <1 in 10 <sup>-9</sup> at maximum optical loss budget                 |

## ELECTRICAL

|                    |   |
|--------------------|---|
| Power              |   |
| Surface Mount      | 8 to 15 VDC at 4 W                                      |
| Rack Mount         | Provided by rack  |
| Current Protection | Automatic resettable solid-state current limiters       |
| LED Indicators     | Received Data, Transmitted Data, Optical Carrier Detect |
| MTBF               | >100,000 hours  |
| Circuit Board      | Meets IPC standards                                     |

## MECHANICAL

|                      |                |
|----------------------|----------------|
| Connectors           |                |
| Power                | Terminal block |
| Optical              | ST or FC       |
| Data                 | Terminal block |
| Number of Rack Slots | 2              |

## GENERAL

|                       |  |
|-----------------------|--|
| 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                           |
| Dimensions            | 15.5 × 13.5 × 5.6 cm<br>(6.1" D × 5.3" W × 2.2" H) |
| Unit Weight           | 0.5 kg (1.15 lb)                                   |
| Shipping Weight       | 0.9 kg (2.00 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](http://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 |

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