Headend Optics Platform (CH3000)

OS32M1H-00

High Sensitivity 2x1 Optical Switch

FEATURES

- Non-latching 2x1 optical switch with high sensitivity
- Wide range of user-settable switching thresholds: –32 to +21 dBm
- Fast switching time (< 10 ms typical)
- Low insertion loss
- Dual wavelength operating windows (1270–1360 nm and 1430–1620 nm)
- Low power consumption
- Hot plug-in/out
- Local and remote status monitoring and control
- High packaging density (up to 28 switches per chassis)
- Occupies one half-depth slot

PRODUCT OVERVIEW

The ARRIS OS32M1H-00-AS 2x1 optical switch module for the CH3000 platform offers high sensitivity, fast switching time, low insertion loss and high packaging density.

Particularly well suited to protect long distance bi-directional links (using CWDM in the return path), this switch is designed to support traffic over alternate routing architectures and is guaranteed to have a switching time of less than 15 milliseconds. It will 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. Only light from A and B inputs is detected and used to control the switch (i.e., having high isolation from any input signals that may be present at the “Out” ports). Alternatively, the mode of operation may be set by the user to force operation using only the switch’s “A” or “B” position.

The switch has been designed with a wide dynamic threshold adjustment range to support any combination of both analog and digital transmission applications. The module is self-sensing of fiber restoration for maximum network reliability and efficiency, and is fully controllable both locally and remotely.

The features of the OS32M1H-00 optical switch, including its single-width, half-depth design, makes it ideally suited to applications where high reliability is required and space and power consumption are important considerations.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	6.6" 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	–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
Switch configuration	2x1
Switch type	non-latching
Switching time	< 10 ms typical, 15 ms max
Switching hysteresis	0.5 dB
	Hot plug-in/out
Optical	
Wavelength	dual wavelength windows (1263.5–1357.5 nm and 1423.5–1617.5 nm)
	NOTE: The switch will pass ***all*** wavelengths within the two passbands of 1263.5-1357.5 nm and 1423.5-1617.5 nm in both directions. However, the unit's sensor and switching function will only respond to wavelengths ***outside*** the range 1520-1584 nm (i.e., comprising the 1530-1565 C-band plus narrow guard bands). For example, a CWDM channel at 1570 nm would not be properly detected.
Insertion loss	1.5 dB max
Crosstalk	55 dB min
Return loss	55 dB min
Polarization dependent loss	0.1 dB max
Spectral flatness	0.5 nm max (for both wavelength ranges)
Power handling, max (any Input port)	22 dBm
Power Requirements	
Input voltage	12 V_{DC}
Power consumption	1.2 W
Local Controls and Monitoring	
Switching threshold	• Range: –32 to +21 dBm (in 1 dB steps, accuracy ± 1.00 dB) • Hysteresis: 0.5 dB
Operating modes	• Auto - switch operates based on threshold setting • Force to A (or B) - switch permanently stays in position A (or B)
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": input below threshold setting • Blue "Access": illuminated during communication access
Switch status LEDs	• Green "A –> OUT (switch in A position, or blinking if Forced to A) • Yellow "B –> OUT (switch in B position, or blinking if Forced to B)
Alarms	
	Service-affecting (DC failure, switch output below both input thresholds, switch forced to A or B position) and non-service-affecting (high internal temperature, A or B input power below threshold)

ORDERING INFORMATION

O	S	3	2	M	1	H	–	0	0	–	A	S

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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
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