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CHAPTERS

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SECTIONS

Laser Diodes

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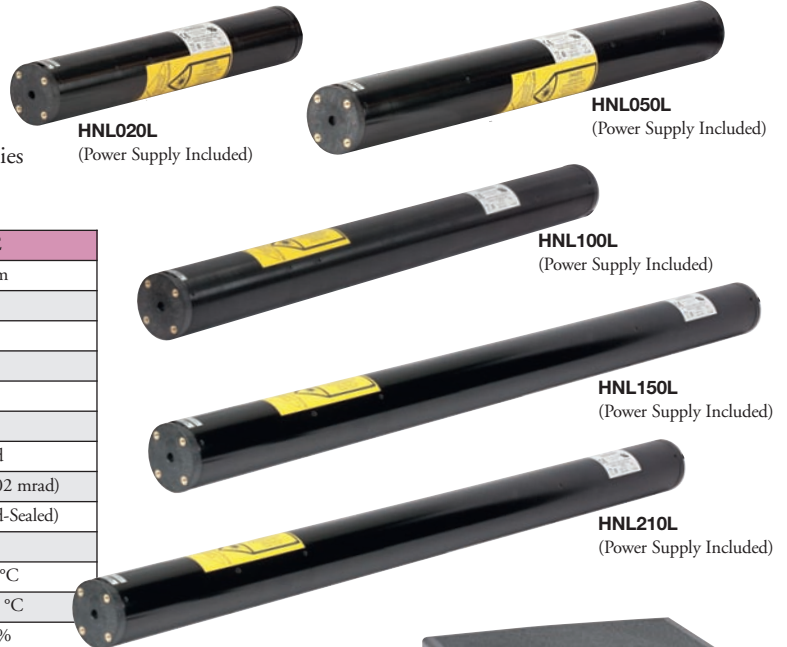
Tunable Lasers

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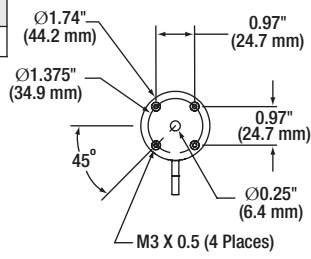
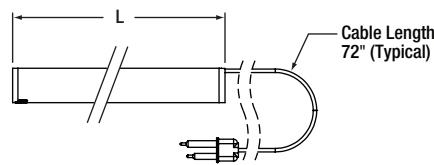
Optical Amplifiers

2.0 to 22.5 mW Red HeNe Lasers (Page 1 of 2)

- External Power Supply with Key
- 2 to 22.5 mW Output Powers
- Polarized or Randomly Polarized Output Beam
- CE Compliant
- 100 VAC, 120 VAC, and 220 VAC Power Supplies
- Integrated Beam Shutter



SPECIFICATIONS	VALUE
Wavelength	632.8 nm
TEM ₀₀ Mode Purity	>95%
Max Warm-Up Time (≤95% Power)	10 min
Max Power Drift (8 Hours)	±2.5%
Max RMS Noise (30 Hz to 10 MHz)	1%
Beam Centration with Outer Cylinder	±0.01"
Co-Linearity of Beam with Outer Cylinder	±1 mrad
Beam Pointing Stability (After Warm-Up)	<0.1 mrad (<0.02 mrad)
Storage Lifetime	Indefinite (Hard-Sealed)
Shock (11 ms)	25 g
Operating Temperature	-40 to 70 °C
Storage Temperature	-40 to 150 °C
Relative Humidity (Non-Condensing)	0 to 100%
Operating Altitude	0 to 10,000 ft
Storage Altitude	0 to 70,000 ft



ITEM #	WAVELENGTH	CW OUTPUT POWER	1/e ² BEAM DIAMETER	BEAM DIVERGENCE	LONGITUDINAL MODE SPACING	MODE STRUCTURE	LASER HEAD LENGTH	POLARIZATION RATIO
HNL020L	632.8 nm	2.0 mW	0.63 mm	1.3 mrad	730 MHz	TEM ₀₀ > 95%	10.70" (271.78 mm)	500:1
HNL020R	632.8 nm	2.0 mW	0.63 mm	1.3 mrad	730 MHz	TEM ₀₀ > 95%	10.70" (271.78 mm)	Random
HNL050L	632.8 nm	5.0 mW	0.81 mm	1.0 mrad	435 MHz	TEM ₀₀ > 95%	15.77" (400.56 mm)	500:1
HNL050R	632.8 nm	5.0 mW	0.81 mm	1.0 mrad	435 MHz	TEM ₀₀ > 95%	15.77" (400.56 mm)	Random
HNL100L	632.8 nm	10.0 mW	0.68 mm	1.2 mrad	320 MHz	TEM ₀₀ > 95%	19.11" (485.39 mm)	500:1
HNL100R	632.8 nm	10.0 mW	0.68 mm	1.2 mrad	320 MHz	TEM ₀₀ > 95%	19.11" (485.39 mm)	Random
HNL150L	632.8 nm	15.0 mW	0.70 mm	1.15 mrad	257 MHz	TEM ₀₀ > 95%	24.93" (633.22 mm)	500:1
HNL150R	632.8 nm	15.0 mW	0.70 mm	1.15 mrad	257 MHz	TEM ₀₀ > 95%	24.93" (633.22 mm)	Random
HNL210L	632.8 nm	21.0 mW	0.70 mm	1.15 mrad	257 MHz	TEM ₀₀ > 95%	24.93" (633.22 mm)	500:1
HNL225R	632.8 nm	22.5 mW	0.70 mm	1.15 mrad	257 MHz	TEM ₀₀ > 95%	24.93" (633.22 mm)	Random

2.0 mW HeNe Laser

ITEM #	POWER	POLARIZATION	\$	£	€	RMB	1/e ² BEAM DIAMETER	BEAM DIVERGENCE	LONGITUDINAL MODE SPACING	POWER SUPPLY
HNL020L	2.0 mW	Linear > 500:1	\$ 1,382.76	£ 995.59	€ 1,203.00	¥ 11,020.62	0.63 mm	1.3 mrad	730 MHz	120 VAC
HNL020L-EC	2.0 mW	Linear > 500:1	\$ 1,382.76	£ 995.59	€ 1,203.00	¥ 11,020.62	0.63 mm	1.3 mrad	730 MHz	220 VAC
HNL020L-JP	2.0 mW	Linear > 500:1	\$ 1,382.76	£ 995.59	€ 1,203.00	¥ 11,020.62	0.63 mm	1.3 mrad	730 MHz	100 VAC
HNL020R	2.0 mW	Random	\$ 1,307.18	£ 941.17	€ 1,137.25	¥ 10,418.23	0.63 mm	1.3 mrad	730 MHz	120 VAC
HNL020R-EC	2.0 mW	Random	\$ 1,307.18	£ 941.17	€ 1,137.25	¥ 10,418.23	0.63 mm	1.3 mrad	730 MHz	220 VAC
HNL020R-JP	2.0 mW	Random	\$ 1,307.18	£ 941.17	€ 1,137.25	¥ 10,418.23	0.63 mm	1.3 mrad	730 MHz	100 VAC

5.0 mW HeNe Laser

ITEM #	POWER	POLARIZATION	\$	£	€	RMB	1/e ² BEAM DIAMETER	BEAM DIVERGENCE	LONGITUDINAL MODE SPACING	POWER SUPPLY
HNL050L	5.0 mW	Linear > 500:1	\$ 1,377.92	£ 992.10	€ 1,198.79	¥ 10,982.01	0.81 mm	1.0 mrad	435 MHz	120 VAC
HNL050L-EC	5.0 mW	Linear > 500:1	\$ 1,377.92	£ 992.10	€ 1,198.79	¥ 10,982.01	0.81 mm	1.0 mrad	435 MHz	220 VAC
HNL050L-JP	5.0 mW	Linear > 500:1	\$ 1,377.92	£ 992.10	€ 1,198.79	¥ 10,982.01	0.81 mm	1.0 mrad	435 MHz	100 VAC
HNL050R	5.0 mW	Random	\$ 1,304.27	£ 939.08	€ 1,134.72	¥ 10,395.06	0.81 mm	1.0 mrad	435 MHz	120 VAC
HNL050R-EC	5.0 mW	Random	\$ 1,304.27	£ 939.08	€ 1,134.72	¥ 10,395.06	0.81 mm	1.0 mrad	435 MHz	220 VAC
HNL050R-JP	5.0 mW	Random	\$ 1,304.27	£ 939.08	€ 1,134.72	¥ 10,395.06	0.81 mm	1.0 mrad	435 MHz	100 VAC

2.0 to 22.5 mW Red HeNe Lasers (Page 2 of 2)

Thorlabs' 2.0 to 22.5 mW red HeNe lasers feature an industry standard Ø1.74" cylindrical housing with four M3 x 0.5 tapped holes on the face of the laser. As shown in the image to the right, the laser has a built-in shutter that is actuated via a sliding mechanism on the laser head.



10.0 mW HeNe Lasers

ITEM #	POWER	POLARIZATION	\$	£	€	RMB	1/e ² BEAM DIAMETER	BEAM DIVERGENCE	LONGITUDINAL MODE SPACING	POWER SUPPLY
HNL100L	10.0 mW	Linear > 500:1	\$ 1,894.40	£ 1,363.96	€ 1,648.12	¥ 15,098.33	0.68 mm	1.2 mrad	320 MHz	120 VAC
HNL100L-EC	10.0 mW	Linear > 500:1	\$ 1,894.40	£ 1,363.96	€ 1,648.12	¥ 15,098.33	0.68 mm	1.2 mrad	320 MHz	220 VAC
HNL100L-JP	10.0 mW	Linear > 500:1	\$ 1,894.40	£ 1,363.96	€ 1,648.12	¥ 15,098.33	0.68 mm	1.2 mrad	320 MHz	100 VAC
HNL100R	10.0 mW	Random	\$ 1,804.28	£ 1,299.08	€ 1,569.72	¥ 14,380.10	0.68 mm	1.2 mrad	320 MHz	120 VAC
HNL100R-EC	10.0 mW	Random	\$ 1,804.28	£ 1,299.08	€ 1,569.72	¥ 14,380.10	0.68 mm	1.2 mrad	320 MHz	220 VAC
HNL100R-JP	10.0 mW	Random	\$ 1,804.28	£ 1,299.08	€ 1,569.72	¥ 14,380.10	0.68 mm	1.2 mrad	320 MHz	100 VAC

15.0 mW HeNe Lasers

ITEM #	POWER	POLARIZATION	\$	£	€	RMB	1/e ² BEAM DIAMETER	BEAM DIVERGENCE	LONGITUDINAL MODE SPACING	POWER SUPPLY
HNL150L	15.0 mW	Linear > 500:1	\$ 2,219.98	£ 1,598.38	€ 1,931.38	¥ 17,693.23	0.70 mm	1.15 mrad	257 MHz	120 VAC
HNL150L-EC	15.0 mW	Linear > 500:1	\$ 2,219.98	£ 1,598.38	€ 1,931.38	¥ 17,693.23	0.70 mm	1.15 mrad	257 MHz	220 VAC
HNL150L-JP	15.0 mW	Linear > 500:1	\$ 2,219.98	£ 1,598.38	€ 1,931.38	¥ 17,693.23	0.70 mm	1.15 mrad	257 MHz	100 VAC
HNL150R	15.0 mW	Random	\$ 2,171.53	£ 1,563.50	€ 1,889.23	¥ 17,307.09	0.70 mm	1.15 mrad	257 MHz	120 VAC
HNL150R-EC	15.0 mW	Random	\$ 2,171.53	£ 1,563.50	€ 1,889.23	¥ 17,307.09	0.70 mm	1.15 mrad	257 MHz	220 VAC
HNL150R-JP	15.0 mW	Random	\$ 2,171.53	£ 1,563.50	€ 1,889.23	¥ 17,307.09	0.70 mm	1.15 mrad	257 MHz	100 VAC

21.0 mW (Polarized) / 22.5 mW (Random) HeNe Lasers

ITEM #	POWER	POLARIZATION	\$	£	€	RMB	1/e ² BEAM DIAMETER	BEAM DIVERGENCE	LONGITUDINAL MODE SPACING	POWER SUPPLY
HNL210L	21.0 mW	Linear > 500:1	\$ 2,413.78	£ 1,737.92	€ 2,099.99	¥ 19,237.82	0.70 mm	1.15 mrad	257 MHz	120 VAC
HNL210L-EC	21.0 mW	Linear > 500:1	\$ 2,413.78	£ 1,737.92	€ 2,099.99	¥ 19,237.82	0.70 mm	1.15 mrad	257 MHz	220 VAC
HNL210L-JP	21.0 mW	Linear > 500:1	\$ 2,413.78	£ 1,737.92	€ 2,099.99	¥ 19,237.82	0.70 mm	1.15 mrad	257 MHz	100 VAC
HNL225R	22.5 mW	Random	\$ 2,365.33	£ 1,703.04	€ 2,057.84	¥ 18,851.67	0.70 mm	1.15 mrad	257 MHz	120 VAC
HNL225R-EC	22.5 mW	Random	\$ 2,365.33	£ 1,703.04	€ 2,057.84	¥ 18,851.67	0.70 mm	1.15 mrad	257 MHz	220 VAC
HNL225R-JP	22.5 mW	Random	\$ 2,365.33	£ 1,703.04	€ 2,057.84	¥ 18,851.67	0.70 mm	1.15 mrad	257 MHz	100 VAC

HeNe Laser Adapters



Mechanical Drawings Available on the WEB



Applying an industry-standard 4-40 four-bolt pattern, the HCL and SM05AHN can be attached directly to the front of a HeNe laser utilizing 4-40 cap screws. The HCL includes four cap screws to attach to a fiberport and features an M3 bolt pattern and internal C-Mount (Ø1.00"-32) threading for additional mounting options. The SM05AHN also includes four cap screws and features an external SM05 (Ø0.535"-40) thread to directly adapt SM05 lens tubes and components to the front of the laser.

NEW products



ITEM #	\$	£	€	RMB	DESCRIPTION
HCL	\$ 28.00	£ 20.16	€ 24.36	¥ 223.16	HeNe Laser Adapter, Internal C-Mount Threading
SM05AHN	\$ 40.00	£ 28.80	€ 34.80	¥ 318.80	HeNe Laser Adapter, External SM05 Threading