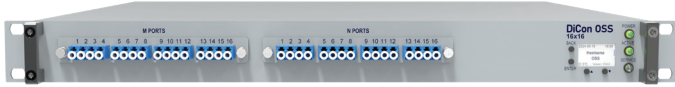


# MEMS 16X16 OPTICAL SWITCHING SYSTEM

## OSS Model, Single Mode Fiber, Quantum Grade



DiCon's **Optical Switching System (OSS)** 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 **OSS** 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 chassis is compact, taking minimal rack space. It is also lightweight and can be picked up easily for installation. The **OSS** comes with multiple control interfaces so authorized administrators can automate network management and set user permissions in a Software Defined Network (SDN). This product can be ordered in standard simplex or duplex configurations, and customized port arrangements are available upon request. Optical power monitors and attenuators can be added to each path as options.

### Key Features

- Market Leading Performance with Recognized Reliability
- Low Loss with High Stability & No Dithering Artifacts
- Compact, Lightweight, Easy to Transport
- Switches Fast & Consumes Low Power
- Operates Bi-Directionally & Works with Dark Fibers
- Supports Software Defined Networks

### Applications

- Optical Network Management
- Quantum Communications
- Data Center Interconnect
- AI (Artificial Intelligence) Networks
- LLM (Large Language Models) Machine Training
- Cyber Security & Monitoring
- Network Test Automation

## ORDERING INFORMATION

OSS - Q - - - 9 - - - - -

Grade	<b>Q</b> Quantum
Configuration	<b>S16x16</b> Simplex 16x16 <b>SMxN</b> Simplex (M, N≤16) <b>D16</b> Duplex 16 Ports <b>D#</b> Duplex (#≤16)
Function	<b>S</b> Matrix Switch Only <b>SA</b> VOA Only <b>MS</b> M Side Power Monitor <b>MSA</b> M Side Power Monitor & VOA <b>SN</b> N Side Power Monitor <b>SAN</b> N Side Power Monitor & VOA <b>MSN</b> Both Sides Power Monitor <b>MSAN</b> Both Sides Power Monitor & VOA <b>D</b> Matrix Switch Only <b>DA</b> VOA Only <b>DP</b> Power Monitor (B Ports / Outputs) <b>DAP</b> Power Monitor & VOA (B Ports / Outputs)
Fiber Type	<b>9</b> 9/125 μm SMF <i>*Other fiber options available upon request</i>
Test Wavelength	<b>O</b> 1310 nm <b>C</b> 1550 nm <b>L</b> 1590 nm <i>*Use "/" to add multiple wavelengths. E.g., O/C or O/C/L</i>
Chassis Height	<b>1U</b> 1U <b>2U</b> 2U <b>3U</b> 3U <i>*Contact Sales for assistance</i>
Power	<b>A1</b> AC 100-240V Single <b>D1</b> DC -48V Single <b>A2</b> AC 100-240V Redundant <b>D2</b> DC -48V Redundant
Connector Type	<b>LC</b> LC/UPC <b>LC/APC</b> LC/APC <b>RLC</b> LC/UPC on Removable Panel <b>RLC/APC</b> LC/APC on Removable Panel <b>HLC</b> High Density LC UPC <b>HLC/APC</b> High Density LC APC <b>M8</b> MTP/MPO-8 APC <b>M12</b> MTP/MPO-12 APC <i>*Other connector types available upon request</i>
Connector Location	<b>F</b> Front <b>R</b> Rear

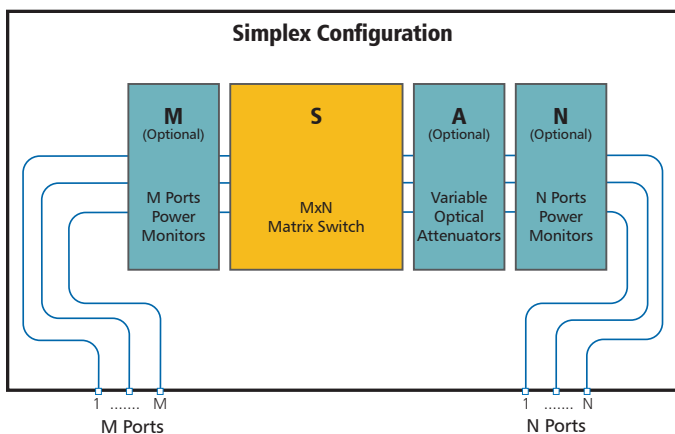
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### OPTICAL SPECIFICATIONS<sup>1</sup>

Operating Wavelength	1260 to 1675 nm
Insertion Loss <sup>2</sup>	< 1.0 dB
Insertion Loss (with 1 OPM) <sup>2</sup>	< 1.3 dB
Insertion Loss (with 2 OPM) <sup>2</sup>	< 1.6 dB
Loss Repeatability <sup>3</sup>	+/- 0.01 dB
Connection Stability <sup>4,5</sup>	+/- 0.01 dB
Connection Stability (Short Term) <sup>6</sup>	+/- 0.005 dB
PDL <sup>5</sup>	< 0.1 dB
PDL with OPM <sup>5</sup>	< 0.3 dB
WDL <sup>5,7</sup>	< 0.3 dB
Crosstalk	< -70 dB
Data Latency <sup>5</sup>	< 20 ns
Back Reflection	< -50 dB
Optical Transition Time <sup>5,8</sup>	< 25 ms
Switch Lifetime	> 1 Billion Cycles
Input Power Range	Dark to +27 dBm
OPM Dynamic Range	-50 to +22 dBm
OPM Relative Accuracy	+/-0.2 dB @ > -30 dBm +/-0.5 dB @ > -50 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. Met by design, not measured
6. 10 KHz sampling rate for 10 Sec
7. Test Wavelength +/-20nm
8. Optical transition time for all ports switching concurrently, not including command processing overhead



### ELECTRICAL SPECIFICATIONS

Power Consumption <sup>9</sup>	< 20W Steady State < 30W at Startup
Power Supply Options	Redundant Power Supply, 100-240 VAC or -48 VDC
Network Interface Card	RJ45 Dual Redundant Gigabit Ethernet
SDN & Automation Interfaces	REST API, NETCONF, SNMPv3, TL1, Web GUI, RS232

9. Power is measured with 2 OPM

### ENVIRONMENTAL SPECIFICATIONS

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

### MECHANICAL SPECIFICATIONS

19" Chassis Depth	559 mm (22")
19" Chassis Height	1U (with LC)

