

# INTELLIGENT OPTICAL SWITCHES

## PRODUCT FAMILY

The Glimmerglass family of Intelligent Optical Switches greatly improve the speed, productivity and reliability in which you manage fiber optic connections. These reliable products have been in service for years - establishing non-blocking, transparent connections between input and output fibers, without any signal regeneration. Customers around the world manage physical-layer fiber connections remotely, automatically, easily and reliably. These intelligent optical switches are offered in different sizes and with optional features suited to your needs. Still managing fiber connections by hand? Try managing fiber connections with Glimmerglass.

### TRANSPARENT, NON-BLOCKING FIBER CONNECTIONS

- Connects input fibers to output fibers (in x out)
- Single mode fiber, wideband (1270 nm - 1630 nm)
- Supports up to 24x24 in 2 RU, up to 144x144 in 8 RU
- Connects fibers without optical signal regeneration
- Supports all data rates and signal formats

### FAST INSTALLATION, EASY TO USE

- Ethernet connectivity, built-in fiber patch panel
- User-friendly ClickFlow™ web interface
- TL1 command-line and fast programming interface
- Save and restore and unlimited number of connection files
- Instant 1-click reconfiguration of all connections
- Monitor optical power levels in real-time, print reports

### OUTSTANDING PERFORMANCE

- Fast, reliable switching
- Very low insertion loss, excellent repeatability
- Broad ambient temperature range
- Operates at low optical input power levels

### ADVANCED FEATURES

- In field activation of additional fiber ports
- Asymmetrical NxM fiber configurations
- Intelligent fiber monitoring in real-time of optical power
- Integrated VOA (Variable Optical Attenuation)
- Photonic Multicasting, point-to-multipoint connections
- Connection protection and automatic restoration
- Multi-user security, locked connections
- High availability, redundant, hot-swappable power



### APPLICATIONS

#### TEST & MEASUREMENT

- **Carriers, Equipment Vendors, Manufacturers**
  - Network Services Testing, Service Prototyping
  - System Verification & Interoperability Testing
  - Component & Systems Manufacturing

#### DATA NETWORKS - IP OVER OPTICS

- **Data Centers, Peering Exchanges, Grid Computing**
  - Affordable 10GigE - Dedicated Data Circuits
  - Network Protection, Migration & Management
  - Provision WDM, Interconnect Routers, Switches

#### MONITORING & TESTING

- **Government/Defense, Carrier Networks**
  - Network and Analog Signal Monitoring
  - Connect & Share OTDRs, Protocol Analyzers
  - Radio Spectrum on Fiber, Secure Communications

#### COMMUNICATIONS INFRASTRUCTURE

- **Campuses, Government Agencies, Telecom**
  - Rapid Provisioning of Network Services
  - Resilient Networks, Elegant Network Maintenance
  - Visualization, Video Networks - HD, Analog, Mixed

## SPECIFICATIONS (FOR ALL SYSTEM MODELS UNLESS OTHERWISE NOTED)

Parameter	Unit	Min	Typical <sup>1</sup>	Max <sup>2</sup>
Fiber Ports (Inputs x Outputs) <sup>3</sup> System 100 System 300 System 500	fibers	16 x 16 32 x 32 128 x 128		24 x 24 72 x 72 144 x 144
Insertion Loss <sup>4</sup> System 100 Systems 300 and 500	dB		1.5 1.7	2.0 3.7
Insertion Loss with Multicasting System 100 System 300 and 500	dB		<u>1:2</u>   <u>1:4</u>   <u>1:8</u> 6   9   12 7   10   13	<u>1:2</u>   <u>1:4</u>   <u>1:8</u> 9   12   15 10   13   16
Wavelength Range	nm	1270		1630
Loss Repeatability	dB		+/- 0.05	+/- 0.10
Spectral Variation (O, C or L band)	dB			0.50
Polarization Dependent Loss	dB		0.05	0.10
Polarization Mode Dispersion	psec		0.005	0.010
Optical Return Loss <sup>5</sup>	dB	30	35	
Static Crosstalk	dB			-70
Switching Speed	ms		25	
Input Power <sup>6</sup>	dBm	-35/-25		+20
Operating Temperature	°C	-5		+50

<sup>1</sup> Measurements taken at 1310 nm and 1550 nm @ 25 °C

<sup>2</sup> Across wavelength, temperature and polarization

<sup>3</sup> Performance option supports NxN and asymmetrical NxM configurations

<sup>4</sup> Fiber to fiber, including LC connectors

<sup>5</sup> Greater than 20 dB at 1340 nm to 1490 nm

<sup>6</sup> Standard configuration: -25 dBm, Monitoring Performance configuration with Intelligent Fiber Monitoring: -35 dBm  
Operates with lit or dark fibers.

Mechanical/Electrical	System 100	System 300	System 500
Fiber Type/Connectors	Single Mode/ LC, SC, FC	Single Mode/ LC, SC, FC	Single Mode/ LC, SC, FC
Chassis Dimensions	3.5" x 17" x 18" (HxWxD) 89mm x 432mm x 457mm	14" x 18" x 12" (HxWxD) 356mm x 458mm x 305mm	14" x 18" x 16.1" (HxWxD) 356mm x 458mm x 410mm
Weight	20 lbs (9.1 kg)	26 lbs (11.9 kg)	38 lbs (17.2 kg)
Power (Standard)	100-240 VAC 50/60 Hz or -48 VDC	100-240 VAC 50/60 Hz or -48 VDC	100-240 VAC 50/60 Hz or -48 VDC
Power (Optional)	Redundant, hot-swappable VAC	Redundant, hot-swappable VAC	Redundant, hot-swappable VAC
Power Consumption	35 watts	35 watts	65 watts