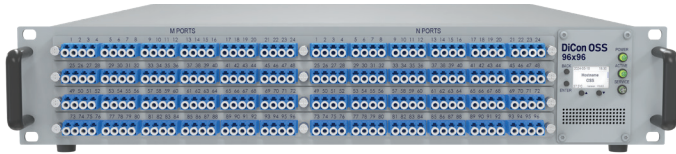


# MEMS 96X96 OPTICAL SWITCHING SYSTEM

## 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

**Q** Quantum

### Configuration

**S96x96** Simplex 96x96

**SMxN** Simplex (M, N≤96)

**D96** Duplex 96 Ports

**D#** Duplex (#≤96)

### Function

|         |             |   |
|---------|-------------|---|
| Simplex | <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                    |
| Duplex  | <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

**9** 9/125 μm SMF

*\*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*

### Chassis Height

**2U** 2U

**3U** 3U

**4U** 4U

*\*Contact Sales for assistance*

### Power

**A1** AC 100-240V Single

**D1** DC -48V Single

**A2** AC 100-240V Redundant

**D2** DC -48V Redundant

### Connector Type

**LC** LC/UPC

**LC/APC** LC/APC

**RLC** LC/UPC on Removable Panel

**RLC/APC** LC/APC on Removable Panel

**HLC** High Density LC UPC

**HLC/APC** High Density LC APC

**M8** MTP/MPO-8 APC

**M12** MTP/MPO-12 APC

*\*Other connector types available upon request*

### Connector Location

**F** Front

**R** Rear

## OSS Model, Single Mode Fiber, Quantum Grade

|  |  |
|--|--|
| Operating Wavelength                           | 1260 to 1675 nm                              |
| Insertion Loss <sup>2</sup>                    | < 1.2 dB                                     |
| Insertion Loss (with 1 OPM) <sup>2</sup>       | < 1.5 dB                                     |
| Insertion Loss (with 2 OPM) <sup>2</sup>       | < 1.8 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>                      | < 15 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 @ > -30dBm<br>+/-0.5 dB @ > -50dBm |

- |                                |  |
|--------------------------------|--|
| Power Consumption <sup>9</sup> | < 40W Steady State<br>< 45W at Startup               |
| Power Supply Options           | Redundant Power Supply,<br>100-240 VAC or -48 VDC    |
| Network Interface Card         | RJ45 Dual Redundant Gigabit Ethernet                 |
| SDN & Automation Interfaces    | REST API, NETCONF,<br>SNMPv3, TL1, Web GUI,<br>RS232 |

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

|                    |              |
|--------------------|--------------|
| 19" Chassis Depth  | 559 mm (22") |
| 19" Chassis Height | 2U (with LC) |

