

# MEMS 16X16 OPTICAL SWITCHING SYSTEM

## GP800 Model, Single Mode Fiber



DiCon's **GP800 16x16 Optical Switching System** is an all-optical non-blocking cross-connect switch. This rack-mount device is designed with DiCon's proprietary 3D MEMS mirror technology and delivers industry-leading optical performance. The unit works without any position sensor or feedback loop, and the optical signals can pass through the equipment without any observable dithering artifacts. The **GP800 System** can switch repeatedly with great accuracy and maintain long-term connectivity with superior stability even when there is no optical signal in the fiber.

The **GP800 System** comes with multiple control interfaces for users to choose from and there are many options to customize the product, including adding other optical components, to meet unique requirements.

- High-density non-blocking Matrix Switches
- Interfaces - Web GUI, SSH, RS232, REST API, Telnet
- Advanced WebGUI for port partitions
- Low insertion loss - 0.8dB typical (excluding connector loss)
- Fast switching - concurrent switching < 25 ms
- Lifetime > 1 billion switch cycles
- No position sensor nor feedback-loop used
- Works even when there is no light in the fiber
- Excellent stability with no observable dithering artifacts
- Low power consumption
- Proven MEMS platform - commercial deployment since 2001
- Low MEMS drive voltage - simple and reliable electronics
- Intelligent hardware - field serviceable electronics

### ORDERING INFORMATION

**GP800 - [ ]/[ ] - SX - [ ] - 9 - [ ] - [ ] - N - [ ]**

#### Chassis Type

**1U** 1U  
**2U** 2U  
**3U** 3U  
**4U** 4U

*\*Please consult DiCon*

#### Chassis Depth

**17** 17"  
**22** 22"

*\*Please consult DiCon*

#### Product Type

**SX** MEMS Matrix Switch

#### Configuration

**T16x16** 16x16  
**TMxN** MxN (M, N≤16)

#### Fiber Type

**9** 9/125 μm SMF  
*\*Other fiber options available upon request*

#### Test Wavelength

**O** 1310 nm  
**E** 1410 nm  
**S** 1490 nm  
**C** 1550 nm  
**L** 1590 nm  
**U** 1650 nm

*\*Use "/" to add multiple wavelengths. E.g., O/C or O/C/L*

#### Connector Type

**FC** FC/UPC  
**FC/APC** FC/APC  
**SC** SC/UPC  
**SC/APC** SC/APC  
**LC** LC/UPC  
**LC/APC** LC/APC  
**RFC/APC** FC/APC on Removable Panel  
**RLC** LC/UPC on Removable Panel  
**RLC/APC** LC/APC on Removable Panel

*\*Other connector types available upon request*

#### Connector Key Orientation

**N** None

#### Connector Location

**F** Front  
**R** Rear



# MEMS 16X16 OPTICAL SWITCHING SYSTEM

## GP800 Model, Single Mode Fiber

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

Wavelength Range	1260 to 1675 nm
Insertion Loss <sup>2</sup>	< 1.0 dB
Loss Repeatability <sup>3</sup>	+/- 0.03 dB
Connection Stability <sup>4,5</sup>	+/- 0.03 dB
PDL <sup>5</sup>	< 0.1 dB
WDL <sup>5,6</sup>	< 0.3 dB
Crosstalk <sup>5</sup>	< -60 dB
Back Reflection	< -50 dB
Optical Transition Time <sup>5,7</sup>	< 25 ms
Switch Lifetime	> 1 Billion Cycles
Input Power Range	Dark to +27 dBm

1. Measured separately for each Test Wavelength at room temperature

2. Measured with 3-jumper method or equivalent. See TIA/EIA 526-7.

3. Over 100 cycles

4. 1 Hz sampling rate for 15 min

5. Met by design, not measured

6. WDL is defined within Test Wavelength  $\pm 20$  nm

7. Optical transition time for all ports switching concurrently, not including command processing overhead

### ELECTRICAL SPECIFICATIONS

Power Supply	100-240 VAC, 50/60 Hz
Connectors	RJ45 (Ethernet) DB9 (RS232) USB-C (Service)
Control Interface	Web GUI, SSH, RS232, REST API, Telnet, gNMI

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	0 to 50°C, < 85% RH
Storage Temperature	-40 to 70°C, < 40% RH

### MECHANICAL SPECIFICATIONS

Chassis Width	483 mm (19")		
Chassis Depth	435 mm (17")		
	559 mm (22")		
Chassis Height	FC	Front Panel	1U
		Back Panel	2U
	SC	Front Panel	1U
		Back Panel	2U
	LC	Front Panel	1U
		Back Panel	1U
	RLC	Front Panel	1U
		Back Panel	1U

