

# GP700 PLATFORM

## INTERNAL COMPONENTS

### SWITCHES

DiCon's GP700 switch modules offer complete fiberoptic switching solutions. The modules are high-precision, low-loss optical switches used for cable and component testing, remote fault locating, and optical signal routing. The GP700 provides accurate positioning for either singlemode or multimode fibers resulting in low insertion loss and excellent repeatability. The GP700 can control up to 30 1xN switches and up to 64 2x2, 1x2, or On-Off switches. Larger configurations can be accommodated using multiple housings.

### SPECIFICATIONS<sup>1</sup>

Insertion loss	0.6 dB typ., 1.2 dB max.	
Back-reflection	singlemode	-55 dB max.
	multimode	-20 dB typ.
Repeatability <sup>2</sup>	±0.02 dB max.	
PDL <sup>3</sup>	0.05 dB max.	
Cross-talk	-80 dB max.	
Durability	10 million cycles min.	
Switching time	425ms+16ms per channel max.	

1. All specifications referenced without connectors.  
2. Sequential repeatability for 100 cycles at constant temperature after warm-up.  
3. Singlemode only. Measured at 1550 nm.

### FEATURES

- Very low insertion loss
- Low back-reflection
- Excellent repeatability

### APPLICATIONS

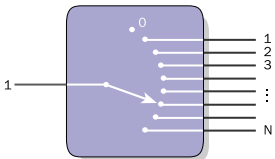
Applications include fiberoptic component testing and measurement, remote fiber test systems, and fiber network restoration.

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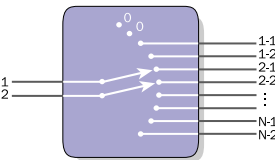
## INTERNAL COMPONENTS

### CONFIGURATIONS

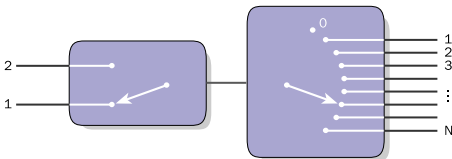
### SWITCHES



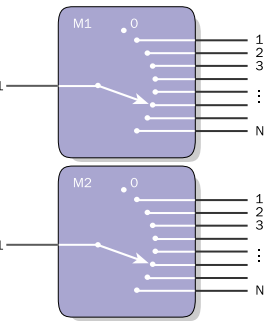
The **1xN Switch** precisely aligns one common fiber to any of N input/output fibers. 1xN optical switches operate bidirectionally and can be built with up to 100 channels.



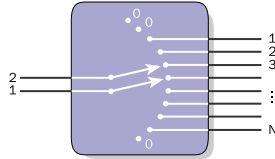
The **Synchronous Duplex 1xN Switch** consists of a set of two common input fibers that move as a group (synchronously) into alignment with a corresponding set of two output fibers.



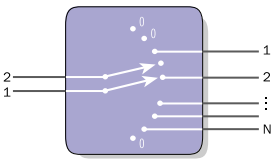
The **2xN Switch** uses cascaded 1x2 and 1xN switches to form a 2xN configuration. The 1x2 switch is typically used to switch between two sources or two detectors in an automated test facility.



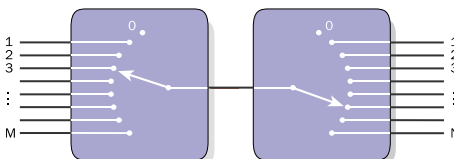
The GP700 can control up to thirty **1xN Switches** in a single chassis. Two 1xN switches are shown here. The switches can operate as a group (synchronously) or independently (asynchronously).



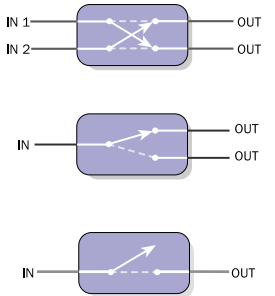
The **Low-Loss 2xN Non-Blocking Switch** has two input fibers aligned to two output fibers, and can be switched in one-channel increments. The two input fibers can be aligned to any two adjacent output fibers.



The **Low-Loss 2xN Blocking Switch** has two common fibers aligned to one output fiber. This configuration optically functions the same as a standard 2xN Switch (cascaded 1x2 and 1xN), but has approximately half the insertion loss.



The **MxN Blocking Switch** consists of a 1xM and a 1xN switch fusion spliced together. The positions of the two modules can be set independently, allowing any input to be connected to any output.

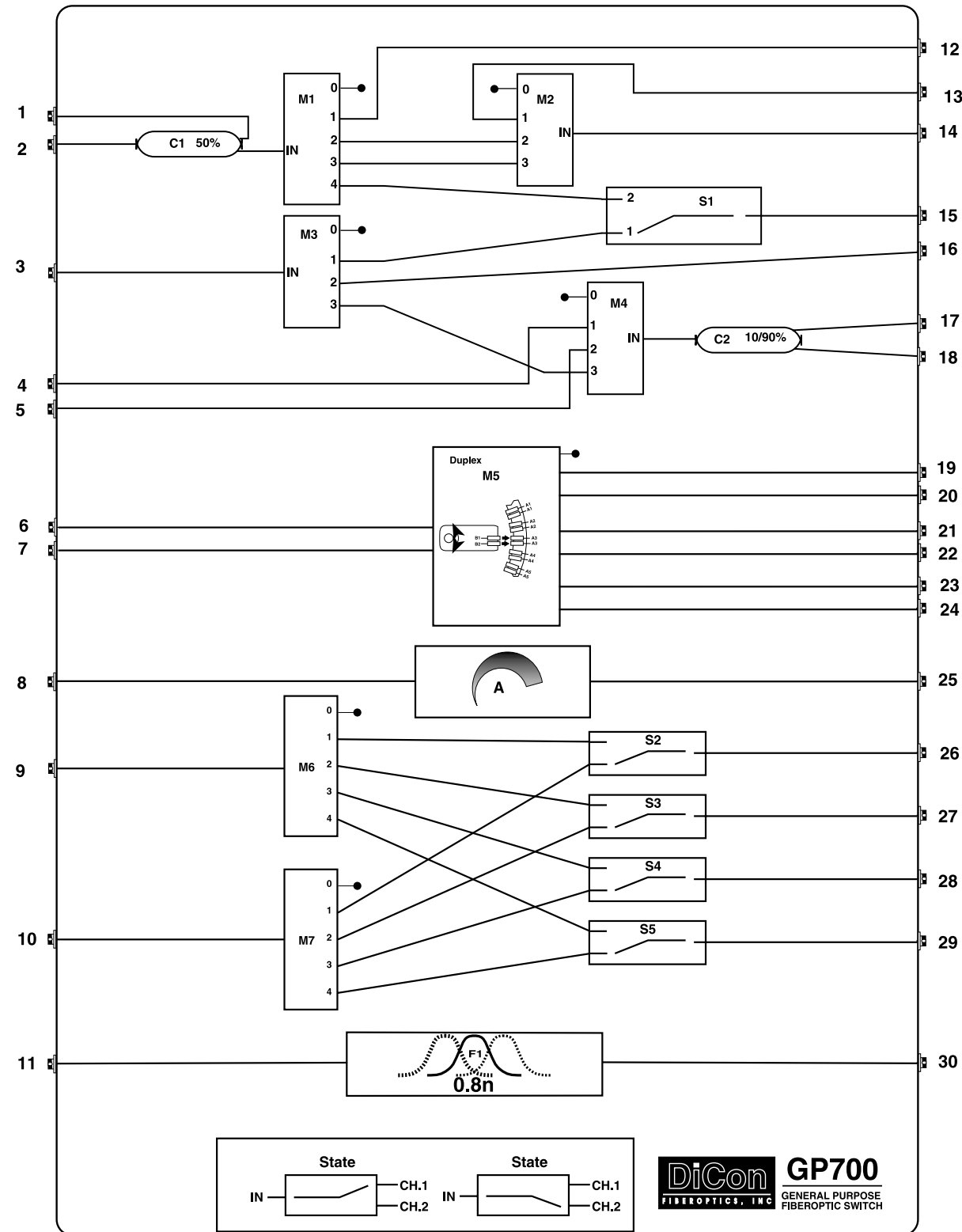


The GP700 can control up to 64 **2x2, 1x2, or On-Off Switches**. For example, several 1x2 switches can be configured in one GP700 housing for redundant security switching applications.

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## INTERNAL COMPONENTS

Custom Configuration Diagram Example



Quote # \_\_\_\_\_ Customer Approval: \_\_\_\_\_ Date: \_\_\_\_\_

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# GP700 PLATFORM

## INTERNAL COMPONENTS

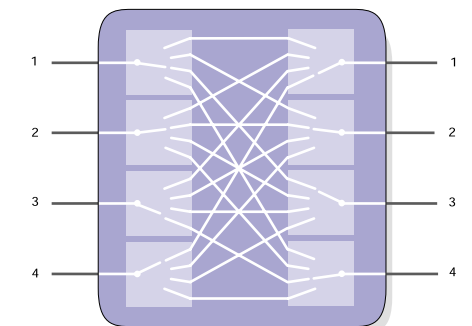
### MxN MATRIX SWITCHES

#### SPECIFICATIONS<sup>1</sup>

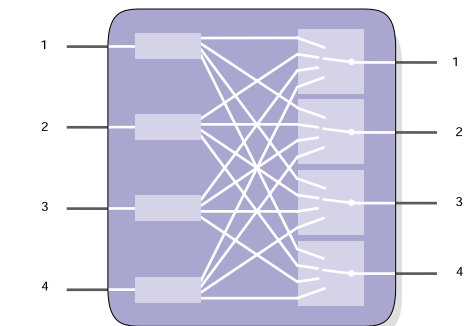
Insertion loss	1.2 dB typ., 2.4 dB max.
Back-reflection	singlemode -55 dB max.
	multimode -20 dB typ.
Repeatability <sup>2</sup>	±0.04 dB max.
PDL <sup>3</sup>	0.1 dB max.
Cross-talk	-80 dB max.
Switching time	500 ms typ., 750 ms max.

1. All specifications referenced without connectors.  
2. 100 cycles measured at constant temperature after warm-up.  
3. Singlemode only. Measured at 1550 nm.

#### CONFIGURATIONS



**MxN Directional Matrix Switches** are used to direct each input fiber port to a single output fiber port. Each input module consists of a 1xN fiberoptic switch, and each output module consists of a 1xM fiberoptic switch.



**MxN Distributional Matrix Switches** are used to distribute any one input fiber port to one, several, or all output fiber ports. Each input module consists of a 1xN fiberoptic splitter, and each output module consists of a 1xM fiberoptic switch.

DiCon's GP700 MxN Matrix Switch module routes optical signals through passive switch elements without optical-to-electrical conversions. The MxN Matrix Switch operates independently of signal wavelength, direction, bandwidth, data rate, and data format with virtually no cross-talk. The directional matrix switch is used to connect any one input to any one output. The distributional matrix switch is used to connect any one input to one, several, or all outputs. Both models of the MxN Matrix Switch are available in simplex or duplex configurations.

#### FEATURES

- Very low insertion loss
- Low back-reflection
- Simplex and duplex configurations
- High reliability and durability
- Matrix dimensions up to 15x15

#### APPLICATIONS

The GP700 MxN Matrix Switch is used for fully reconfigurable factory and network testing. Because the GP700 Matrix Switch is optically passive, the switch can be used in any type of fiber testing networks including FDDI, SONET, SDH, ATM, and Fiber Channel.