

Velocity™ 6700 Widely Tunable Lasers

MORE POWER WITH EVEN GREATER PRECISION



- Higher Power
- Narrower Linewidth
- Improved Stability
- Integrated Permanent Fiber Coupling

HIGHLIGHTS

- True continuous wave mode-hop-free operation
- Easy to use integrated wavelength control
- Fiber-coupled and free space versions available

Introducing the world's most advanced tunable diode laser system. The New Focus Velocity™ external cavity diode laser delivers true continuous wave, mode-hop-free operation over the entire specified tuning range. The integrated wavelength monitor system allows the user to adjust the laser to within 0.01 nm and all or part of the tuning range can be scanned. For even greater sub-picometer precision the Velocity also incorporates piezo fine tuning.

The newly designed housing is robust. The drop tested and shock proof cavity housing has a more powerful temperature control, and we have introduced our unique magnetic damping technology to the 6700 Velocity™. This means we can now bring you higher output power with an even further reduced linewidth.

For our pigtailed version, the fiber is now permanently aligned. Both the isolator and coupling are within the temperature controlled and shock proof housing. This new design increases efficiency and maintains power stability. It's the ease of use and optical performance that makes the Velocity exceptional. New Focus specifications are guaranteed.



TLB-6700-LN controller.

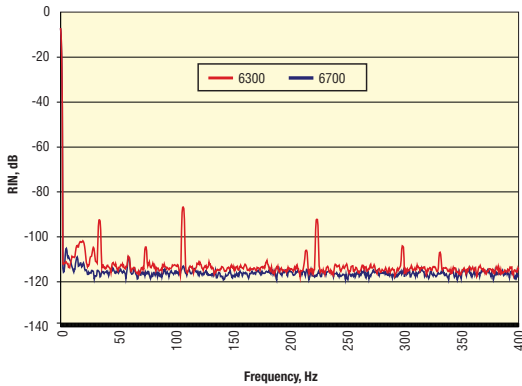
- Lower noise
- Wavelength monitoring and display
- Automatic laser head recognition
- Controller sets temperature, current, and tuning range

Leveraging Newport Corporation's electronics expertise, the TLB-6700-LN Controller has low-noise analog circuits to precisely set critical operating parameters, such as diode temperature and current. Digital control facilitates remote operation and computer interfacing. The TLB-6700-LN Controller operates in both manual and remotely programmed modes via its USB interface.

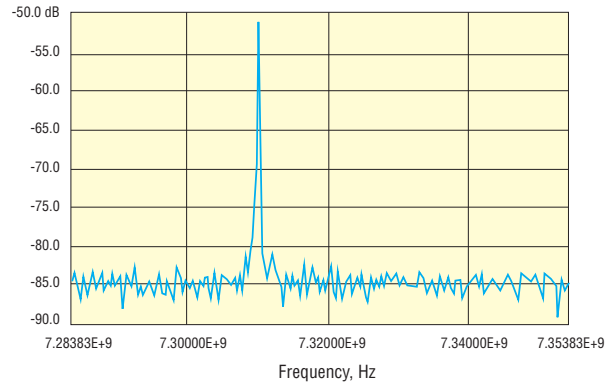
This controller automatically recognizes the laser head and sets the optimum temperature, maximum current limit, and tuning range, making your laser setup effortless.



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RIN test data for the Velocity 6700 and the previous model.



Heterodyne beat note of two Velocity TLB-6712 lasers, 50 ms integration time. Deconvolved FWHM <200 kHz.

Specifications ¹	Mode-Hop Free Tuning Range ²	Mode-Hop Free Tuning Range (Fine Frequency)	Free Space Output Power	Maximum Tuning Speed	Typical Beam Size (mm)
TLB-6704	635-638 nm	>80 GHz (110 pm)	8 mW @ 638 nm	5 nm/s	1.0x1.0
TLB-6711	727-735 nm	>80 GHz (140 pm)	20 mW @ 737 nm	8 nm/s	1.8x1.7
TLB-6712	765-781 nm	>80 GHz (150 pm)	50 mW @ 780 nm	8 nm/s	1.5x1.2
TLB-6716	830-853 nm	>60 GHz (150 pm)	50 mW @ 850 nm	10 nm/s	1.3x0.6
TLB-6718	890-940 nm	>50 GHz (160 pm)	15 mW @ 890 nm	10 nm/s	1.2x0.8
TLB-6719	940-990 nm	>50 GHz (180 pm)	40 mW @ 980 nm	10 nm/s	1.2x0.8
TLB-6721	1030-1070 nm	>50 GHz (200 pm)	60 mW @ 1064 nm	10 nm/s	1.8x0.9
TLB-6722	1045-1085 nm	>50 GHz (200 pm)	40 mW @ 1080 nm	10 nm/s	1.8x0.9
TLB-6723	1070-1130 nm	>50 GHz (280 pm)	30 mW @ 1110 nm	10 nm/s	1.8x0.9
TLB-6724	1270-1330 nm	>50 GHz (290 pm)	30 mW @ 1300 nm	10 nm/s	1.9x1.7
TLB-6725	1390-1470 nm	>30 GHz (200 pm)	45 mW @ 1450 nm	15 nm/s	1.9x1.7
TLB-6726	1420-1500 nm	>30 GHz (210 pm)	20 mW @ 1480 nm	15 nm/s	1.3x1.3
TLB-6728	1520-1570 nm	>30 GHz (240 pm)	30 mW @ 1550 nm	20 nm/s	1.9x1.7
TLB-6730	1550-1630 nm	>30 GHz (260 pm)	30 mW @ 1600 nm	20 nm/s	1.9x1.7
TLB-6732	1700-1800 nm	>20 GHz (260 pm)	10 mW @ 1780 nm	20 nm/s	1.9x1.7
TLB-6736	1975-2075 nm	>20 GHz (260 pm)	2 mW @ 2030 nm	20 nm/s	1.9x1.7
TLB-6740	2350-2450 nm	>20 GHz (360 pm)	4 mW @ 2400 nm	5 nm/s	1.5x2.5

Specifications¹

Linewidth (50 ms Integration Time)	<200 kHz (50 ms integration time) kHz
Wide Tuning Resolution	0.01 nm
Fine-Frequency Modulation Bandwidth	<2 kHz
Max Current Modulation Bandwidth ⁶	<1 MHz
Max Current Modulation Bandwidth ⁷	<100 MHz
Options	Optical Isolation, Fiber Coupling (40-50% efficiency)

¹Specifications are subject to change.

²Contact Newport for all available wavelength ranges.

³Current modulation through controller.

⁴Current modulation directly to diode through laser head SMA port.



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