fiber bragg gratings

Pump Stabilizer for Laser Diode

Description

The performance of an EDFA amplifier can be directly affected by the characteristics of the pump laser diode. Diode lasers are often adversely affected by unwanted external reflections coupling back into the laser cavity and by temperature and injection current fluctuations. Wavelength and intensity instabilities can result, and EDFA performance is correspondingly degraded.

Renka® SmartCONNECT™ Pump Stabilizer series of Fiber Bragg Gratings can be designed for accurately fixing the wavelength of 980nm, 1480nm, and also for 1550nm Laser Diodes. The grating forms an external cavity and reflects a very small part of the signal to act as feedback, thus locking the pump wavelength.

Renka provides a range of stabilizing gratings for any kind of laser diode (980nm/1480nm pump laser for EDFAs and 1550nm lasers for transmitters). All Renka Fiber Bragg Gratings are designed and tested to Bellcore GR-1209/GR-1221 performance and reliability standards and are in accordance with ISO 9002.

Benefits

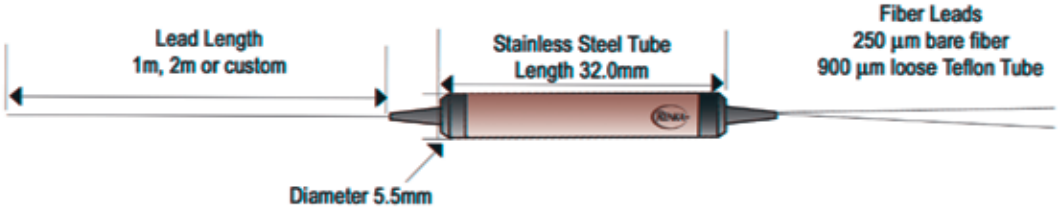
- Variety of customized wavelengths
- Optimized bandwidth
- Optimized reflectivity
- Offered in standard single-mode fiber or PM fiber
- Athermal package
- High strength and reliability

Applications

- Wavelength stabilizer for 980nm/1480nm Pump Laser Diode
- Wavelengths stabilizers for 1550nm lasers for transmitters
- Fiber Lasers

Package Dimensions

Light/Medium Duty



Pump Stabilizer Specifications

Parameters	Unit	Values
Center Wavelength	nm	970 - 990, 1440 - 1495 and 1550 ITU Grid
Wavelength Accuracy	nm	± 0.1nm
FWHM Bandwidth	nm	0.2 – 1.0
FWHM BW Accuracy	Nm	0.1
Reflectivity	%	2 – 8
Reflectivity Accuracy	%	± 0.1
Fiber Type		Puremode HI 1060 for 980nm Corning SMF-28 for 1480 & 1550 PM fiber
Fiber Length	m	One meter on each side
Tension Testing	kpsi	100
Recoating Diameter	µm	250 – 400
Primary Coating Material		Acrylate
Operating Temperature	°C	-20 to +70
Storage Temperature	°C	-40 to +85
Temperature Sensitivity	pm/°C	<1
Packaging		Athermal

Ordering Information

PMP❑-❑❑-❑❑-❑❑

Center Wavelength	Bandwidth	Fiber Type	Package Type	Lead Length	Reflectivity
1: 980	0: user defined	1: Puremode	L: Light Duty	1: 1 meter	01: 1%
4: 1480		2: Corning SMF-28	M: Medium Duty	2: 2 meters	02: 2%
5: 1550		3: PM Fiber	H: Heavy Duty	C: Custom	10: 10%