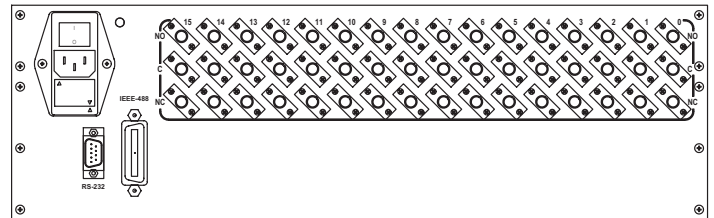


FO SERIES PASSIVE FIBER OPTIC SWITCHING SYSTEMS

CYTEC's FO Series Passive Fiberoptic Switches are computer controlled systems designed to switch standard fiberoptic wavelengths of 850 nm, 1310 nm and 1550 nm. Multimode 62.5/125 um switches are available for 850 and 1310 nm wavelengths, while singlemode 9/125 um switches handle 1310 and 1550 nm. Passive, bi-directional, fiberoptic switches are used that show insertion losses as low as 0.10 dB for multimode and 0.25 dB for singlemode. Available configurations include individual switches and Nx1 multiplexers. Other configurations are available as semi-custom systems. Contact Cytec's sales engineers for more information. Standard controls are RS232 & IEEE488. TCP/IP Ethernet LAN, USB, and Manual Controls are optionally available.

FO CHASSIS

The FO Series are all 19" rack mounting chassis and are available either as Mainframes or Expansion Chassis. Chassis provide from 16 to 64 individual switch points. All chassis have front panel LEDs for a visual indication of switch status. Input and output signal connectors are located on the rear panel, and FC, SC or ST connectors are offered. Mainframes have built in power supplies and combined RS232/IEEE488 controls. The system is completed by specifying the type and number of FO Series Fiberoptic Switches to be installed.

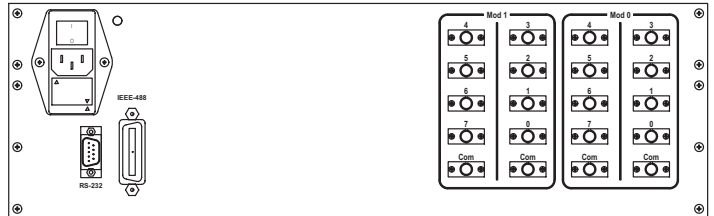


FO/16 Mainframe with 16 - 2x1 Form C Switches

FO/16 CHASSIS

Furnishes 16 individual switch points. The following configurations are standard:

- Sixteen 2x1 Failsafe Form C Switches
- Eight 2x1 Latching Form C Switches
- Two 8x1 Multiplexers
- Four 4x1 Multiplexers



FO/16 Mainframe configured as four 1x4 multiplexers

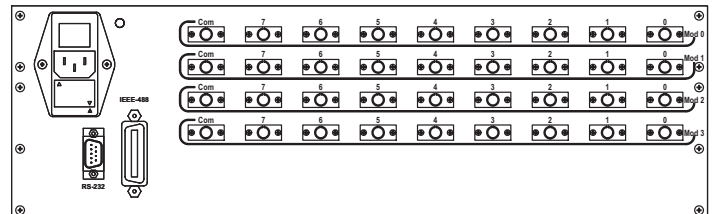
FO/32 CHASSIS

Supplies 32 switch points in the following standard configurations:

- Thirty-two 2x1 Failsafe Form C Switches
- Sixteen 2x1 Latching Form C Switches
- Four 8x1 Multiplexers
- Eight 4x1 Multiplexers

FO/64 CHASSIS

Furnishes 64 switch points. Please contact Cytec for more information.



FO/32 Mainframe configured as four 1x8 muxes

CUSTOM CHASSIS

Available upon request. Switch modules can be wired out to nonstandard rear panel fiberoptic connectors; switch modules can also be wired together with fiberoptic interconnects to furnish small nonblocking matrices (2x2, 2x4, 4x4, etc.)



FO/16 Mainframe with Pushbutton Manual Control

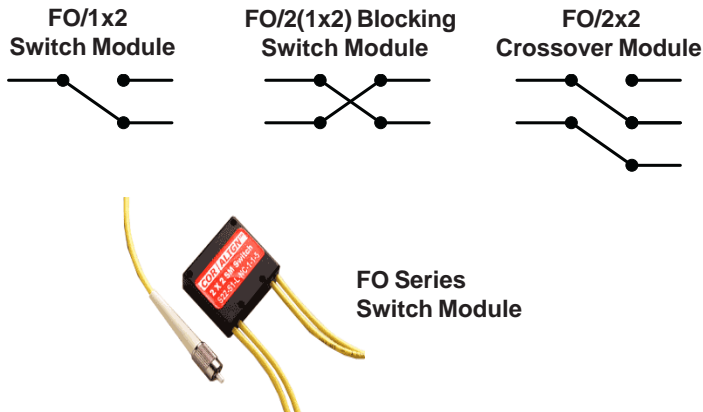
FO SERIES PASSIVE SWITCH MODULES

The FO Fiber Optic Switches utilizes a “moving fiber” design concept to achieve highly accurate direct fiber to fiber connections. Currently available in **1x2, dual 1x2 and dual 1x2 nonblocking** configurations. Also available in both **Single and Multimode versions** as well as **Normal and Low Loss types**. Insertion loss is as low as 0.25 for singlemode and 0.10 dB for Multimode switches.

SPECIFICATIONS

(Individual Modules without connectors) :

Connectors	ST, SC, FC Standard (others available on request)
Wavelength Range (nominal)	850 nm, 1310 nm Singlemode 1310 nm, 1550 nm Multimode
Glass Fiber Types	9/125 um Singlemode 62.5/125 um Multimode
Insertion Loss	0.25 dB Singlemode
Low Loss Type, typ.	0.10 dB Multimode
Insertion Loss	0.8 dB Singlemode
Normal Loss Type, typ.	0.6 dB Multimode
Back Reflection	-60 dB Typical
Crosstalk	-70 dB Maximum
Repeatability	0.01 dB
Switch Time	10 milliseconds Typical
Optical Power	+20 dBm max. Singlemode +23 dBm max. Multimode



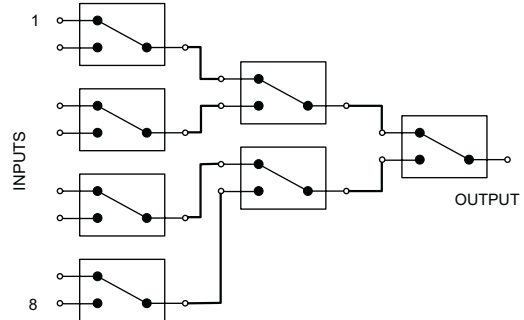
EXAMPLE AND DRIVER PROGRAMS

Example and Driver Programs are available for most common Windows-based programming languages, including LabView, LabWindows and Visual Basic.

FO-2

FO SERIES MULTIPLEXERS

Bidirectional Nx1 Multiplexers are assembled from standard FO Chassis by interconnecting Fiber optic Switch Modules as shown schematically below. The interconnects are fiber optic cables and are usually wired internally. The FO/16 Chassis can be configured as four 1x4s or two 1x8s, while the FO/32 is available as eight 1x4s or four 1x8s.



8x1 Multiplexer using 7 FO/2x1 Switches

LED DISPLAYS

FO/16 and FO/32 Chassis are built with individual, discrete front panel LEDs that show switchpoint status, while the FO/64 is built with up to eight CL8 Display Modules. The LEDs are an invaluable aid in program debugging and system troubleshooting.

CONTROL MODULES

IF-5C IEEE488/RS232 COMBINED CONTROL

Installed in the FO/16 & FO/32 Mainframes. This required control module has both the IEEE488 (Talk/Listen) and the RS232 features detailed in Applications Bulletin AP-5.

IF-5 IEEE488/RS232 COMBINED CONTROL

Required in the FO/64 Mainframe. Has both the IEEE488 and RS232 features shown in Bulletin AP-5.

IF-6 LAN INTERFACE

This Optional module uses TCP/IP protocols to provide control via an Ethernet LAN as described in Bulletin AP-5.

MANUAL CONTROL

SWITCH MANAGER SOFTWARE

This Control Software displays a full Graphical User Interface (GUI) and gives the operator the ability to remotely Open and Close switches as well as observe system Status.

PB/16 & PB/32 PUSHBUTTON

Individual Pushbuttons select and control switches mainframes supplying either 16 or 32 individual switchpoints.

MC/64-TW THUMBWHEEL

The FO/64 Mainframe can be equipped with optional Thumbwheel Manual Controls.

WARRANTY

CYTEC Corp. warrants that all products are free from defects in Materials and Workmanship for a period of 5 years and that all switches are guaranteed for their rated Operational Lifetime.

AVAILABILITY

Most systems are available 30 - 45 Days ARO.