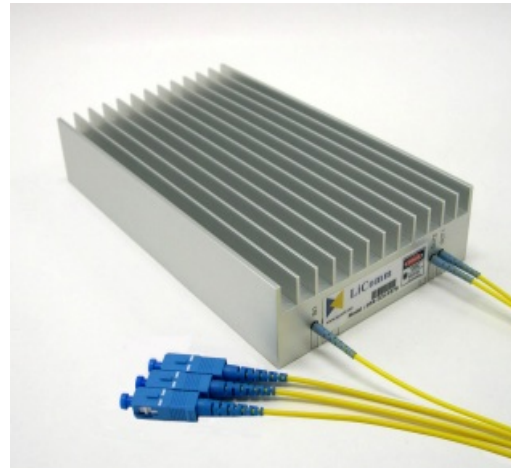


# Raman Fiber Amplifier (L-band)

The LiComm OFA-RL4 series are designed for use in ultra-long haul, long haul and wide bandwidth DWDM system of core networks and metropolitan networks. The standard OFA-RL4 series offer flat gain bandwidth over L-band. Alternative wavelengths are possible for specific application.

These provide high output pump power using wavelength-combining high power 14xx(nm) pump laser diodes and integrated pump/signal multiplexer with optical output monitor for easy operation.

The GUI can be supported to control Raman amplification pump unit for optimizing the OFA - RL4. The OFA-RL4 series do not effect on polarization and monitor the optical pump power.



## Features

- ▶ High output power/Flat Raman gain
- ▶ Integrated pump/signal multiplexer
- ▶ Included optical output power monitor
- ▶ Low effective noise figure
- ▶ Incorporate polarization
- ▶ Optical pump power monitor
- ▶ User friendly controlled interface
- ▶ Separately control pumps to optimize RFA
- ▶ GUI for controlling RFA (optional)
- ▶ Single +5V power supply

## Applications

- ▶ Ultra-long haul DWDM systems
- ▶ Long haul systems
- ▶ 10Gb/s & 40Gb/s transmission systems
- ▶ High channel count systems
- ▶ Increased length of spans between signal regeneration
- ▶ Remote amplifier pumping



**LiComm**



**RFA**

## Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Signal wavelength range	$\lambda$	1570	-	1605	nm
Pump output power	$P_{OUT}$	-	1000	-	mW
Number of pumps	$P_N$	-	-	4	ea
Gain flatness	$\Delta G$	-	1	-	dB
Interstage loss	L	-	1	1.2	dB
Pump degree of polarization	PDP	-	5	7	%
Polarization dependent loss	PDL	-	0.1	0.2	dB
Raman gain in SMF 28	$G_S$	-	15	-	dB
Raman gain in AWF <sup>1)</sup>	$G_A$	-	18	-	dB
Raman gain in TW-RS <sup>2)</sup>	$G_T$	-	25	-	dB
Effective noise figure in SMF 28	$NF_S$	-	-1.5	-1.0	dB
Effective noise figure in AWF <sup>1)</sup>	$NF_A$	-	-2	-1.5	dB
Effective noise figure in TW-RS <sup>2)</sup>	$NF_T$	-	-2	-1.5	dB

Note 1) All wave fiber

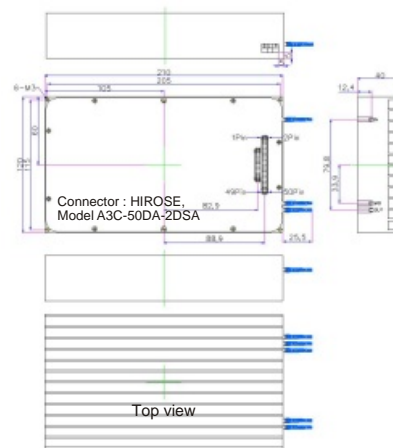
2) True wave reduced slope

## Electrical & Environmental

Parameter	Typical value
Power supply voltage	+5V
Interface	RS232, Parallel
Operating temperature	-20 ~ 75°C
Storage temperature	-40 ~ 85°C
Storage humidity	0 ~ 95% R.H
Power consumption*	15.8 W

\* Pump output power = 1000mW (@25°C)

## Mechanical Dimension ( 210 x 120 x 40mm with heat sink)



## Ordering Information

OFA - RL4 - X<sub>1</sub>XX<sub>2</sub>X<sub>3</sub>

$X_3$  : B(Backward Pumping), F(Forward Pumping)  
 $XX_2$  : Output Power (05:500mW, 10:1000mW), Gain value  
 $X_1$  : P(Output Power), G(Gain)

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