

# Optical Node Series (NC)

## FA4522S-01

### Optical Amplifier with ASE Muting Function

## FEATURES

- Output power level of 19 dBm on each of two outputs
- ASE muting function prevents amplification of mere noise in the absence of an acceptable input signal level
- Low noise figure
- Optical path isolation (input and output)
- Remote status monitoring and control
- Hot plug in/out



## PRODUCT OVERVIEW

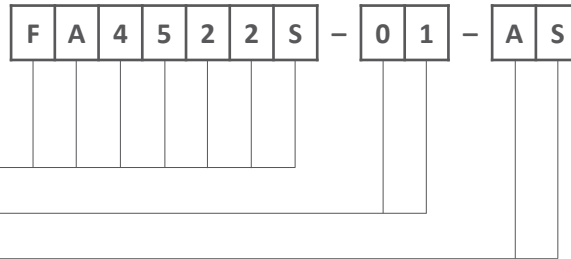
ARRIS' FA4522S-01 is a high-output, extremely compact 1550 nm optical amplifier with an output power limiting function that limits the optical output power to a maximum 21.8 dBm to comply with requirements for Class 1M laser products. This high performance amplifier features dual high level outputs (19 dBm per output) and allows operators to use 1550 nm analog and DWDM transmitters to deliver high-quality broadcast and digital narrowcast content over significant transmission distances.

The FA4522S-01 also features an ASE muting function that will prevent the amplification and transmission of “spontaneous emissions” (i.e., primarily circuit noise) in the absence of an acceptable input signal level. This function may be disabled or enabled and, if enabled, the threshold at which the function is activated (to shut down pump laser currents) can be set by remote management software. (An automatic recovery to normal operation occurs once input power has returned to a level approximately 0.8 dB above the threshold.)

The FA4522S-01 Optical Amplifier enhances the deployment of traditional HFC, passive HFC and fiber to the home (FTTH) networks. The unit is designed as a plug-in module for ARRIS’s NC4000 series Fiber Node Platforms, including the VH4000 “Virtual Hub,” and, when used in the latter, provides a practical alternative to OTN-style cabinets.

SPECIFICATIONS	
Characteristics	Specification
<b>Physical</b>	
Dimensions	4.0” L x 2.3” H x 4.5” W (10.2 cm x 5.8 cm x 11.4 cm)
Weight	1.6 lbs (0.7 kg)
<b>Environmental</b>	
Operating Temperature Range	-40° to +85°C (-40° to 185°F)
Storage Temperature Range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
<b>General</b>	
Hot plug in/out	
Mode of operation	Constant Current
<b>Optical Interface</b>	
Optical connectors	SC/APC
<b>Power Requirements</b>	
Input voltage	24 V <sub>DC</sub>
Power consumption, max	17 W (closed node at +65°C)
<b>Status Indicator LEDs</b>	
	POWER/MUTE - Bi-state LED that is green when unit is switched ON and red if ASE muting function is activated (input power less than user-defined threshold for minimum acceptable input power)
	LIMIT/FAIL - Bi-state LED that is yellow if laser operating at maximum output power (21.8 dBm) and red if limit exceeded (for Class 1M protection; pumps shut down)
<b>Optical</b>	
Input signal wavelength	1530 – 1565 nm (Noise figure and output power may vary from nominal over this range.)
Optical signal path isolation, input	> 30 dB
Composite input power range	-10 to +10 dBm
Nominal output power	19 dBm (with 0 dBm input) (internal coupler splits 22 dBm into two outputs at nominal 19 dBm each)
Output power stability	± 0.6 dB
Output power margin	0.2 dB min, 0.6 dB max
Noise figure	< 5.5 dB (at 0 dBm input, over all wavelengths and temperatures)
Noise figure, broadcast	< 4.8 dB (typ < 4.5 dB) (1545 – 1563 nm input)
Output power limit	21.8 ± 0.2 dB (LIMIT/FAIL LED lighted yellow and Constant Current mode disabled when operating at limit; LIMIT/FAIL LED lighted red and pumps shut down if output power limit exceeded)
ASE muting function	User-defined threshold via management software (POWER/MUTE LED lighted red and pumps shut down if activated; recovery - pumps on - is 0.8 dB above threshold shutdown value.)
<b>Remote Monitoring/Control Parameters</b>	
	Optical input power, laser current, optical output power, laser temperature

ORDERING INFORMATION



Optical Amplifier, Node, Dual 19 dBm Outputs
ASE Muting Function
AS = SC/APC Connector

RELATED PRODUCTS

NC4000 Optical Node	Optical Patch Cords
VH4000 VHub	Optical Passives
Fiber Service Cable	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.

**Copyright Statement:** ©ARRIS Enterprises, LLC, 2016. All rights reserved. No part of this publication may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from ARRIS Enterprises, LLC ("ARRIS"). ARRIS reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of ARRIS to provide notification of such revision or change. ARRIS and the ARRIS logo are registered trademarks of ARRIS Enterprises, LLC. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks or the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.