

## C+L band fiber Raman amplifier (module)



- **Product Description**

The WRA-M series fiber Raman amplifier module is specifically designed for optical signal amplification in long-distance optical transmission systems and dense wavelength division multiplexing (DWDM) optical transmission systems. It provides gain-flat, low-noise amplification for optical signals within the C-band or C+L band. The module's status parameters and configuration information can be monitored in real-time via host software and factory parameters can be preset according to customer requirements. Its compact size makes it easy to integrate, and a desktop package can also

be provided based on customer needs.

- **Product features**

Miniaturized module design、 Wide operating wavelength range、 High gain, flat gain、 Low noise figure, low power consumption

- **Part Number**

MP-RFA-C+L-400-SA-M

- **Application area**

Long-distance optical communication networks、 Fiber optic sensing、 Fiber laser

- **Core parameters**

Wavelength	Pump Power	Connector
1550nm	400mW	FC/APC

- **General Parameters**

Technical Parameters

Parameter	Unit	Min.	Typ.	Max.	Remarks
Wavelength range	nm	1528	1550	1608	C-band

					<b>C+L band optional: 1528~1565nm</b>
<b>Raman gain</b>	<b>dB</b>	<b>10/12/14</b>			
<b>Gain flatness</b>	<b>dB</b>	<b>&lt;2</b>			
<b>Pump power</b>	<b>mW</b>	<b>100/400mW optional</b>			
<b>Pump light polarization degree DOP</b>	<b>dB</b>	<b>5%(typical), 10%(Max)</b>			
<b>Noise figure</b>	<b>ps</b>	<b>0</b>			
<b>Operating temperature range</b>	<b>dB</b>	<b>-5~+35</b>			
<b>Operating humidity range</b>	<b>dB</b>	<b>0-70%</b>			
<b>Control method</b>		<b>RS232 Serial communication</b>			
<b>Communication interface</b>		<b>D89 female</b>			
<b>Power supply</b>		<b>DC12V/3A</b>			
<b>Pigtail connector type</b>		<b>FC/APC adapter or custom</b>			

<b>Input/output pigtail type</b>		<b>Standard single-mode fiber SMF-28</b>	
<b>Module dimensions</b>	<b>mm</b>	<b>125(W)×150(D)×31.5(H)</b>	<b>Optional</b>
<b>Operating mode</b>		<b>APPC(Automatic pump power control)</b>	

**Note 1** This amplifier is only a Raman amplifier pump, and it also needs to cooperate with the optical fiber in the user system to generate Raman gain. It is not a discrete fiber Raman amplifier (Discrete Raman Amplifier); usually when the optical fiber length in the transmission system exceeds 50km, it is recommended to configure a distributed Raman amplifier.

**\*Note 2** The gain of a distributed Raman amplifier refers to the signal power comparison at the receiving end of the system when the Raman amplifier pump is turned on and off, also known as the switch gain (On-Off Gain). The switch gain is different from the amplifier gain in the usual sense and does not refer to the ratio of the output power to the input power. The actual effect of the distributed Raman amplifier (Raman gain coefficient, gain flatness) is closely related to



comprehensive factors such as the transmission fiber type, fiber length, signal wavelength and power. The typical value here is only a reference value.