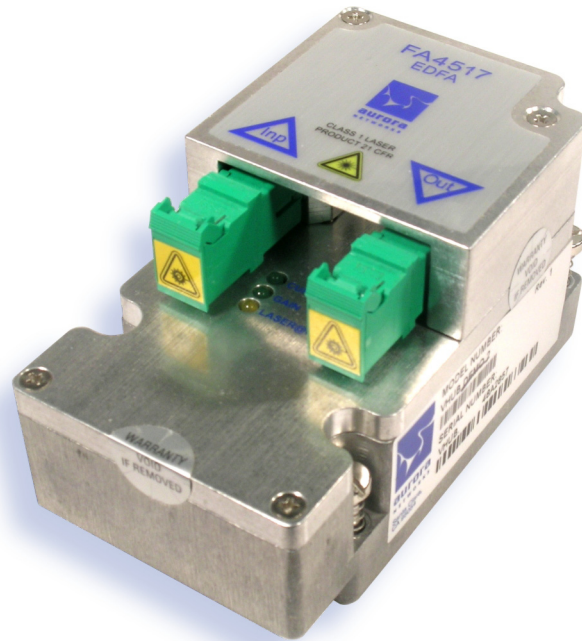


## Features

- 12, 14, or 17 dBm output power level
- Low noise figure
- Optical path isolation (input and output)
- Remote status monitoring and control
- Hot plug in/out

## Optical Amplifier



The Aurora FA4512, FA4514, and FA4517 modules are high-output, extremely compact 1550 nm optical amplifiers. These high performance amplifiers allow operators to use 1550 nm analog and DWDM transmitters to deliver high-quality broadcast and digital narrowcast content over significant transmission distances.

These optical amplifiers enhance the deployment of traditional HFC, passive HFC and fiber to the home (FTTH) networks. The units are designed as plug-in modules for Aurora'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. Aurora Networks supplies the module either with the NC4000 as a fully configured and tested node or as a module for customers desiring to upgrade to digital return and/ or Ethernet transport capability.

# FA4512 / FA4514 / FA4517

## Product Specifications

### Physical:

- Dimensions: 4.0" L x 2.2" H x 2.3" W (10.2 cm x 5.6 cm x 5.8 cm)
- Weight: 0.6 lbs (0.3 kg)

### Environmental:

- Operating temperature range:  $-40^{\circ}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}$  to  $185^{\circ}\text{F}$ )
- Storage temperature range:  $-40^{\circ}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}$  to  $185^{\circ}\text{F}$ )
- Humidity: 5% to 95% non-condensing

### General:

- Hot plug in/out
- Modes of operation: Constant Current or Constant Gain

### Optical Interface:

- Optical connectors: SC/APC

### Power Requirements:

- Input voltage:  $24 V_{\text{DC}}$
- Power consumption: 9 W

### Status Indicator LEDs:

- CURR MODE = Lighted green when operating in constant current (power) mode
- GAIN MODE = Lighted red when operating in constant gain mode
- LASER@MAX = Lighted yellow when laser operating at maximum output power

### Remote Monitoring / Control Parameters:

Optical input power, laser current, optical output power, laser temperature, operational mode

### Optical:

- Input signal wavelength: 1530 – 1565 nm
- Optical signal path isolation, input:  $> 20$  dB
- Output power stability (all models):  
Constant Current Mode:  $\pm 0.6$  dB  
Constant Gain Mode:  $\pm 0.7$  dB

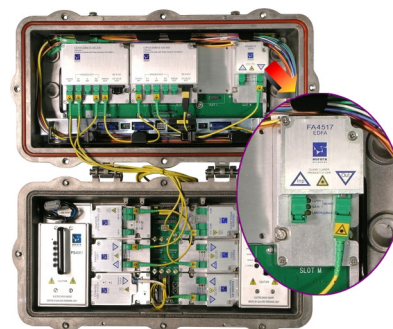
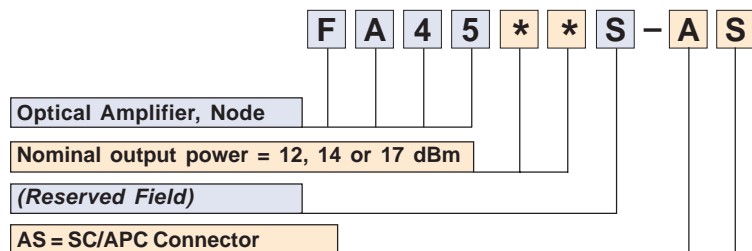
Performance Parameters	Model		
	FA4512S	FA4514S	FA4517S
Nominal output power (dBm) (with 0 dBm input)	12	14	17
Noise figure (dB) (at 0 dBm input, over all wavelengths and temperatures)	6.2 (typ 5.6)	6.2 (typ 5.6)	5.8 (typ 5.2)
Noise figure, broadcast (1545 – 1563nm input) (dB)	5.2 (typ 4.7)	5.2 (typ 4.7)	5.0 (typ 4.5)
Composite input power range (dBm)			
• Constant Current Mode	-10 to +10	-10 to +10	-6 to +11
• Constant Gain Mode			
Min	-8 (4 $\lambda$ at -14 dBm ea)	-6 (4 $\lambda$ at -12 dBm ea)	-6 (4 $\lambda$ at -12 dBm ea)
Max	+9 (20 $\lambda$ at -4 dBm ea)	+10 (20 $\lambda$ at -2 dBm ea)	+11 (20 $\lambda$ at -2 dBm ea)
Constant Gain Mode range <sup>1</sup> (dB)	3 – 20 <sup>2</sup>	4 – 20 <sup>3</sup>	6 – 23

<sup>1</sup> Gain control step = 0.25 dB for all models.

<sup>2</sup> If Gain = (6- $\Delta$ ) dB, the minimum composite input power is (-8+ $\Delta$ ) dBm.

<sup>3</sup> If Gain = (6- $\Delta$ ) dB, the minimum composite input power is (-6+ $\Delta$ ) dBm.

## Ordering Information



**Corporate Headquarters**  
 5400 Betsy Ross Drive  
 Santa Clara, CA 95054  
 Tel 408.235.7000  
 Fax 408.845.9045