

Optiva OTS-1-OSU 2x2 Dual-Band Optical Switch Unit



DATASHEET | JANUARY 2014

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Applications

- Configurable Delay System
- Optical Link Switch

Features

- 1310 nm and 1550 nm Dual-Band Operating Wavelengths
- Single or Double 2x2 Switch Units
- Configurable System Delay Lines:
 - Single 2x2 Switch: Up to Two Unique Delay Values*
 - Double 2x2 Switch: Up to Four Unique Delay Values*
 - Single plus Double 2x2 Switch: Up to Eight Unique Delay Values*
 - Two double 2x2 Switch: Up to Sixteen Unique Delay Values*
- LC-APC Optical Connector
- Manual Control Modes
- Manual Position/Set Button
- Switch Position and Unit Status LED
- SNMP Monitoring and Control
- Fits in Optiva Enclosures Which Support Daisy-Chain Video, Audio and Data Links
- Hot Swap Redundant Power Supplies Virtually Eliminate Downtime
- 16, 6, 2, & 1 Slot Enclosures Available
- CE & CSA Certified Device, RoHS Compliant

*Various combination of delays based on each fiber spool delay values

The Optiva OTS-1-OSU-1 (single switch) and OTS-1-OSU-2 (double switch) Dual-Band Optical Switch Units are optimized to perform in the 1310 nm and 1550 nm operating wavelengths. The OSU, when integrated with EMCORE's family of fiber delay line units, provides a wide range of microwave configurable system delay line links for satellite, radar and calibration applications. The OSU also provides general optical switching for fiber line applications.

EMCORE's satellite and microwave optical switch units are SNMP compliant. They can be housed in the same chassis and monitored by the same Network Management System (NMS) as Optiva HD video, audio, serial data, and USB extension / distribution cards.

System Design

The Optiva platform includes a wide range fiber optic transport products for satellite and microwave communications from 1 MHz to 40 GHz. These units can be used to construct transparent inter- and intra-facility links from 1 meter to >100 km for RF and microwave signal transport, antenna remoting, video transport, electronic warfare systems and other high-dynamic-range applications.

optiva | PLATFORM

Optiva is a completely modular, hot-swappable platform. Both 19" rack-mount and compact tabletop, or wall-mountable enclosures are available. The 3 RU 19" rack-mount, fan-cooled enclosures (Model OT-CC-16 and OT-CC-16F) can support up to 16 insert cards and utilize two dual-redundant, hot-swappable, 100 or 200 watt power supplies. The 1 RU 19" rack-mount, fan-cooled enclosure (Model: OT-CC-6-1U) can accommodate 6 insert cards and utilizes two hot-swappable 60 watt power supplies. Compact one-slot (OT-DTCR-1), or two-slot (OT-DTCR-2) enclosures are also available that use an external wall-mount power supply.



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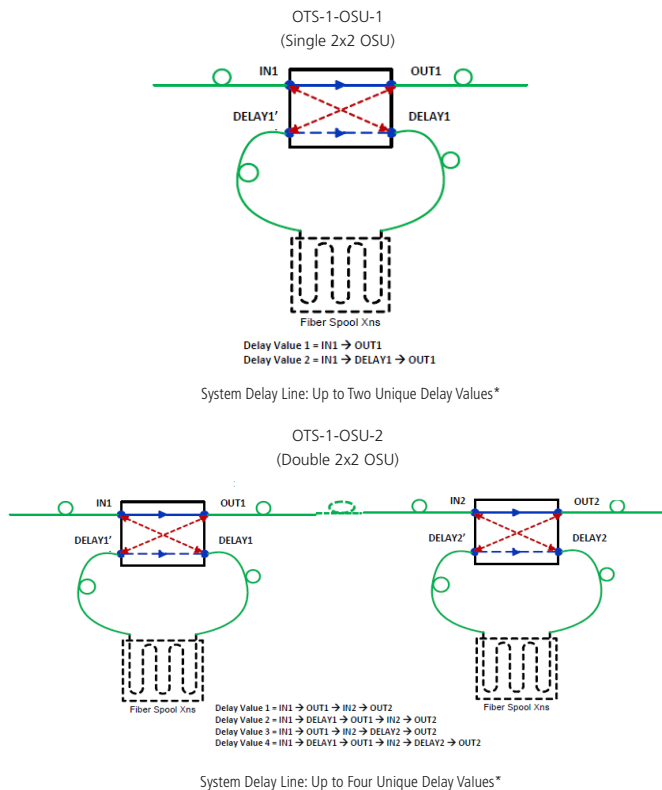
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Performance Highlights

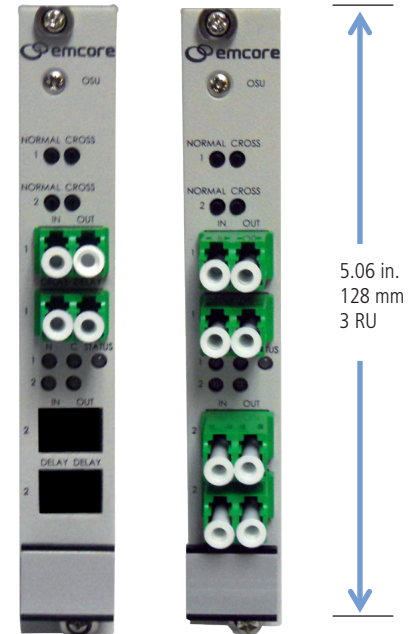
Parameter	Min	Typical	Max	Units
Wavelength	1280	-	1580	nm
Insertion Loss (Single Wavelength @ 23°C) ¹	-	-	1.5	dB
Switch Delay Time				
Normal	-	-	20	ns
Cross	-	-	40	ns
Cross Talk	-50	-	-	dB
Power Off Isolation	-50	-	-	dB
TDL	-	-	0.3	dB
WDL	-	-	0.2	dB
PDL	-	-	0.1	dB
Optical Power	-	-	500	mW
Fiber Type	-	9/125	-	μm
DC Current				
Single 2x2	-	-	75	mA
Double 2x2	-	-	100	mA

1. In normal mode of Single 2x2 OSU @ 1310 nm

Block Diagrams



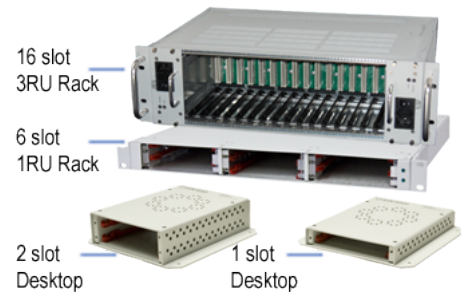
Front View



OTS-1-OSU-1
(Single 2x2 OSU)

OTS-1-OSU-2
(Double 2x2 OSU)

Enclosure Options



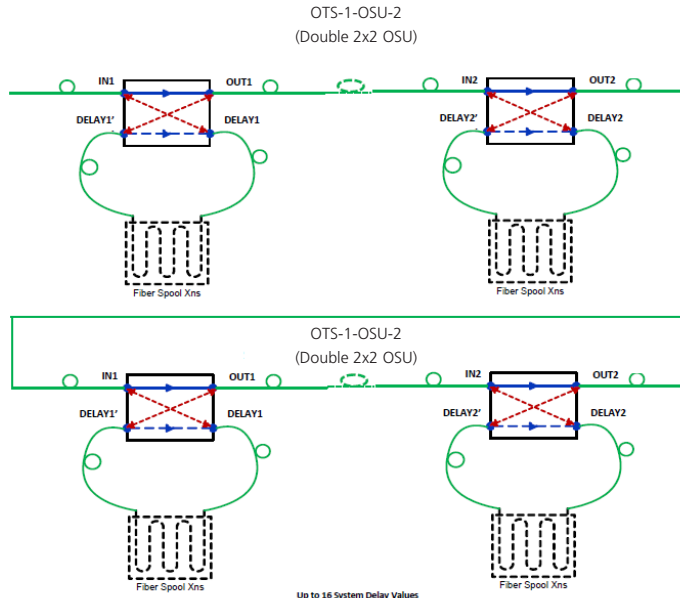
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Block Diagrams cont.



System Delay Line: Up to Sixteen Unique Delay Values*

*Various combination of delays based on each fiber spool delay values

Ordering Information

Product Code	Specifications
OTS-1-OSU-1-13-00	Optical Single 2X2 OSU, Optiva, 1310 nm, LC/APC
OTS-1-OSU-1-13-LF	Optical Single 2X2 OSU, Optiva, 1310 nm, LC/APC, 4 LC/APC-FC/APC cables
OTS-1-OSU-1-13-LS	Optical Single 2X2 OSU, Optiva, 1310 nm, LC/APC, 4 LC/APC-SC/APC cables
OTS-1-OSU-2-13-00	Optical Double 2X2 OSU, Optiva, 1310 nm, LC/APC
OTS-1-OSU-2-13-LF	Optical Double 2X2 OSU, Optiva, 1310 nm, LC/APC, 8 LC/APC-FC/APC cables
OTS-1-OSU-2-13-LS	Optical Double 2X2 OSU, Optiva, 1310 nm, LC/APC, 8 LC/APC-SC/APC cables
OTS-1-OSU-1-15-00	Optical Single 2X2 OSU, Optiva, 1550 nm, LC/APC
OTS-1-OSU-1-15-LF	Optical Single 2X2 OSU, Optiva, 1550 nm, LC/APC, 4 LC/APC-FC/APC cables
OTS-1-OSU-1-15-LS	Optical Single 2X2 OSU, Optiva, 1550 nm, LC/APC, 4 LC/APC-SC/APC cables
OTS-1-OSU-2-15-00	Optical Double 2X2 OSU, Optiva, 1550 nm, LC/APC
OTS-1-OSU-2-15-LF	Optical Double 2X2 OSU, Optiva, 1550 nm, LC/APC, 8 LC/APC-FC/APC cables
OTS-1-OSU-2-15-LS	Optical Double 2X2 OSU, Optiva, 1550 nm, LC/APC, 8 LC/APC-SC/APC cables
OPV-CTRL-IC	NMS SNMP Controller Card & MIB for Optiva Family
OTP-1ETR-A2/A2	Optical Tcwr, 1 Ch, Ethernet, SM, Dual LC
OT-CC-16F-XXX	Chassis, Rack-Mount, 16-Slot, 3 RU -- See OT-CC-16F data sheet for exact models
PS-200F-XX	Power Supply, 12 VDC, 100 to 240 VAC, 50/60 Hz. - See PS-200F datasheet for exact models
OT-CC-6-XX	Chassis, Rack-Mount, 6-Slot, 1 RU with Power Supply - See OT-CC-6-XX datasheet for exact models
OT-DTCR-1 / OT-DTCR-2	Chassis, Flange-Mount, w/Power Supply, 1 slot / 2 slot - See OT-DTCR data sheet for exact models

