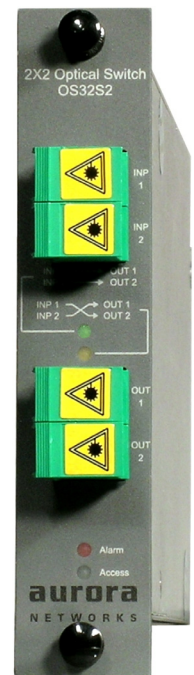
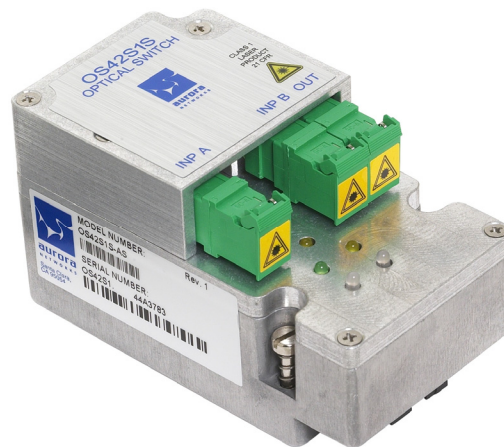


# Headend Optics Platform & Nodes

## OS32S2S-01-AS and OS42S1S-01-AS Synchronized Optical Switches

### FEATURES

- Supports greater reach of bi-directional transport architectures on primary and secondary fiber routes
- Switches allow simultaneous counter-propagating signals
- Non-latching 2x1 optical switch in a node housing and a 2x2 optical switch in a chassis at the Headend
- Fast switching speeds
- Wide range of user-settable switching thresholds
- Low insertion loss
- Low power consumption
- Hot plug-in/out
- Local and remote status monitoring and control



### PRODUCT OVERVIEW

ARRIS' two models of synchronized optical switches are the OS32S2S-01-AS 2x2 "cross/bar" Optical Switch (for the Headend) and the OS42S1S-01-AS 1x2 Optical Switch (for the VHub or node). The purpose of these switches is to provide redundant routing in primarily passive, bi-directional transport architectures with less loss than traditional protection switching network designs. This reduced loss provides for greater reach and/or enhanced performance of the link.

The switches function as a coordinated pair of synchronized switches, able to switch the passing of DWDM wavelengths with downstream signals and CWDM wavelengths with upstream signals from the primary path to a secondary fiber route in the event of a failure on the primary fiber route. This is essentially accomplished by sensing the signal levels at the inputs of the respective switches and switching in accordance with programmed logic.

| SPECIFICATIONS  |  |
|---|--|
| Characteristics   | Specification  |
| <b>Physical</b>   |  |
| Dimensions  | <ul style="list-style-type: none"> <li>OS32S2S-01: 6.5" D x 5.25" H x 1.0" W (3RU) (17 cm x 13.3 cm x 2.5 cm)</li> <li>OS42S1S-01: 4.0" L x 2.2" H x 2.3" W (10.2 cm x 5.6 cm x 5.8 cm)</li> </ul>   |
| Weight  | <ul style="list-style-type: none"> <li>OS32S2S-01: 1.0 lbs (0.45 kg)</li> <li>OS42S1S-01: 0.6 lbs (0.3 kg)</li> </ul>  |
| <b>Environmental</b>  |  |
| Operating temperature range                                     | <ul style="list-style-type: none"> <li>OS32S2S-01: -20° to +65°C (-4° to 149°F)</li> <li>OS42S1S-01: -40° to +85°C (-40° to 185°F)</li> </ul>  |
| Storage temperature range                                       | -40° to +85°C (-40° to 185°F)  |
| Humidity  | 5% to 95% non-condensing   |
| <b>General</b>  |  |
| Optical connectors  | SC/APC   |
| Switch type   | non-latching   |
| Switching speed   | <ul style="list-style-type: none"> <li>OS32S2S-01: &lt; 20 ms</li> <li>OS42S1S-01: &lt; 30 ms</li> </ul>   |
|   | Hot plug-in/out  |
| <b>Optical</b>  |  |
| Wavelengths   | 1263.5 - 1357.5 nm, 1423.5 - 1617.5 nm   |
| Insertion loss  | <ul style="list-style-type: none"> <li>OS32S2S-01: 1.5 dB typical, 1.7 dB max</li> <li>OS42S1S-01: 1.3 dB typical, 1.5 dB max</li> </ul>   |
| Isolation   | <ul style="list-style-type: none"> <li>OS32S2S-01: 55 dB min</li> <li>OS42S1S-01: 55 dB min</li> </ul>   |
| Return loss   | 45 dB min  |
| <b>Power Requirements</b>                                       |  |
| Input voltage   | <ul style="list-style-type: none"> <li>OS32S2S-01: 12 V<sub>DC</sub></li> <li>OS42S2S-01: 24 V<sub>DC</sub></li> </ul>   |
| Power consumption   | <ul style="list-style-type: none"> <li>OS32S2S-01: 1.2 W max</li> <li>OS42S1S-01: 1.8 W</li> </ul>   |
| <b>Local Controls and Monitoring</b>                            |  |
| Switching threshold (user-settable, independent for each input) | <ul style="list-style-type: none"> <li>OS32S2S-01: <ul style="list-style-type: none"> <li>OUT 1: -30 to +21 dBm (in 1 dB steps)</li> <li>INP x: -32 to +21 dBm (in 1 dB steps)</li> </ul> </li> <li>OS42S1S-01: <ul style="list-style-type: none"> <li>INP x: -32 to +21 dBm (in 1 dB steps)</li> </ul> </li> </ul>        |
| Locally monitored parameters (OS32S2S-01)                       | chassis slot number, powering voltage, internal temperature, input optical power, switch position ("Bar" or "Cross")   |
|   | OS32S2S monitoring wavelengths exclude 1520 - 1585 nm for switching detection.   |
| <b>Front Panel Indicators (OS32S2S-01)</b>                      |  |
| Module status LEDs  | <ul style="list-style-type: none"> <li>Red "Alarm": input below threshold setting</li> <li>Blue "Access": illuminated during communication access</li> </ul>   |
| Switch status LEDs  | <p>OS32S2S-01:</p> <ul style="list-style-type: none"> <li>Green "INP1 → OUT1, INP2 → OUT2" (switch in "Bar" position)</li> <li>Yellow "INP1 → OUT2, INP2 → OUT1" (switch in "Cross" position)</li> </ul> <p><i>(If both LEDs are not illuminated, switch is in "Bar" position and red "Alarm" LED is illuminated.)</i></p> |
| <b>Status Indicator LEDs (OS42S1S-01)</b>                       |  |
|   | INP STAT (input status indicators, two separate indicators for Inputs A and B); lighted green when OK, red for alarm condition, off when operating in OVERRIDE (forced) mode   |
|   | OUT POS (two switch position LED indicators), "A" LED lighted green when operating from Input A, "B" LED lighted yellow when operating from Input B  |
|   | OVERRIDE = Lighted yellow when switch forced to operate from Input A or B (user-settable)  |

## ORDERING INFORMATION

|   |   |   |   |   |   |   |   |   |   |   |   |   |                                       |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------------------------------|
| O | S | 3 | 2 | S | 2 | S | - | 0 | 1 | - | A | S | 2x2 Optical Switch for CH3000 Chassis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------------------------------|

|   |   |   |   |   |   |   |   |   |   |   |   |   |                                     |
|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------------------------------|
| O | S | 4 | 2 | S | 1 | S | - | 0 | 1 | - | A | S | 2x1 Optical Switch for Node Housing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------------------------------|

## RELATED PRODUCTS

|                |                     |
|----------------|---------------------|
| CH3000 Chassis | Optical Patch Cords |
|----------------|---------------------|

|                      |                  |
|----------------------|------------------|
| Optical Transmitters | Optical Passives |
|----------------------|------------------|

|                |                       |
|----------------|-----------------------|
| BP Back plates | Installation Services |
|----------------|-----------------------|

## Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

**Note:** Specifications are subject to change without notice.

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