Wideband Optical Splitters
FOS Series

Guide to Installation and Operation

Miranda

A **BELDEN** BRAND

How to contact us:

For technical assistance, please contact the Miranda Technical support centre nearest you:

Americas 9:00 am – 9:00 pm EST Tel: +1 800 224 7882 Fax: +1 514 335 1614 support@miranda.com	**Asia** 9:30 am – 6:00 pm GMT+8 Tel: +852 2539 6987 Fax: +852 2539 0804 asiatech@miranda.com	**Europe, UK, Middle East, Africa** 9:00 am – 6:00 pm GMT Tel: +44 118 952 3444 Fax: +44 118 952 3401 eurotech@miranda.com	**Emergency After Hours** *(worldwide)* Tel: 1 800 224 7882 -or- Tel: 1 514 333 1772 and choose menu option 2
France 9:00 am – 5:00 pm GMT+1 Tel: +33 1 55 86 87 88 Fax: +33 1 55 86 00 29 eurotech@miranda.com	**China** 9:30 am – 6:00 pm GMT+8 Tel: +86 10 5873 1814 asiatech@miranda.com	**(Playout Automation Only)** 9:00 am – 5:30 pm GMT Tel: +44 8705 004 350 Fax: +44 8705 004 333 automationsupport@miranda.com	

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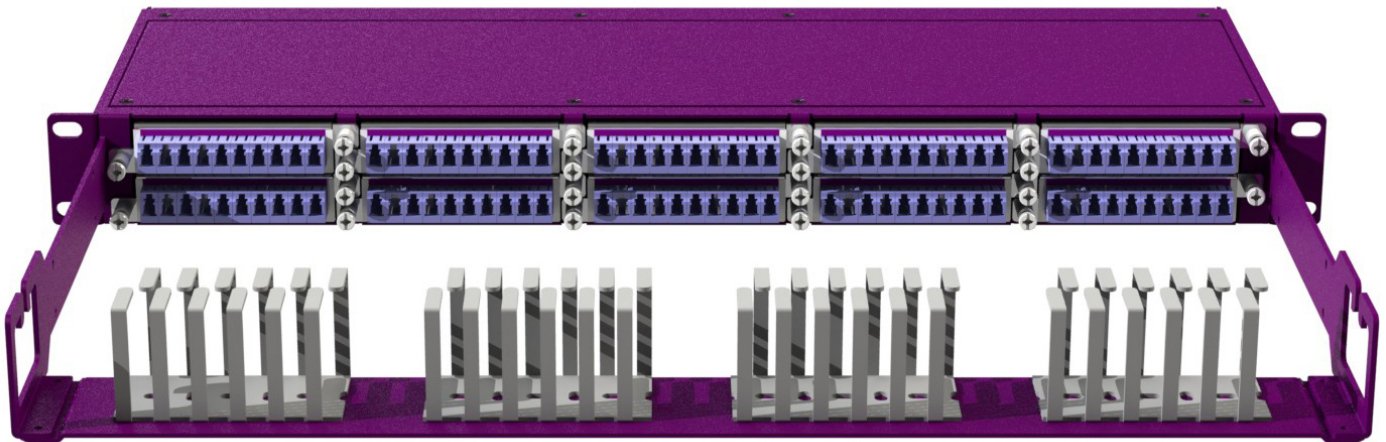Optical Splitters

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Optical Splitters

1. FOS-series Wideband Optical Splitters

1.1 Introduction

Miranda's optical splitters are wideband, passive and very efficient signal splitters that split an incoming signal on optical fiber into two or more output signals on separate fibers. They function equally well at any bit rate. Models are available for signal distribution, with multiple equal-energy outputs, or for monitoring with a single low-power tap off the main signal.

The splitters are packaged in modular form, with all modules the same size, and configured to install in a convenient 1RU tray that holds up to ten modules.

1.2 Features

- Supports triple 1x2, dual 1x4 and single 1x8 configurations
- Wideband operation from 1260nm - 1650nm
- Passive optical splitter design for any bit rate
- Hot swappable
- Long distance and high data rate coverage on single mode fiber
- Equally-distributed optical splitters or monitoring (80/20) optical splitters
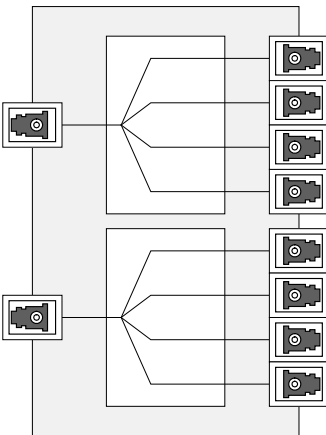- Convenient 1RU tray for up to 10 Splitter modules

1.3 Available Modules

The following modules are available in this series:
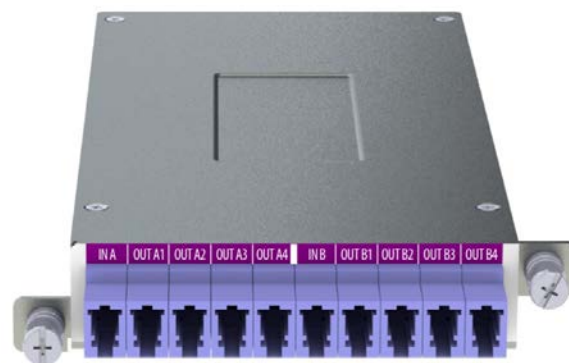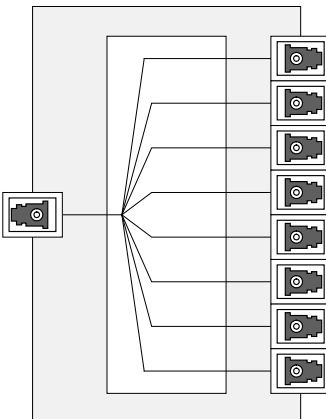
FOS-T2-50-LC   Triple 1-to-2 (50/50) splitters
FOS-T2-80/20-LC   Triple 1-to-2 (80/20) splitters
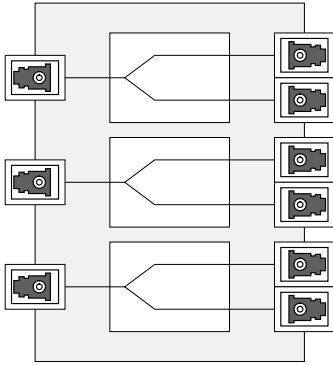
FOS-D4-25-LC   Double 1-to-4 (25/25/25/25) splitters

FOS-S8-12-LC   Single 1-to-8 (8x12.5) splitter

2   Installation

Install the tray into a standard 19" rack using 4 standard rack-mounting screws through the four holes in the corners of the mounting flanges.

An available support bracket extending from the front of the tray provides physical support for the fiber cables, minimizing strain on the connectors.

- Several different configurations are available for the support bracket and mounting flanges, to accommodate different installation set-ups.
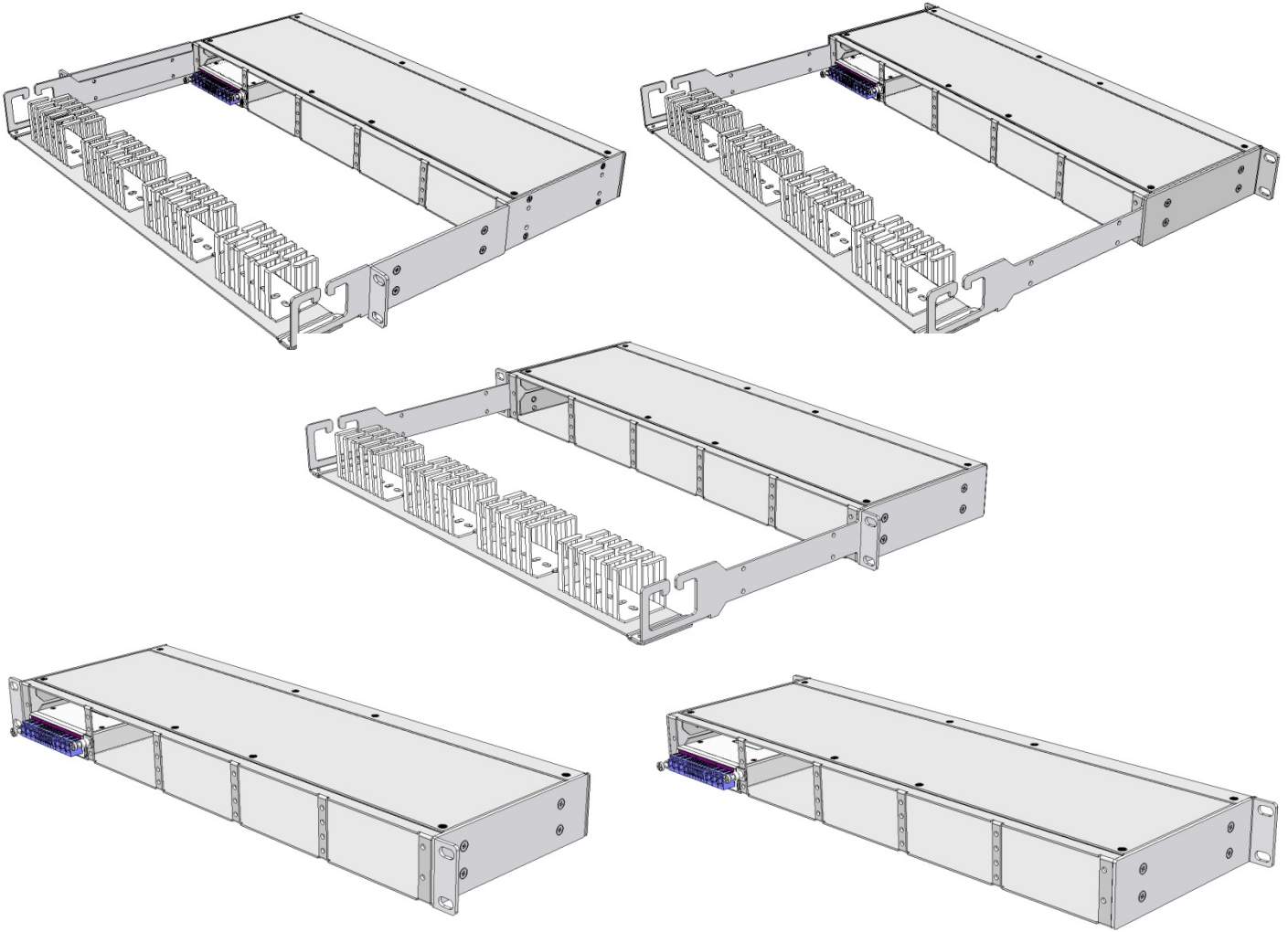
Slide each module into an empty bay in the tray, and secure it in position with the two captive screws on the front flanges.

3   Operation

⚠️ **Warning:** *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the end of an active fiber. A clean, protective cap or hood MUST be immediately placed over any radiating connector or optical fiber to avoid exposure to potentially dangerous amounts of radiation. This practice also helps prevent contamination of connectors and adapters. Do not assume laser power is turned off or the fiber is disconnected at the other end.*

These optical splitters are entirely passive – there is no power connection to the modules. To operate the splitters:

1. Route the appropriate input and output fibers to the location of the optical splitter module.

    - The fibers must have LC connectors, to match the module's sockets.

2. Remove any dust plugs from the optical connectors that you will be using

3. Examine each connector for debris, and clean if necessary

4. Plug the LC connector on the end of the fiber cable into the appropriate connector on the splitter module.

    - Push the fiber connector straight into the module socket until it clicks into place
    - The sockets are labeled to identify inputs and outputs

To disconnect a fiber from the module:

- NEVER pull on the cable itself to disconnect a fiber; ALWAYS grip the connector, push in the release tab and pull straight out
- ALWAYS place a plug into any unused fiber ports, to keep out dust and debris

Notes:

1. Equal ratio splitters (FOS-T2-50-LC, FOS-D4-25-LC or FOS-S8-12-LC) are wideband devices, specified over the full 1260 to 1620 nm spectrum.

2. Unequal ratio splitters (FOS-T2-80/20-LC) are dual windows devices, specified in both the 1260 to 1360 nm and the 1460 to 1620 nm windows. Those splitters aren't completely blind to the 1360 to 1460 nm signals, but they may be slightly out of specifications for that region.

    Note – 80% on OUT 1; 20% on OUT 2

3. The spacing between the LC connectors does not allow the use of duplex fiber cable assemblies with this product

4 Specifications

CONNECTORS

LC/UPC female housing

OPTICAL

	FOS-T2-50-LC	FOS-D4-25-LC	FOS-S8-12-LC	FOS-T2-80/20-LC	
				80% CHANNEL (OUT 1)	20% CHANNEL (OUT 2)
Operating Wavelength	1260-1620 nm			1260~1360 nm & 1460~1620 nm	
Number of Ports	1 input, 2 outputs	1 input, 4 outputs	1 input, 8 outputs	1 input, 2 outputs	
Insertion Loss with Connector	≤3.9 dB	≤7.6 dB	≤10.4 dB	≤1.8 dB	≤8.3 dB
Uniformity	≤0.8 dB	≤0.8 dB	≤0.8 dB	NA	
Return Loss with Connector	≥50 dB				

MECHANICAL

Dimensions:

1 RU tray	Length:	5.84" without fiber support 14.25" with fiber support
	Width:	17.120" tray 18.660" tray plus rack mount brackets
	Height:	1.728"
	Weight:	2.4 kg
Modules	Length:	5.8" module body 6.35″ including connector and mounting screws
	Width:	2.96" module body 3.72″ including mounting ears
	Height:	0.775"
	Weight:	220g

ENVIRONMENTAL

Operating Temperature   -40°C to +85°C
Operating Humidity   ≤95% RH