DATA SHEET

Headend Optics Platform (CH3000)

OS32M1M, OS32M2M, OS32S2S

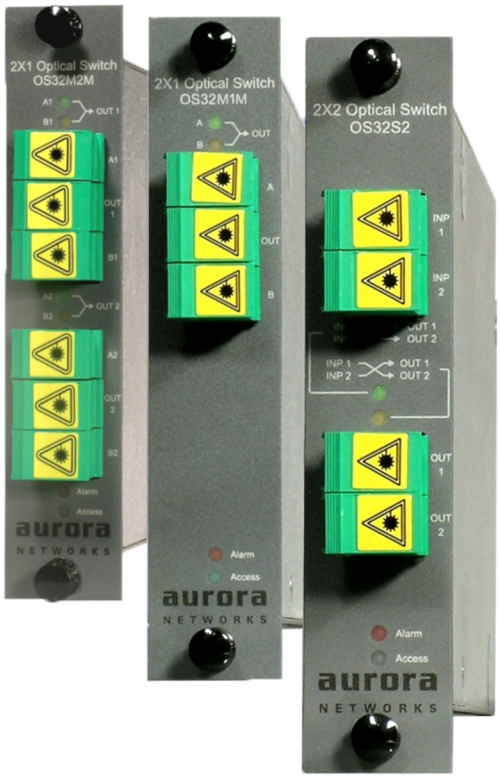
2x1 and 2x2 Optical Switches

FEATURES

- Non-latching single and dual 2x1 optical switch modules with 1280–1340 nm and 1420–1620 nm operating windows
- Non-latching 2x2 crossbar optical switch with 1290–1620 nm operating window
- Wide range of user-settable switching thresholds for analog and digital transport applications:
  -22 to +22 dBm for 2x1 switches, and
  -6 to +20 dBm for 2x2 switches
- Low insertion loss, 1.0 dB typical
- Fast switching speed, 5 ms typical
- 2x1 switches allow simultaneous counter-propagating signals
- Low power consumption
- Hot plug-in/out
- Local and remote status monitoring and control
- High packaging density (up to 28 modules, up to 56 switches) per chassis
- Occupies one half-depth slot

The CommScope OS3200 series of 2x1 and 2x2 optical switch modules for the CH3000 platform offer fast switching times, low insertion loss, and high packaging density.

These units are available as 2x1 switches in either a single or dual switch packaging configuration or as a single 2x2 switch configuration in a single-width, half-depth module. Designed to support telephony traffic over alternate routing architectures, OS3200 series switches are guaranteed to have a switching time of less than 10 milliseconds and only switch to the secondary fiber route when the primary route optical input is below threshold setting and optical power on the alternate route is above threshold setting. Appropriate switching hysteresis levels are established at the low end in each of two ranges to reduce “chattering” in switch behavior; threshold settings for each range can be independently set by the operator.



Additionally, the switches have been designed with a wide dynamic threshold adjustment range to support any combination of both analog and digital transmission applications. The modules are self-sensing of fiber restoration for maximum network reliability and efficiency and are fully controllable both locally and remotely. In the dual switch configuration of model OS32M2M, each of the switches are completely independent.

In models OS32M1M and OS32M2M (2x1) switches, only light from A and B inputs are detected and used to control the switch (i.e., having high isolation from any input signals that may be present at the “Out” ports).

The features of the OS3200 series of optical switches make them ideally suited to applications where high reliability is required and space and power consumption are important considerations.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	6.5” D x 5.25” H x 1.0” W (3RU) (17 cm x 13.3 cm x 2.5 cm)
Weight	1.0 lb (0.45 kg)
Environmental	
Operating Temperature Range	-20° to +65°C (-4° to 149°F)
Storage Temperature Range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
General	
Optical Connector	SC/APC
Module and Switch Configuration	OS32M1M-00-AS: Single 2x1 non-latching switch OS32M2M-00-AS: Dual 2x1 non-latching switch OS32S2S-AS:Single 2x2 non-latching switch
Switching Speed	< 5 ms Typical, 10 ms Max
Switching Hysteresis	0.5 dB Nom
Optical Connector	SC/APC
	Hot plug-in/out
Optical	
Operating Wavelength	OS32M1M-00-AS and OS32M2M-00-AS: 1280 to 1340 nm and 1420 to 1620 nm OS32S2S-AS: 1290 to 1620 nm
Input Power	OS32M1M-00-AS and OS32M2M-00-AS: 25 dBm Max OS32S2S-AS: 20 dBm Max
Insertion Loss	1.0 dB Typical, 1.5 dB Max
Isolation	OS32M1M-00-AS and OS32M2M-00-AS: 55 dB Min OS32S2S-AS: 60 dB Min
Return Loss	55 dB Min.
Polarization Dependent Loss	< 0.05 dB Typical, 0.1 dB Max
Power Requirements	
Input Voltage	12 V_{DC} nominal from chassis resident power supply
Power Consumption	OS32M1M-00-AS: 1.2 W Max OS32M2M-00-AS: 1.6 W Max OS32S2S-AS: 1.5 W Max
Local Controls and Monitoring	
User-settable Switching Threshold (Independent for each input)	OS32M1M-00-AS and OS32M2M-00-AS: -22 to +22 dBm in 1 dB steps with ± 0.75 dB accuracy OS32S2S-AS: Low Range: -6 to +7 dBm in 1 dB steps; High Range: +7 to +20 dBm in 1 dB steps
Operating Mode (for OS32MxM-00-AS switches only)	Auto: switch operates based on threshold setting Force to A or B: switch permanently latches in position A or B
Wavelength Selection (OS32MxM-00-AS switches only)	1310 nm or 1550 nm operation
Locally Monitored Parameters	Chassis slot number, powering voltage, internal temperature, input optical power, switch position (“A” or “B” for OS32MxM-00-AS switches and “Bar” or “Cross” for OS32S2S-AS switch). For OS32MxM-00-AS switches only, operating mode (Auto or Forced to A or B) and wavelength.
Front Panel Indicators	
Module Status LEDs	Red “Alarm”: both inputs below threshold settings Blue “Access”: illuminated during communication and polling
Switch Status LEDs	OS32M1M-00-AS and OS32M2M-00-AS: Green LED on — A INP connected to OUT or if blinking A INP is forced to OUT Yellow LED on — B INP connected to OUT or if blinking B INP is forced to OUT OS32S2S-AS: Green LED on — INP1 is connected to OUT1 and INP2 is connected to OUT2 (switch in “Bar” position) Yellow LED on — INP1 is connected to OUT2 and INP2 is connected to OUT1 (switch in “Cross” position) *(If both LEDs are not illuminated, switch is in “Bar” position and red “Alarm” LED is illuminated.)*
Alarms	
	Service-affecting (DC failure, switch output below threshold, switch forced to Ax or Bx position) and non-service-affecting (high internal temperature, A or B input power below threshold)

ORDERING INFORMATION

Model Name	Description
OS32M1M-00-AS	Single 2x1 Optical Switch
OS32M2M-00-AS	Dual 2x1 Optical Switch
OS32S2S-AS	Single 2x2 Optical Switch

NOTES:
All switches are configured with SC/APC connectors.

RELATED PRODUCTS

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