

MEMS 12X12 OPTICAL SWITCHING SYSTEM

GP800 Model, Polarization Maintaining Fiber



DiCon's **GP800 12x12 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
- Powerful and intuitive user access
- Low insertion 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*

Product Type

| | |
|-----------|--------------------|
| SX | MEMS Matrix Switch |
|-----------|--------------------|

Configuration

| | |
|---------------|---------------|
| T12x12 | 12x12 |
| TMxN | MxN (M, N≤12) |

Fiber Type

| | |
|-------------|-----------------------|
| PM13 | Corning PM 1300 Fiber |
| PM15 | Corning PM 1550 Fiber |

**Other fiber options available upon request*

Test Wavelength

| | |
|----------|---------|
| O | 1310 nm |
| C | 1550 nm |
| L | 1590 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 |
| RLC | LC/UPC on Removable Panel |
| RLC/APC | LC/APC on Removable Panel |

**Other connector types available upon request*

Connector Key Orientation

| | |
|----------|-----------|
| N | None |
| S | Slow Axis |
| F | Fast Axis |

Connector Location

| | |
|----------|-------|
| F | Front |
| R | Rear |

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OPTICAL SPECIFICATIONS

| | |
|--|--------------------|
| Wavelength Range | 1260 to 1675 nm |
| Insertion Loss ^{1,2} | < 1.0 dB |
| Loss Repeatability ³ | +/- 0.03 dB |
| Connection Stability ⁴ | +/- 0.03 dB |
| Polarization Extinction Ratio (PER) ⁵ | > 18 dB |
| WDL (One Operating Band) | < 0.3 dB |
| Crosstalk | < -60 dB |
| Back Reflection | < -50 dB |
| Optical Transition Time ⁶ | < 25 ms |
| Switch Lifetime | > 1 Billion Cycles |
| Input Power Range | Dark to +27 dBm |

1. Measured separately for each Test Wavelength
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. PER with connectors is 18 dB typical, 16 dB minimum
6. 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 |

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") |
| Chassis Height | 1U/2U (Front/Back, FC) 1U/2U (Front/Back, SC) 1U/1U (Front/Back, LC) 1U/1U (Front/Back, RLC) |