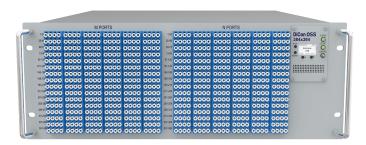
MEMS 384X384 OPTICAL SWITCHING SYSTEM

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
- · Al (Artificial Intelligence) Networks
- LLM (Large Language Models) Machine Training
- · Cyber Security & Monitoring
- · Network Test Automation

DiCon[®]

ORDERING INFORMATION

	ORDE	RING INFORMATION
	Grade	oss - Q 9
		Ougantum
	Q	Quantum
	Configura	ition
	SMxN D384 D#	Simplex 384x384 Simplex (M, N≤384) Duplex 384 Ports Duplex (#≤384)
	Function	
Duplex Tr Simplex	S SA MS MSA SN SAN MSN MSN D DA DP DAP	Matrix Switch Only VOA Only M Side Power Monitor M Side Power Monitor & VOA N Side Power Monitor N Side Power Monitor & VOA Both Sides Power Monitor Both Sides Power Monitor Both Sides Power Monitor & VOA Matrix Switch Only VOA Only Power Monitor (B Ports / Outputs) Power Monitor & VOA (B Ports /
L	Fiber Typ	Outputs)
	9	9/125 µm SMF
	-	options available upon request
	Test Wave	elength
	0	1310 nm
	C	1550 nm
	L *Use "/" to a	1590 nm dd multiple wavelengths. E.g., O/C or O/C/L
	Chassis T	
	4U	4U
	6U	6U
	8U	8U
	*Please con	sult DiCon **See "Mechanical Specifications"
	Power	
	A1	AC 100-240V Single
	D1 A2	DC -48V Single AC 100-240V Redundant
	D2	DC -48V Redundant
	Connecto	
	LC	LC/UPC
	LC/APC	LC/APC
	RLC	LC/UPC on Removable Panel
		LC/APC on Removable Panel
	HLC/ABC	High Density LC/UPC High Density LC/APC
	M8F	MTP/MPO-8 Female APC
	M8M	MTP/MPO-8 Male APC
	M12F	MTP/MPO-12 Female APC
	M12M	MTP/MPO-12 Male APC
	M24F M24M	MTP/MPO-24 Female APC MTP/MPO-24 Male APC
		ector types are available upon request
	Connecto	r Location
	F	Front
	_	_

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OPTICAL SPECIFICATIONS¹

O	4000 to 4075 in in-
Operating Wavelength	1260 to 1675 nm
Insertion Loss ²	< 2.1 dB
Insertion Loss (with 1 OPM) ²	< 2.4 dB
Insertion Loss (with 2 OPM) ²	< 2.7 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 @ > -30 dBm +/-0.5 dB @ > -50 dBm
VOA Accuracy ^{5,9,10} (N Side Ports, Closed-Loop)	+/-0.3 dB @ 20 dB +/-0.5 dB @ 30 dB
VOA Accuracy ^{9,11} (N Side Ports, Open-Loop)	+/-1.5 dB @ 20 dB +/-1.5 dB @ 30 dB

- 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 +/-20 nm
- 8. Optical transition time for all ports switching concurrently, not including command processing overhead
- 9. 98th percentile of optical connections; defined as the average +2 standard deviations
- 10. Requires N side Power Monitor
- Corresponds to accuracy using Constant Attenuation Mode. Both Constant Power Mode and Relative Attenuation Mode will have better accuracy due to Closed-Loop feedback

ELECTRICAL SPECIFICATIONS

Power Consumption*	< 70W Steady State < 100W 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

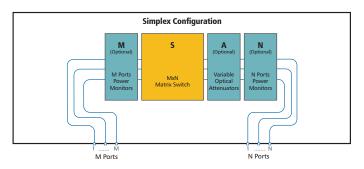
ENVIRONMENTAL SPECIFICATIONS

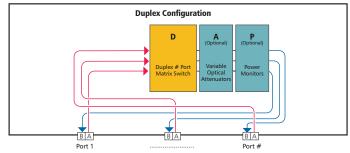
Operating Temperature	0 to 50°C, < 85% RH
Storage Temperature	-40 to 70°C, < 40% RH

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	4U (with HD LC)

^{*}Please consult DiCon





DiCon Fiberoptics, Inc. — www.diconfiberoptics.com