Headend Optics Platform (CH3000)
AB32S1G, AB32S1T
A/B Alternate Routing Switches (46–1002 MHz)
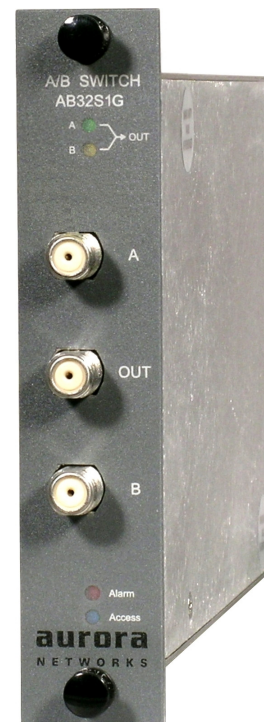
COMMSCOPE®

FEATURES

- Non-latching electronic switching between two RF inputs for reliable output
- Fast switching speed (10 ms typical)
- User-adjustable switching thresholds for each input
- 46–1002 MHz passband
- Low insertion loss
- Hot plug-in/out
- Local and remote status monitoring and control
- Occupies one half-depth slot

The AB32S1G-0-00 and AB32S1T-0-00 Alternate Routing Switches are external A/B switches designed to select an RF signal from one of their two inputs and deliver that signal to the RF output. With a 46–1002 MHz passband, the switches provide economic and reliable support for implementing optical path redundancy between various portions of the network where indoor receivers like the AR3002E-1-AS receiver are deployed. Traditionally most customers have used the AB32S1G-0-00 while the AB32S1T-0-00 option has been more recently introduced with modified Alarm LED behavior as indicated in the following tables.

Route selection is based on the composite RF levels present at the input ports. The switch may be set by the user for operation in one of three modes. In Auto mode, the selected active switch position (A or B) is determined by input switching thresholds (which can be set independently for each input and are user-settable within a wide range in 1 dB steps). In the remaining two modes, the user may elect to force the switch to operate with its output from only the A or B input.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions (without Connectors)	6.5" L x 4.3" W x 1.0" H (17 cm x 11 cm x 2.5 cm)
Weight	1.0 lbs (0.5 kg)
Environmental	
Operating Temperature Range	-20° to +65°C (-4° to 149°F)
Operating Temperature Range	-40° to +85°C (-40° to +185°F)
Humidity	5% to 95% non-condensing
General	
RF Connectors (2 inputs and 1 output on front panel)	F-type
Switch Configuration and Type	2 x 1, non-latching
Switching Time	10 ms typical
	Hot plug-in/out
Powering	
Input Voltage	12 V$_{DC}$
Current Consumption	2.5 W
Electrical	
Passband	46–1002 MHz
Frequency Response	± 0.5 dB (excluding slope)
Nominal Slope, 1002/46 MHz	1 dB
Insertion Loss at 1002 MHz	2.0 dB max (1.6 dB typ)
Return Loss	18 dB (inputs and outputs, within passband)
Composite Input Power	63 dBmV max
Isolation (Switch in B or A position, respectively, for each of the two following conditions)	RF Input A to OUT, or RF Input B to OUT • 46–550 MHz: 70 dB • 550–1002 MHz: 60 dB RF Input A to RF Input B, or RF Input B to RF Input A • 6–550 MHz: 75 dB • 550–1002 MHz: 60 dB
Broadband Spurious Outputs	-60 dBc max
Environmental and Physical	
Dimensions (H x L x W)	10.7 cm x 5.6 cm x 2.8 cm (4.2 in x 2.2 in x 1.1 in)
Weight	≤ 1.1 lb (≤ 0.5 kg)
Operating Temperature (Node)	-40° to 60°C (-40° to 140°F)
Operating Humidity	95% non-condensing
Alarms	
	Service-affecting and non-service-affecting
Locally Monitored Parameters	
	Chassis slot number, switch position, mode (Force A or Force B) and input composite RF power

SPECIFICATIONS

Characteristics	Specification
Front Panel LED Indicators	
Switch Status Indicators	
A→OUT	Illuminated green when switch in position A
B→OUT	Illuminated yellow when switch in position B
Module Status Indicators	
Alarm	Illuminated red when switch output below threshold settings and as defined by table
Access	Illuminated blue during SM communication with module

AB32S1G Version: Switch Position Table and LED Indicator Status

Mode (See Below)	RF Input A	RF Input B	Active Switch Position	LED Indicators		
				A→OUT (green)	B→OUT (yellow)	Alarm (red)
Auto	OK	OK	A	On	Off	Off
Auto	OK	Fail	A	On	Off	Off
Auto	Fail	OK	B	Off	On	Off
Auto	Fail	Fail	A	On	Off	On
Force A	OK	N/A	A	Blinking	Off	Off
Force A	Fail	N/A	A	Blinking	Off	On
Force B	N/A	OK	B	Off	Blinking	Off
Force B	N/A	Fail	B	Off	Blinking	On

AB32S1T Version: Switch Position Table and LED Indicator Status

Mode (See Below)	RF Input A	RF Input B	Active Switch Position	LED Indicators		
				A→OUT (green)	B→OUT (yellow)	Alarm (red)
Auto	OK	OK	A	On	Off	Off
Auto	OK	Fail	A	On	Off	On[1]
Auto	Fail	OK	B	Off	On	On[1]
Auto	Fail	Fail	A	On	Off	On
Force A	OK	N/A	A	Blinking	Off	Off
Force A	Fail	N/A	A	Blinking	Off	On
Force B	N/A	OK	B	Off	Blinking	Off
Force B	N/A	Fail	B	Off	Blinking	On

NOTE:
1. Indicates modified Alarm LED behavior for this model.

For Both AB32S1G and AB32S1T Versions

The criteria for establishing the RF input status (OK/Fail) for each RF Input N (A or B) is established by:
- Composite RF power ≥ THN, result OK
- Composite RF power < THN, result Fail

Where the input switching threshold, THN, is independent for each input and user-settable within the range from 20 to 60 dBmV (in 1 dB steps). In addition, the mode for the switch may be set as either "Auto" (with functions as defined in the above table), or "Force A" or "Force B" (in which cases the output is fed only from either the A or B input, respectively).

ORDERING INFORMATION

Model Name	Description
AB32S1G-0-00	A/B Alternate Routing Switch, original version
AB32S1T-0-00	A/B Alternate Routing Switch, alternative version

RELATED PRODUCTS

CH3000 Chassis	Digital Return
AR3002E-1-AS Receiver	Optical Patch Cords
BP Back Plates	Installation Services

Contact Customer Care for product information and sales:
- United States: 866-36-ARRIS
- International: +1-678-473-5656

COMMSCOPE®