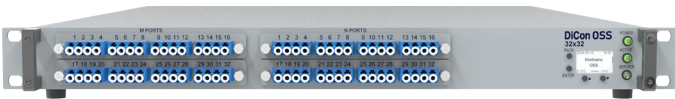


MEMS 32X32 OPTICAL SWITCHING SYSTEM

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

QQuantum

Configuration

S32x32Simplex 32x32

SMxNSimplex (M, N≤32)

D32Duplex 32 Ports

D#Duplex (#≤32)

Function

Simplex

SMatrix Switch Only

SAVOA Only

MSM Side Power Monitor

MSAM Side Power Monitor & VOA

SNM Side Power Monitor

SANM Side Power Monitor & VOA

MSNBOTH Sides Power Monitor

MSANBOTH Sides Power Monitor & VOA

Duplex

DMatrix Switch Only

DAVOA Only

DPower Monitor (B Ports / Outputs)

DAPower Monitor & VOA (B Ports / Outputs)

Fiber Type

99/125 μm SMF

*Other fiber options available upon request

Test Wavelength

O1310 nm

C1550 nm

L1590 nm

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

Chassis Type

1U1U

2U2U

3U3U

*Please consult DiCon **See "Mechanical Specifications"

Power

A1AC 100-240V Single

D1DC -48V Single

A2AC 100-240V Redundant

D2DC -48V Redundant

Bulkhead 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

M8F MTP-8 Female APC

M8M MTP-8 Male APC

M12F MTP-12 Female APC

M12M MTP-12 Male APC

M24F MTP-24 Female APC

M24M MTP-24 Male APC

*Other connector types are available upon request

Connector Location

F Front

R Rear

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OPTICAL SPECIFICATIONS¹

Operating Wavelength	1260 to 1675 nm
Insertion Loss ²	< 1.0 dB
Insertion Loss (with 1 OPM) ²	< 1.3 dB
Insertion Loss (with 2 OPM) ²	< 1.6 dB
Loss Repeatability ³	+/- 0.01 dB
Connection Stability ^{4,5}	+/- 0.01 dB
Connection Stability (Short Term) ⁶	+/- 0.005 dB
PDL ⁵	< 0.1 dB
PDL with OPM ⁵	< 0.3 dB
WDL ^{5,7}	< 0.3 dB
Crosstalk	< -70 dB
Data Latency ⁵	< 15 ns
Back Reflection	< -50 dB
Optical Transition Time ^{5,8}	< 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 +/-0.5 dB @ > -50dBm

1. Measured separately for each Test Wavelength

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

3. Over 100 cycles

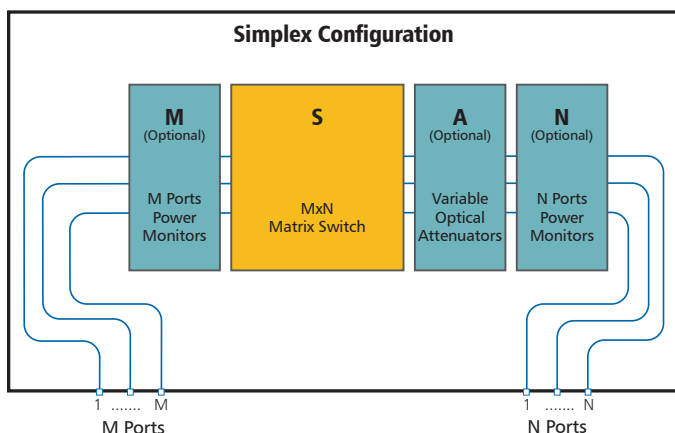
4. 1 Hz sampling rate for 15 min

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*	< 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

*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

Chassis Width	483 mm (19")
Chassis Depth*	435 mm (17") 559 mm (22") 762 mm (30") 889 mm (35") 1016 mm (40")
Chassis Height	1U (with LC)

*Please consult DiCon

