

## Description

The Erbium Doped Fibre Amplifier Module (EDFAM) has been designed for MATV, CATV, FTTH and CCTV broadband applications. The EDFAM module forms part of the Light Link® Series 3 family of products. This module utilises plug-and-play technology to provide a complete broadband and optical communications solution.

The output power available is from 20 mW to 250 mW (13 dBm to 24 dBm). Up to 80 mW a single pump laser is used. The larger EDFAM units employ dual pump lasers in a two-stage design with inter-stage isolators.

Light Link® Series 3 is designed to extend a 1550 nm CATV system fibre without need to convert back to RF. Combined with our LTE152 externally modulated laser transmitters, system ranges of up to 100 km are possible.

The larger power EDFAM units find application in Fibre-To-The-Home (FTTH) systems, permitting many thousands of subscriber nodes to be supplied with signal from a single laser source.

## Features

- ✓ Plug and play OCM module.
- ✓ Erbium Doped Fibre Amplifier Module (EDFAM) extends analog and digital CATV to suit long distance feeders or larger FTTH distribution systems.
- ✓ Single or dual 980 nm pump amplifier models are available with 20, 40, 80, 100, 160, 200, and 250 mW optical outputs.
- ✓ Suits 1550 nm dense wavelength division multiplexing (DWDM) applications.
- ✓ Designed for CATV broadband or digital data applications.
- ✓ Computer controlled status monitoring.
- ✓ Low noise performance

# Specifications

## Optical Performance

Operating wavelength: 1530 nm to 1565 nm

Model	Output Power	Input Power
EDFAM-20-[Y]-[Z]:	20 mW (13 dBm)*	-6 to 3 dBm
EDFAM-40-[Y]-[Z]:	40 mW (16 dBm)*	-6 to 3 dBm
EDFAM-80-[Y]-[Z]:	80 mW (19 dBm)*	-6 to 3 dBm
EDFAM-100-[Y]-[Z]:	100 mW (20 dBm)*	-6 to 3 dBm
EDFAM-160-[Y]-[Z]:	160 mW (22 dBm)*	-6 to 3 dBm
EDFAM-200-[Y]-[Z]:	200 mW (23 dBm)*	-6 to 3 dBm
EDFAM-250-[Y]-[Z]:	250 mW (24 dBm)*	0 to 10 dBm

Optimum Input power: 0 dBm to 3 dBm

Noise figure: < 5.0 dB

Pump laser: 980 nm and/or 1480 nm

Remnant pump power: -30 dBm

Optical return loss > 50 dB

Optical output level accuracy ± 0.5 dB

Polarization dependent gain 0.3 dB

Optical connectors: SC/APC with protective cover, E2000/APC, FC/APC

## General

Power: Powered by OCMR

Operating temperature: 0 °C to 45 °C

Dimensions (HxWxD): 160 x 44 x 360 mm

Ship Size (HxWxD): 280 x 70 x 570 mm

Weight: 1.5 kg

Ship weight: 2 kg

Network management: NMS3 via OCMR

*\* These output powers are nominal for single output modules. Higher output modules employ an integrated optical splitter, which reduces the output power per port according to the number of splits. For instance, an EDFAM-80-2-SC has two output ports with 40 mW each, totaling 80 mW. In cable television applications no more than 50 mW (17 dBm) launch level per fibre line should be planned to avoid excessive Stimulated Brillouin Scattering (SBS) in the connected fibres. Back-scatter can significantly reduce CNR and CSO performance.*

## Order Details

EDFAM-[X]-[Y]-[Z] Erbium doped fibre amplifier module

Options:

X-Y	<u>20-1</u>	20 mW (13 dBm) output
	<u>40-1</u>	40 mW (16 dBm) output
	<u>80-2</u>	80 mW (19 dBm) output, 2 optical outputs, each 16 dBm
	<u>100-2</u>	100 mW (20 dBm) output, 2 optical outputs, each 17 dBm
	<u>160-4</u>	160 mW (22 dBm) output, 4 optical outputs, each 16 dBm
	<u>200-4</u>	200 mW (23 dBm) output, 4 optical outputs, each 17 dBm
	<u>200-5</u>	200 mW (23 dBm) output, 5 optical outputs, each 16 dBm
	<u>250-6</u>	250 mW (24 dBm) output, 6 optical outputs, each 16 dBm
Z	<u>250-8</u>	250mW (24 dBm) output, 8 optical outputs, each 15 dBm
	<u>SC</u>	SC/APC optical connectors
	<u>E</u>	E2000/APC optical connectors
	<u>FC</u>	FC/APC optical connectors

Examples:

### EDFAM-40-1-SC

40 mW erbium doped fibre amplifier module with one SC/APC optical output.

### EDFAM-160-4-SC

160 mW erbium doped fibre amplifier module with four SC/APC optical outputs, 40 mW each.

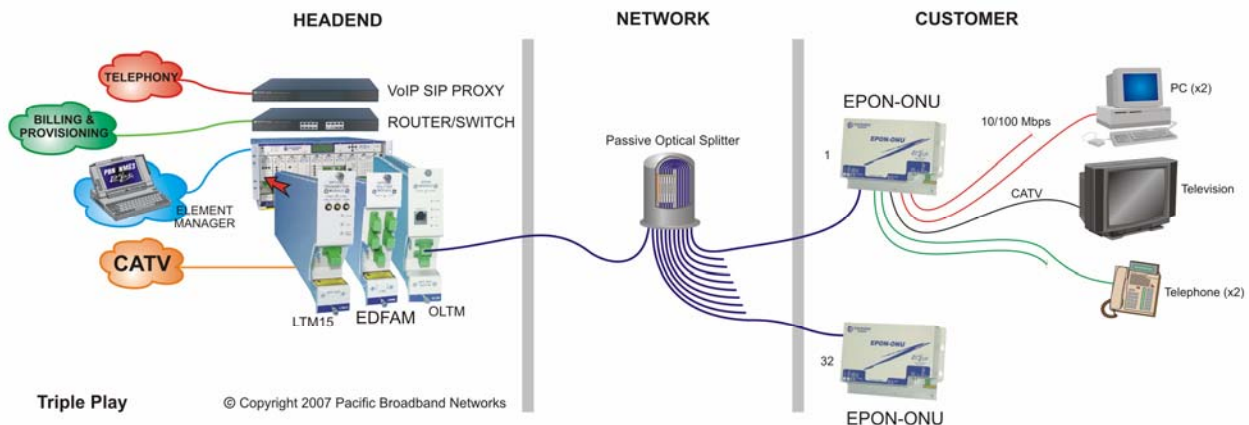
### EDFAM-200-5-SC

200 mW erbium doped fibre amplifier module with five SC/APC optical outputs, 40 mW each.

### EDFAM-250-8-SC

250 mW erbium doped fibre amplifier module with eight SC/APC optical outputs, 30 mW each.

## Application Diagram



## Preferred models for new system designs

Model	Description
EDFAM-20-1-E	Optical amplifier module 1550nm 20mW (13dBm) E2000/APC
EDFAM-20-1-SC	Optical amplifier module 1550nm 20mW (13dBm) SC/APC
EDFAM-40-1-E	Optical amplifier module 1550nm 40mW (16dBm) E2000/APC
EDFAM-40-1-SC	Optical amplifier module 1550nm 40mW (16dBm) SC/APC
EDFAM-80-2-E	Optical amplifier module 1550nm 80mW (19dBm), 2x16dBm E2000/APC
EDFAM-80-2-SC	Optical amplifier module 1550nm 80mW (19dBm), 2x16dBm SC/APC
EDFAM-100-2-E	Optical amplifier module 1550nm 100mW (20dBm), 2x17dBm E2000/APC
EDFAM-100-2-SC	Optical amplifier module 1550nm 100mW (20dBm), 2x17dBm SC/APC
EDFAM-160-4-E	Optical amplifier module 1550nm 160mW (22dBm), 4x16dBm E2000/APC
EDFAM-160-4-SC	Optical amplifier module 1550nm 160mW (22dBm), 4x16dBm SC/APC
EDFAM-200-4-E	Optical amplifier module 1550nm 200mW (23dBm), 4x17dBm E2000/APC
EDFAM-200-4-SC	Optical amplifier module 1550nm 200mW (23dBm), 4x17dBm SC/APC
EDFAM-200-5-E	Optical amplifier module 1550nm 200mW (23dBm), 5x16dBm E2000/APC
EDFAM-200-5-SC	Optical amplifier module 1550nm 200mW (23dBm), 5x16dBm SC/APC
EDFAM-250-6-E	Optical amplifier module 1550nm 250mW (24dBm), 6x16dBm E2000/APC
EDFAM-250-6-SC	Optical amplifier module 1550nm 250mW (24dBm), 6x16dBm SC/APC
EDFAM-250-8-E	Optical amplifier module 1550nm 250mW (24dBm), 8x15dBm E2000/APC
EDFAM-250-8-SC	Optical amplifier module 1550nm 250mW (24dBm), 8x15dBm SC/APC