

ELT Series: 100 mWatts to 5 Watts

C-, L-, and C+L- Band Tunable Erbium Fiber Lasers

The new ELT Series gives you the power and convenience of fiber technology with all of the functionality of traditional low power sources. Move from milli-Watts of power to Watts of power. Measure non-linear effects, test component power handling, characterize Raman pumping, model DWDM free space systems - the applications are limitless.

The new ELT Series has the precision and ease of control you expect in a tunable laser. High wavelength accuracy, high signal-to-background ratio, and active power stabilization allow you to work across the ITU grid, accurately characterizing losses, cross talk and non-linear interactions. Models with output from 100 mWatt (20 dBm) to 5 Watts (37 dBm) give you the power you need to match your application. RS232 and GPIB interfaces allow for easy integration into test bed or laboratory set-up.

The ELT Series Lasers are available for the C-, L- and combined C+L- bands, with numerous options available. Talk to an IPG Photonics sales engineer about your application today.



Main Features:

- ✓ 100 mW to 5 W Optical Output Power
- ✓ C-, L- and C+L- Tuning Ranges
- ✓ Single-Mode Fiber Delivery
- ✓ High Signal-to-Background Ratio
- ✓ Low Power Reference Output
- ✓ Benchtop or Rackmount Models
- ✓ Higher Power Models up to 10 Watts

Applications:

- ✓ Optical Fiber and Component Characterization
- ✓ Component Stress-Testing
- ✓ Free-Space System Characterization
- ✓ Research & Development

Common Parameters

The ELT Series tunable Erbium fiber lasers provide a randomly polarized CW diffraction limited ($M^2 < 1.05$) output, widely tunable in the C- and L-bands. Laser output is provided by a 2 meter SMF-28 optical fiber cable terminated by a connector, bare fiber or output collimator. A low power output port is provided for a wavelength reference.

The ELT Series lasers require only 100/110V or 220/240V AC wall plug power and direct air cooling. The units can be monitored and controlled manually

from the front panel or via an integrated RS232 or GPIB interface. The user friendly digital front panel indicator displays the output power and wavelength.

All ELT Series lasers utilize broad stripe 1 x 100 μm pump diodes operating at 970 nm nominal wavelength. Minimum pump diode reliability is 100,000 hrs MTTF at 20°C. All pump diodes are subjected to intensive component qualification at IPG prior to installation.

Typical Performance

Parameter	Unit	ELT-100...5-C	ELT-100...5-L	ELT-100...5-CL
Mode of operation		CW	CW	CW
Polarization		random	random	random
Tuning wavelength range	nm	1534-1567	1570-1610	1540-1605
Spectral linewidth (FWHM)*	nm	0.2	0.2	0.2
Wavelength fine-tuning resolution	nm	0.01	0.01	0.01
Wavelength repeatability (off/on)	nm	± 0.1	± 0.1	± 0.1
Wavelength stability (30 minutes)	nm	± 0.1	± 0.1	± 0.1
Signal-to-background	dB	> 45	> 45	> 45
Output power	dBm	20 - 37	20 - 37	20 - 37
Power stability	dB	± 0.1	± 0.1	± 0.1

* < 300 kHz linewidth is available upon request

NOTE: Specifications and operating parameters can be matched to the customers requirements. Contact IPG with your requirements.

General Parameters

Parameter	Unit	
Operational voltage, AC	V	100/110 or 220/240
Dimensions (w x d x h)	mm	448 x 395 x 142.5
Weight	kg	12
Operating temperature	°C	0 to +40
Storage temperature	°C	-10 to +60
Relative humidity	%	0 to 80 non-condensing
Warm up time to full stabilization	min	10

Options

- Single frequency (< 300kHz)
- 10 Gbit/s external modulation
- ITU grid switching
- Linear polarization
- Picosecond pulsing
- (AOF) ms-rate tuning
- Output collimator

CAUTION: USE OF CONTROLS, ADJUSTMENTS AND PROCEDURES OTHER THAN THOSE SPECIFIED MAY RESULT IN HAZARDOUS LASER RADIATION EXPOSURE.

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