## Features

- **Non-latching 2x1 optical switches in Master/Slave module configurations**

- **All switches allow simultaneous counter-propagating signals**

- **Fast switching speed (<5 ms typical)**

- **Wide range of user-settable switching thresholds (–22 to +22 dBm) for analog and digital transport applications**

- **All detection and control on Master switch (with all Slaves always following Master)**

- **Only light from A and B inputs are detected and control the switch (high isolation from any inputs at "Out" ports)**

- **±0.5 dB switching hysteresis**

- **Low insertion loss**

- **Dual wavelength operating windows (1280–1340 nm and 1420–1620 nm)**

- **Low power consumption**

- **Hot plug-in/out**

- **Local and remote status monitoring and control**

- **Occupies one half-depth slot**

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Master/Slave Optical Switches
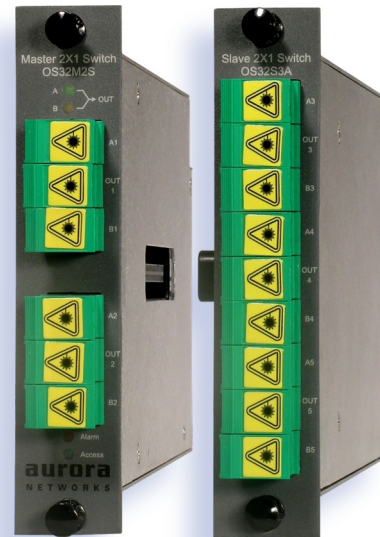
Pictured above (L to R): OS32M2S Master and Slave 2x1 Switches, and OS32S3A Slave Module with three 2x1 Switches

The Aurora OS32M2S / OS32Sxx series of Master/Slave Optical Switches for the CH3000 platform offer fast switching times, low insertion loss and high packaging density, and all operate in dual-wavelength windows (ranges of 1280-1340 nm and 1420-1620 nm). Designed primarily to support telephony traffic over alternate routing architectures, OS32M2S/OS32Sxx Master/Slave Optical 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.

The suite of three "Master/Slave" modules includes the model OS32M2S-00-AS that provides one 2x1 switch that functions as the "Master" switch in the suite, operating as a primary optical power sensing optical switch; it also includes a second 2x1 "Slave" switch in the same module that switches to the same path as the primary. This module can also control an optional adjacent auxiliary (slave) switch module: either a single 2x1 slave switch (model OS32S1A-00-AS) or a set of three 2x1 slave switches in the same unit (model OS32S3A-00-AS, as pictured above). Optical paths in the slave module(s) are automatically set to the same switch position as the master switch.

All OS32M2S/OS32Sxx series switches have a wide dynamic threshold adjustment range to support any combination of both analog and digital transmission applications. A threshold may be established for each switch over an extremely wide dynamic range (–22 to +22 dBm, adjustable in 1dB steps). These switches are self-sensing of fiber restoration for maximum network reliability and efficiency, and are fully controllable both locally and remotely.

All modules use SC/APC connectors and are single-width, half-depth modules designed for installation in a CH3000 Chassis or PF3000 Passives Frame. 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.

OS32M2S / OS32S1A / OS32S3A

Product Specifications

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 lbs (0.45 kg)

Environmental:

- Operating temperature range: –20º to +65ºC (–4º to 149ºF)
- Storage temperature range: –40º to +85ºC (–40º to 185ºF)
- Humidity: 5% to 95% non-condensing

General:

- Optical connector: SC/APC
- Switch configuration (all models): 2 x 1
- Switches per module:

OS32M2S-00-AS	2 (1 "Master" and 1 "Slave")
OS32S1A-00-AS[1]	1 (additional "Slave")
OS32S3A-00-AS[1]	3 (additional "Slaves")

  [1] Requires OS32M2S-00-AS

- Switch type: non-latching
- Switching speed: <5 ms typical, 10 ms max
- Switching hysteresis: ±0.5 dB
- Optical connector: SC/APC
- Hot plug-in/out

Optical:

- Wavelength: 1280–1340 nm and 1420–1620 nm
- Max input power: 25 dBm
- Insertion loss: 1.5 dB max
- Isolation: 55 dB min
- Return loss: 55 dB min
- Polarization dependent loss: 0.1 dB max
- Spectral flatness: 0.5 nm max (both wavelength ranges)

Power Requirements:

- Input voltage: 12 V_{DC}
- Power consumption, max:

OS32M2S-00-AS	1.6 W
OS32S1A-00-AS	0.4 W
OS32S3A-00-AS	1.2 W

Local Controls and Monitoring:

- Switching threshold (user-settable, independent for each input) for OS32M2S:
  Range: –22 to +22 dBm (in 1 dB steps, accuracy ±0.75 dB)
- Operating mode:
  Auto - switch operates based on threshold setting
  Force to A*x* (or B*x*) - switch permanently stays in position A*x* (or B*x*)
- Wavelength: selection of 1310 nm or 1550 nm region
- Locally monitored parameters: chassis slot number, powering voltage, internal temperature, input optical power, switch position (A or B), operating mode (Auto or Forced-to-A or -B)

Front Panel Indicators:

- Module status LEDs:
  Red "Alarm": major alarm
  Blue "Access": illuminated during communication access
- Switch status LEDs (for OS32M2S):
  Green "A*x* –> OUT*x*" (switch in A*x* position, or blinking if Forced to A*x*),
  Yellow "B*x* –> OUT*x*" (switch in B*x* position, or blinking if Forced to B*x*)

Alarms:

- Service-affecting (DC failure, switch output below threshold, Slave switch state not in line with Master)
- Non-service-affecting (high internal temperature, A or B input power below threshold)

Ordering Information

O S 3 2 M 2 S – 0 0 – A S	2x1 "Master" and 2x1 "Slave" Optical Switches
O S 3 2 S 1 A – 0 0 – A S	Single 2x1 "Slave" Optical Switch[1]
O S 3 2 S 3 A – 0 0 – A S	Three 2x1 "Slave" Optical Switches[1]

Notes

All switches are configured with SC/APC connectors.

[1] Also requires OS32M2S "Master/Slave" switch

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