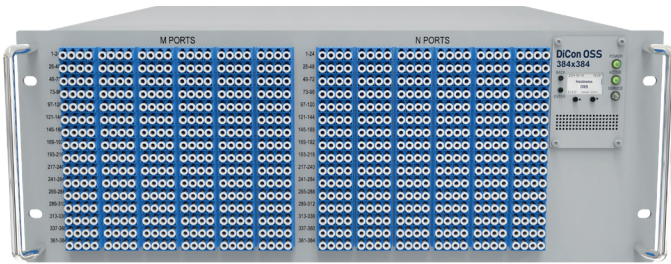


# MEMS 384X384 OPTICAL SWITCHING SYSTEM

## 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	Quantum
Configuration	<p><b>S384x384</b> Simplex 384x384</p> <p><b>SMxN</b> Simplex (M, N≤384)</p> <p><b>D384</b> Duplex 384 Ports</p> <p><b>DM</b> Duplex (M≤384)</p>
Function	<p><b>S</b> Matrix Switch Only</p> <p><b>MS</b> With Input Power Monitor</p> <p><b>SN</b> With Output Power Monitor</p> <p><b>MSN</b> With Both Power Monitors</p>
Fiber Type	<p><b>9</b> 9/125 μm SMF</p> <p><i>*Other fiber options available upon request</i></p>
Optimized Wavelength Range	<p><b>O</b> 1260-1360 nm</p> <p><b>E</b> 1360-1460 nm</p> <p><b>S</b> 1460-1530 nm</p> <p><b>C</b> 1530-1570 nm</p> <p><b>L</b> 1570-1625 nm</p> <p><b>U</b> 1625-1675 nm</p> <p><i>*Multiple wavelength ranges can be supported. Use "/" to add multiple ranges. For example: For 1260 - 1360 nm &amp; 1530 - 1570nm use O/C, for 1260 to 1675 nm use O/E/S/C/L/U</i></p>
Chassis Height	<p><b>4U</b> 4U</p> <p><b>6U</b> 6U</p> <p><b>8U</b> 8U</p> <p><i>*Contact Sales for assistance</i></p>
Power	<p><b>A1</b> AC 90-264V Single</p> <p><b>D1</b> DC -48V Single</p> <p><b>A2</b> AC 90-264V Redundant</p> <p><b>D2</b> DC -48V Redundant</p>
Connector Type	<p><b>LC</b> LC/UPC</p> <p><b>LC/APC</b> LC/APC</p> <p><b>RLC</b> LC/UPC on Removable Panel</p> <p><b>RLC/APC</b> LC/APC on Removable Panel</p> <p><b>HLC</b> High Density LC UPC</p> <p><b>HLC/APC</b> High Density LC APC</p> <p><b>M8</b> MTP/MPO-8 APC</p> <p><b>M12</b> MTP/MPO-12 APC</p> <p><i>*Other connector types available upon request</i></p>
Connector Location	<p><b>F</b> Front</p> <p><b>R</b> Rear</p>

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### OPTICAL SPECIFICATIONS

Wavelength Range	1260 to 1675 nm
Insertion Loss <sup>1</sup>	< 1.0 dB
Insertion Loss (with 1 OPM)	< 1.4 dB
Insertion Loss (with 2 OPM)	< 1.8 dB
Loss Repeatability <sup>2</sup>	+/- 0.01 dB
Connection Stability <sup>3</sup>	+/- 0.01 dB
Connection Stability (Short Term) <sup>4</sup>	+/- 0.005 dB
PDL, C+L Band (1530-1625 nm)	< 0.1 dB
PDL, C+L Band with OPM	< 0.3 dB
WDL, C+L Band (1530-1625 nm)	< 0.3 dB
Crosstalk	< -70 dB
Data Latency	< 15 ns
Back Reflection	< -50 dB
Switching Time, All Channels	< 25 ms
Switch Lifetime	> 1 Billion Cycles
Input Power Range	Dark to +27 dBm
OPM Dynamic Range	-50 to +22 dBm
OPM Accuracy	+/-0.2 dB @ > -30dBm +/-0.5 dB @ > -50dBm

1. Measured at optimized  $\lambda$  (e.g. 1550 nm), 25°C, excluding connectors (Each pair of connectors will add extra 0.2 dB loss.)

2. Over 100 cycles

3. 1 Hz sampling rate for 15 min

4. 10 KHz sampling rate for 10 Sec

### ELECTRICAL SPECIFICATIONS

Power Consumption	< 100W Steady State < 110W at Startup
Power Supply Options	Redundant Power Supply, 90-264 VAC or -48 VDC
Network Interface Card	RJ45 Dual Redundant Gigabit Ethernet
SDN & Automation Interfaces	REST API, NETCONF, SNMPv3, TL1, Web GUI, RS232

### 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	4U (with HD LC)