

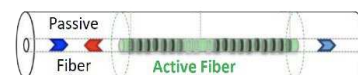
FIBER BRAGG GRATING

# IXC-CLFO-LN-1550

Single Frequency DFB Laser

For distributed feedback single-frequency fiber laser

Exail's single-frequency fiber lasers are based on UV Bragg grating technology applied to active rare-earth photosensitive fibers. Ultra short cavity length and phase-shifted design permit ultra-narrow linewidth and robust mode-hop-free laser source properties, ideal for various sensor applications.



## Benefits & Features

- Narrow-linewidth
- Single longitudinal mode
- Mode-hop-free
- Linear polarization
- Low intrinsic phase noise
- WDM compatible
- Low optical feedback sensitivity
- 125 or 80  $\mu\text{m}$  clad diameter
- Wavelength range 1530 – 1590nm
- SMSR > 50 dB

## Applications

- Acoustic sensing
- Hydrophone
- Cold atom
- Interferometry
- Spectroscopy

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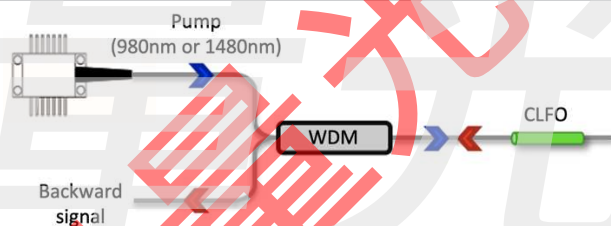
## Single frequency DFB laser sub-assembly

### TECHNICAL SPECIFICATIONS

#### Parameters (at 100 mW pump power, backward configuration)

Signal wavelength (ref. to vacuum) (nm)	1550 ± 0.5 (other upon request) at 23°C
Pump wavelength (nm)	1480 (980 also acceptable)
Laser threshold (mW)	< 10
Laser power (μW)	> 10
PER (linear polarization) (dB)	> 20
Linewidth (kHz)	< 10, typical
RIN peak value (dB/Hz)	< -60
Relaxation frequency (kHz)	> 100
Frequency noise (Hz <sup>2</sup> /Hz)	< 30
Signal to noise ratio (dB)	> 50 (res. 50 pm)
Cavity length (mm)	35 to 55
Thermal sensitivity (pm/°C)	10, without packaging
Pigtail fiber type and length (m)	Hi1060 Flex, 1

#### Pump configuration



#### CLFO configuration

