



# StingRay and BioRay

Coherent's high-performance laser in a compact module, measuring only 19 mm in diameter, is the StingRay and BioRay product families.

Modular design using the industries' premier laser diodes, the StingRay and BioRay deliver best-in-class performance. High-quality glass optics and sophisticated drive electronics deliver the power and control to your application to improve signal-to-noise and measurement speed.

StingRay is the highest performing top-hat-profile laser available that comes in a variety of fan angles to create the line you need for measurement and profiling applications. Offering the same focus adjustment as BioRay, the StingRay can allow the user to optimize the focus location for the best measurement resolution.

BioRay is Coherent's compact high-performance laser for Life Science applications with an elliptical beam output with a user-adjustable beam divergence (adjustable focus). With BioRay, the elliptical beam is easier to integrate into today's particle measuring systems. With RS-232 control the laser power is adjustable as well as on-board diagnostics for operating hours, diode current, output power, temperature, and more.

Select StingRay and BioRay also include the  $\mu$ Focus and Fiber-Ready (FR) versions.

## FEATURES

- 405 nm to 830 nm
- Power up to 200 mW
- User adjustable focus
- Pointing stability  $<10 \mu\text{rad}/^\circ\text{C}$
- Analog or digital modulation
- Microprocessor controlled
- Onboard diagnostics monitor
- RS-232 control option
- Power supply range: 5 to 24 VDC
- ESD protection, over-temperature protection, and reverse polarity protection
- Optional fiber-ready version

## APPLICATIONS

- Microscopy
- Cytometry
- Medical Imaging and Instrumentation
- Genetics
- High Throughput Screening
- Machine Vision
- 3D Profiling
- Industrial



**LASER OUTPUT SPECIFICATIONS**

Spatial Mode	TEM <sub>00</sub> (Single Transverse Electric Mode)
Beam Quality, M <sup>2</sup> (ModeMaster with 90/10 Clip Level)	<1.5
Pointing Stability over Temperature (μrad/°C)	<10
Beam Angle (boresight) (mrad)	<3
RMS Noise (%) (20 Hz to 20 MHz)	<0.5
Peak-to-Peak Noise (%) (20 Hz to 20 MHz)	<1
Long Term Power Stability (%) (over 8 hours and ±3°C)	<2
Warm-up Time (minutes)	<5

**LASER ELECTRICAL SPECIFICATIONS**

Operating Voltage (V DC)	+5 to +24 (recommend 12 VDC for best efficiency) <sup>1</sup>
Operating Current (mA) (maximum at 25°C)	200
Power-on Delay (seconds) (if enabled)	5
Power Consumption (W)	<5
ESD Protection	EN61326-1 (8 kV Air Discharge, 4 kV Contact Discharge)

**LASER MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	-10 to 50°C (except 520 nm with 10 to 40°C)
Non-Operating (storage) Temperature	-20 to 60°C
Weight (grams) (standard model)	<70
Diameter (mm)	19.05
Material	Aluminum 6061 T1

**LASER WIRING**

V <sub>in</sub>	Red	Power Supply input for +5 to +24 Volts DC, Recommend 12 VDC <sup>1</sup>
V <sub>in</sub> Ground	Black	Power Supply Ground
Output Signal for Over-Temperature or Over-Current	Green	Open Collector Output, 30 Volts DC maximum, 100 ma current load maximum <sup>2</sup>
V <sub>mod</sub>	Blue	Modulation Input, 5 kOhm input impedance, 5 Volts maximum
V <sub>mod</sub> Ground	Red/Black	Modulation Ground
RS-232 Transmit	Orange	RS-232 Transmit for models with RS-232 option installed
RS-232 Receive	White	RS-232 Receive for models with RS-232 option installed
RS-232 Ground	White/Black	RS-232 signal ground

<sup>1</sup> Minimum operating voltage for lasers between 400 nm to 520 nm is 6V DC.

<sup>2</sup> Not available on Fast Digital Modulation (FT or RFT models).

## CHOOSE YOUR LASER

The Coherent StingRay and BioRay products come in a variety of wavelength, output power, and configuration options.

Use the following simple ten-step selection guide to choose the ideal laser and features for your application. Refer to the last page for our most popular versions, their part numbers, and pricing available for immediate delivery.


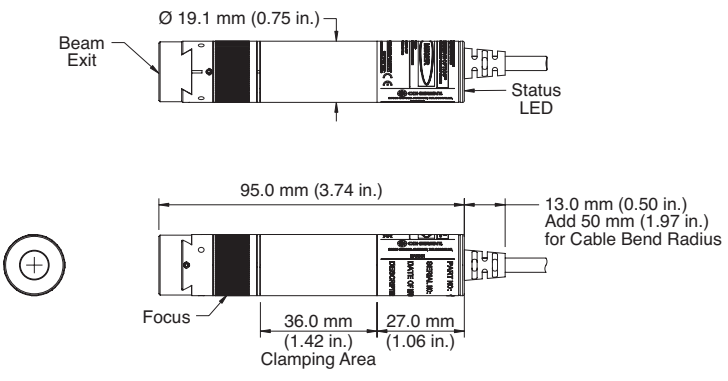

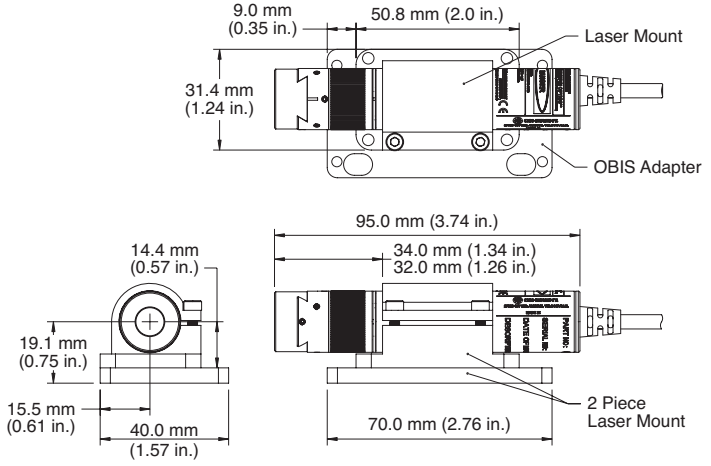
Configure your laser with these ten steps:

- STEP 1:** Package
- STEP 2:** Wavelength
- STEP 3:** Output Power Control
- STEP 4:** Control Mode
- STEP 5:** Beam Shape
- STEP 6:** Focus Distance
- STEP 7:** Communication Option (RS-232)
- STEP 8:** Cable Length/Connector
- STEP 9:** Data Report
- STEP 10:** Power-On Delay




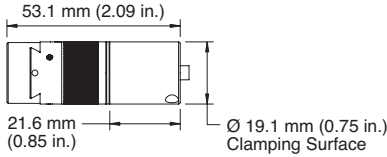
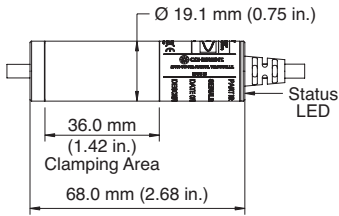

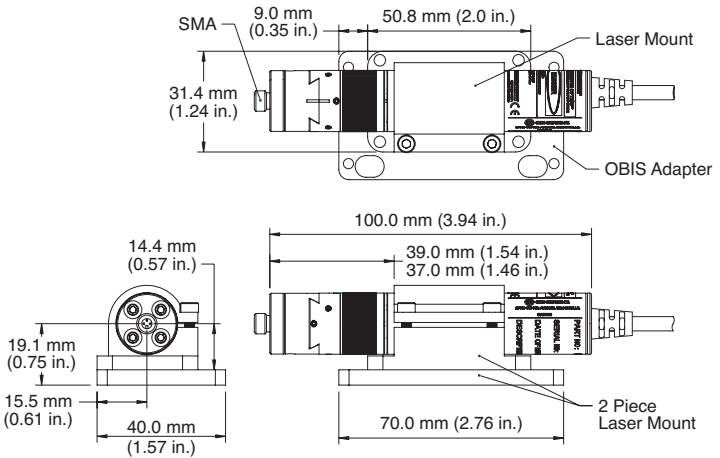
**STEP 1:**

Choose your package with optional separated electronics, mounts, and/or fiber attachment.  
 Choose only one option from the following selections.

Standard StingRay	Mechanical Specifications <sup>1</sup>
<input type="checkbox"/> 	
StingRay in Mount, BioRay	Mechanical Specifications <sup>1</sup>
<input type="checkbox"/> 	

<sup>1</sup> For more dimension details and CAD drawings please see our Coherent.com website.

STEP 1 (continued):

Separate Driver, Compact Laser Head	Mechanical Specifications <sup>1</sup>
<p>(select cable length between laser head and driver)</p> <p><input type="checkbox"/> 75 mm <input type="checkbox"/> 150 mm <input type="checkbox"/> 250 mm <input type="checkbox"/> 500 mm</p> 	<p><b>Laser Head</b></p>  <p><b>Driver</b></p> 
BioRay FR (Fiber-Ready with SMA)	Mechanical Specifications <sup>1</sup>
<p><input type="checkbox"/></p> 	

<sup>1</sup> For more dimension details and CAD drawings please see our Coherent.com website.

**STEP 2:**

Choose your wavelength.

Choose only one of the following selections.

Wavelength Choices <sup>1</sup> (nm)	405	450	488	520	639	640	655	660	685	785	830
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> 405 nm and 488 nm available in BioRay only. BioRay FR available in 405 nm, 450 nm, 488 nm and 640 nm. Laser-to-laser wavelength tolerance of 405 nm is ±5 nm, 450 nm ±10 nm, 488 nm ±10 nm, 520 nm is 515 nm to 530 nm, 639 nm is 635 nm to 648 nm, 640 nm is ±6 nm, 647 nm is ±5 nm, 655 nm is 650 nm to 665 nm, 660 nm is ±5 nm, 685 ±15 nm, 785 nm is ±19 nm, 830 nm is 815 nm to 840 nm.

**STEP 3:**

Choose your output power.

Choose only one of the following selections.

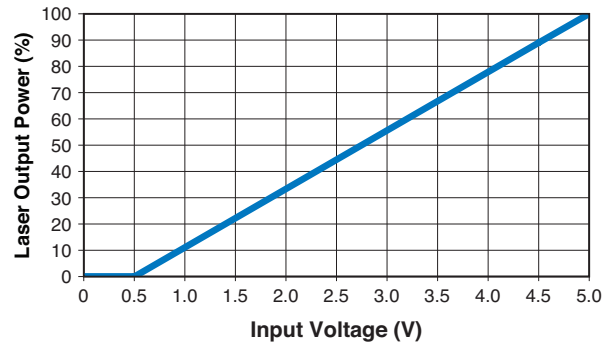
Wavelength Choices <sup>2</sup> (nm)	405	450	488	520	639	640	655	660	685	785	830
Output Power Available (mW)											
1					<input type="checkbox"/>		<input type="checkbox"/>				
5				<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>				
10		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>			
20		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75										<input type="checkbox"/>	<input type="checkbox"/>
90										<input type="checkbox"/>	
100								<input type="checkbox"/>			<input type="checkbox"/>
150											<input type="checkbox"/>
200											<input type="checkbox"/>

<sup>2</sup> 405 nm 50 mW BioRay only. BioRay FR (Fiber-Ready) only available in 405 nm 50 mW, 450 nm 50 mW, 488 nm 20 mW and 640 nm 40 mW. BioRay FR offers >70% coupling efficiency with NA=0.22 into a customer-provided 50 µm or 100 µm fiber.

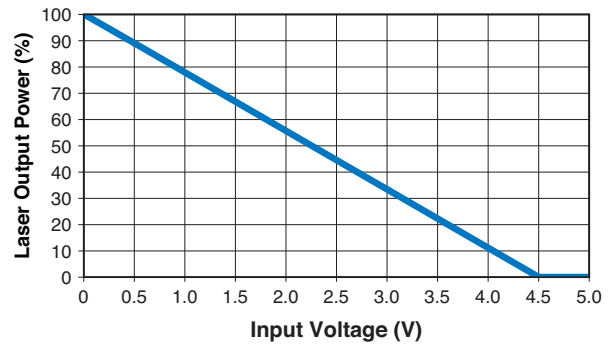
**STEP 4:**

Choose your output power control: CW, analog modulation (variable output power), or digital modulation.  
 Choose only one of the following selections.

CW Mode	Function
<input type="checkbox"/> Continuous Wave (CW)	Constant power mode Laser on at full power User can adjust laser output power and monitor power through RS-232 option (if enabled) No modulation input required
Analog Modulation	Function
<input type="checkbox"/> Analog <sup>1</sup> (A)	Input <0.5V = output power is off, Input = 5V is 100% output power, 0.5V to 5V is linear power control from external voltage source  Maximum bandwidth of 500 KHz Rise time (10% to 90%) <1 msec Fall time (90% to 10%) <1 msec  Also can be used with a DC voltage input to simply vary the output power
<input type="checkbox"/> Reverse Analog (RA)	Input >4.5V = output power is off, Input = 0V is 100% output power, 4.5V to 0V is linear power control from external voltage source  Maximum bandwidth of 500 KHz Rise time (10% to 90%) <1 msec Fall time (90% to 10%) <1 msec  Also can be used with a DC voltage input to simply vary the output power



No adjustable output power through RS-232



No adjustable output power through RS-232

<sup>1</sup> BioRay is standard with Analog Modulation, and will require a 5V input signal to operate CW.





**STEP 4 (continued):**

Digital Modulation	Function
<input type="checkbox"/> Digital TTL (T)  <input type="checkbox"/> Fast Digital TTL (FT)	<p>Input 0V to 1V is output power off, Input 4V to 5V is 100% output power</p> <p>Maximum bandwidth of 100 KHz Rise time (10% to 90%) &lt;1 msec Fall time (90% to 10%) &lt;1 msec</p> <p>Maximum bandwidth of 2 MHz Rise time (10% to 90%) &lt;150 nsec Fall time (90% to 10%) &lt;150 nsec</p> <div data-bbox="844 436 1469 777"> <p>The graph plots Laser Output Power (%) on the y-axis (0 to 100) against Input Voltage (V) on the x-axis (0 to 5.0). A red horizontal bar is at 0% power from 0V to 1V, and another red horizontal bar is at 100% power from 4V to 5V.</p> </div> <p>User can adjust output power setting through RS-232 option (if enabled)</p>
<input type="checkbox"/> Reverse Digital TTL (RT)  <input type="checkbox"/> Reverse Fast Digital TTL (RFT)	<p>Input 0V to 1V is 100% output power, Input 4V to 5V is 0% output power</p> <p>Maximum bandwidth of 100 KHz Rise time (10% to 90%) &lt;1 msec Fall time (90% to 10%) &lt;1 msec</p> <p>Maximum bandwidth of 2 MHz Rise time (10% to 90%) &lt;150 nsec Fall time (90% to 10%) &lt;150 nsec</p> <div data-bbox="844 877 1469 1218"> <p>The graph plots Laser Output Power (%) on the y-axis (0 to 100) against Input Voltage (V) on the x-axis (0 to 5.0). A red horizontal bar is at 100% power from 0V to 1V, and another red horizontal bar is at 0% power from 4V to 5V.</p> </div> <p>User can adjust output power setting through RS-232 option (if enabled)</p>

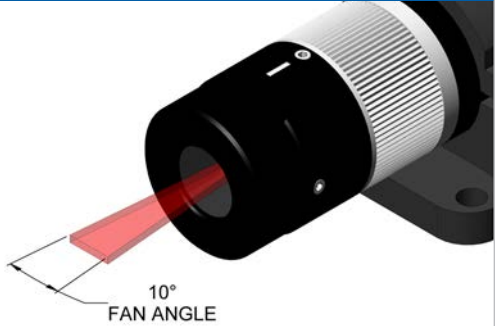
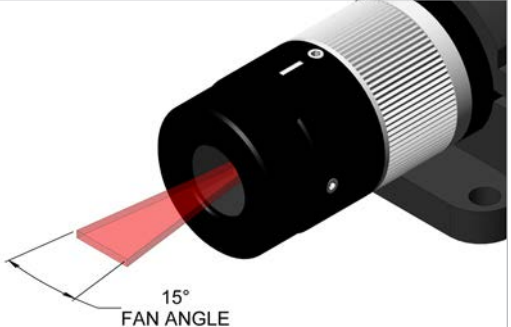

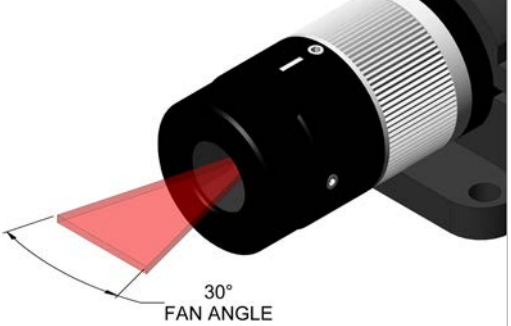
**STEP 5:**

Choose your beam shape.

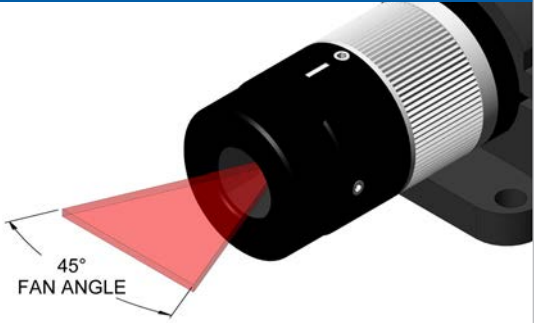
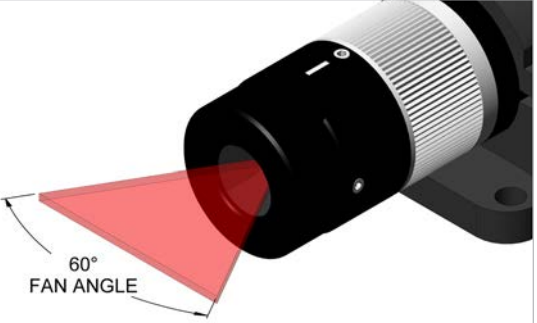
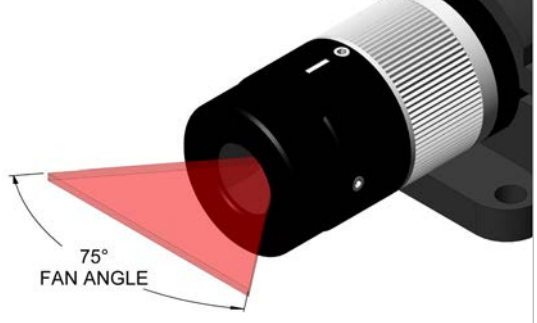
Choose only one of the following selections.

<b>Elliptical Dot Beam</b>	
<p>D01 – Coherent’s high-quality elliptical collimated beam with user adjustable focus to change the beam divergence.</p> <p><input type="checkbox"/> D01-XX, Standard ~1 mm by ~3 mm beam diameter</p>	 <p>1mm X 3mm ELLIPTICAL BEAM</p>
<p>MicoFocus <math>\mu</math>FL D01 – Coherent’s high-quality elliptical collimated beam with user adjustable focus to change the beam divergence. Large diameter beam allows for tighter focus spots.</p> <p><input type="checkbox"/> <math>\mu</math>FL D01-XX, Large beam diameter 2X with less divergence</p>	 <p>2mm X 6mm ELLIPTICAL BEAM</p>
<b>Line Beam Generator</b>	
<p>L01 – Coherent’s Premier Flat-Top Line Technology, with nine choices for the fan angle at which the line expands out from the laser.</p> <p><input type="checkbox"/> L01-1 Line with 1 degree fan angle</p> <p>Fan angle 1° with tolerance <math>\pm 10\%</math> Relative intensity floor &gt;75%</p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	 <p>1° FAN ANGLE</p>
<p><input type="checkbox"/> L01-5 Line with 5 degree fan angle</p> <p>Fan angle 5° with tolerance <math>\pm 10\%</math> Straightness &lt;0.1% Relative intensity floor &gt;75%</p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	 <p>5° FAN ANGLE</p>

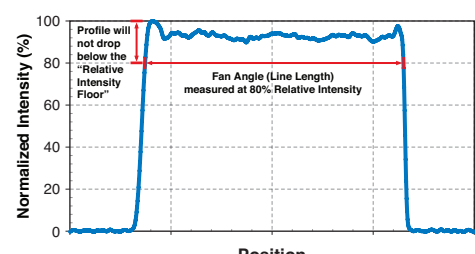
**STEP 5 (continued):**

<b>Line Beam Generator (cont.)</b>	
<p><input type="checkbox"/> L01-10 Line with 10 degree fan angle</p> <p>Fan angle 10° with tolerance ±5%                      Straightness &lt;0.1%                      Relative intensity floor &gt;75%</p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	 <p>10° FAN ANGLE</p>
<p><input type="checkbox"/> L01-15 Line with 15 degree fan angle</p> <p>Fan angle 15° with tolerance ±5%                      Straightness &lt;0.1%                      Relative intensity floor &gt;75%</p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	 <p>15° FAN ANGLE</p>
<p><input type="checkbox"/> L01-20 Line with 20 degree fan angle</p> <p><input type="checkbox"/> L01-20 Line with 20 degree fan angle, micro-focus (μFL)</p> <p>Fan angle 20° with tolerance ±5%                      Straightness &lt;0.1%                      Relative intensity floor &gt;75%</p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	 <p>20° FAN ANGLE</p>
<p><input type="checkbox"/> L01-30 Line with 25 degree fan angle</p> <p><input type="checkbox"/> L01-30 Line with 25 degree fan angle, micro-focus (μFL)</p> <p>Fan angle 30° with tolerance ±5%                      Straightness &lt;0.1%                      Relative intensity floor &gt;75%</p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	 <p>30° FAN ANGLE</p>

**STEP 5 (continued):**

Line Beam Generator (continued)	
<p><input type="checkbox"/> L01-45 Line with 45 degree fan angle</p> <p><input type="checkbox"/> L01-45 Line with 45 degree fan angle, micro-focus (<math>\mu</math>FL)</p> <p>Fan angle 45° with tolerance <math>\pm 5\%</math>                      Straightness <math>&lt; 0.1\%</math>                      Relative intensity floor <math>&gt; 60\%</math></p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	
<p><input type="checkbox"/> L01-60 Line with 60 degree fan angle</p> <p>Fan angle 60° with tolerance <math>\pm 5\%</math>                      Straightness <math>&lt; 0.1\%</math>                      Relative intensity floor <math>&gt; 60\%</math></p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	
<p><input type="checkbox"/> L01-75 Line with 75 degree fan angle</p> <p>Fan angle 75° with tolerance <math>\pm 5\%</math>                      Straightness <math>&lt; 0.1\%</math>                      Relative intensity floor <math>&gt; 50\%</math></p> <p>Note: Only available for wavelengths 520 nm to 785 nm</p>	

**GLOSSARY OF TERMS:**

Definition	Description	 <p>Note: Line is optimized in the factory at 500 mm working distance from laser</p>
Fan Angle or Line Length	Length of flat top profile, measured at 80% intensity clip levels. Reported in degrees for the fan angle.	
Straightness	Maximum deviation from the best fit line. Measured as the delta from the best fit line divided by the line length. Reported as a percentage.	
Relative Intensity Floor	Minimum relative intensity at any point along the line length. Reported as a relative intensity.	

**STEP 6:**

Choose your focus distance (Coherent can preset the adjustable focus).

Choose only one of the following selections.

Focus	Description
<input type="checkbox"/> Standard, Default, 500 mm	Adjustable focus feature factory set for best focus at 500 mm distance from laser. You can readjust and lock as needed.
<input type="checkbox"/> Custom, _____ mm	Choose from a 50 mm up to a 2000 mm focus distance. Adjustable focus feature factory set to your specified distance from laser. You can readjust and lock as needed. Choosing 2000 mm is "collimated".

**STEP 7:**

Choose your communication option (RS-232).

Choose only one option of following selections.

Communication	Description
<input type="checkbox"/> None	No communications. RS-232 disabled.
<input type="checkbox"/> RS-232	RS-232 enabled for laser control and status. Can monitor hours, power and temperature. Can adjust laser output power for CW and digital modulation modes.

**STEP 8:**

Choose your cable length and connector/pinout.

Choose only one of the following selections.

Code	Description	Image	Connection	
FL	<p><b>Flying Leads</b></p> <p>Choose Length (mm)</p> <input type="checkbox"/> 250 <input type="checkbox"/> 500 <input type="checkbox"/> 1000 <input type="checkbox"/> 1500 <input type="checkbox"/> 2000 <input type="checkbox"/> 2500		$V_{in}$ $V_{in}$ Ground Fault $V_{mod}$ $V_{mod}$ Ground RS-232 Transmit RS-232 Receive RS-232 Ground	Red Black Green Blue Red/Black Orange White White/Black
HR	<p><b>Hirose</b> <b>R10A-10P-12SC(73)</b></p> <input type="checkbox"/> 1000 mm		$V_{in}$ $V_{in}$ Ground, Shield Fault $V_{mod}$ $V_{mod}$ Ground RS-232 Transmit RS-232 Receive RS-232 Ground	9 1 10 2 3 6 4 5
P	<p><b>Power Plug, Phono</b> <b>3.5 mm</b></p> <input type="checkbox"/> 500 mm		$V_{in}$ $V_{in}$ Ground, Shield Fault $V_{mod}$ $V_{mod}$ Ground RS-232 Transmit RS-232 Receive RS-232 Ground	Tip Base No Connection No Connection No Connection No Connection No Connection No Connection
B	<p><b>Power Plug, Phono</b> <b>3.5 mm and BNC for</b> <b>Modulation</b></p> <input type="checkbox"/> 500 mm		$V_{in}$ $V_{in}$ Ground, Shield Fault $V_{mod}$ $V_{mod}$ Ground RS-232 Transmit RS-232 Receive RS-232 Ground	Phono Plug Tip Phono Plug Base No Connection BNC Tip BNC Base No Connection No Connection No Connection

## STEP 8 (continued):

Custom cable connector described below with cable lengths from 250 mm to 2500 mm.  
Call Coherent Sales to review the connector, pre-defined pinout and to specify the cable length.

Code	Manufacturer and Model	Manufacturer Part#	Reference - Mating Connector Part#
<input type="checkbox"/> A	Binder M9-3	99 0406 00 03	99 0405 00 03
<input type="checkbox"/> E	Binder M9-5	99 0414 00 05	99 0413 00 05
<input type="checkbox"/> N	Binder M9-8	99 0426 00 08	99 0425 00 08
<input type="checkbox"/> J	Binder M12-3	99 0430 07 04	99 0429 07 04
<input type="checkbox"/> G	Binder M12-4	99 0429 14 04	99 0430 14 04
<input type="checkbox"/> K	Binder M12-5	99 0436 14 05	99 0437 14 05
<input type="checkbox"/> L	Binder M12-8	99 0486 14 08	99 0437 12 08
<input type="checkbox"/> Q	PREH-DIN-3	71430-030	71506-030
<input type="checkbox"/> R	PREH-DIN-5	71430-250	71506-250

## STEP 9:

Choose data report.  
Choose only one of the following selections.

Data Reports	Description
<input type="checkbox"/> Basic	Every laser includes a final quality test report.
<input type="checkbox"/> Line Data	Add uniformity and straightness data for lines (L01).

## STEP 10:

Choose five-second start-up power-on delay.  
Choose only one of the following selections.

Power-on Delay	Description
<input type="checkbox"/> None	Laser will start emission at power-on.
<input type="checkbox"/> Yes, default	Laser will have an approximate five-second delay for laser emission after power-on.

**CONGRATULATIONS:** You have completed the laser configuration steps! Please email this to your local Coherent Sales representative to get a quote on price and delivery. You can also view our most popular models in-stock for immediate delivery on the next two pages.



## MOST POPULAR CONFIGURATIONS READY FOR IMMEDIATE DELIVERY:

Part Number	Description	Price
1264213	<b>BioRay 405 nm 50 mW Elliptical Dot Laser</b> Analog Modulation enabled, Includes mount, 1 meter cable and Hirose connector, typical 1x3 mm collimated beam	\$2500
1264214	<b>BioRay 450 nm 50 mW Elliptical Dot Laser</b> Analog Modulation enabled, Includes mount, 1 meter cable and Hirose connector, typical 1x3 mm collimated beam	\$2250
1270002	<b>BioRay 488 nm 20 mW Elliptical Dot Laser</b> Analog Modulation enabled, Includes mount, 1 meter cable and Hirose connector, typical 1x3 mm collimated beam	\$2500
1264216	<b>BioRay 520 nm 50 mW Elliptical Dot Laser</b> Analog Modulation enabled, Includes mount, 1 meter cable and Hirose connector, typical 1x3 mm collimated beam	\$1650
1264218	<b>BioRay 640 nm 40 mW Elliptical Dot Laser</b> Analog Modulation enabled, Includes mount, 1 meter cable and Hirose connector, typical 1x3 mm collimated beam	\$995
1286584	<b>STR-520-20-CW-FL-L01-75-S-XX-3, CDRH Class II</b> StingRay, 520 nm, 20 mW, Single Line, 75° Fan Angle, Pre-focused to 500 mm distance, 5-second Power-on Delay, 500 mm cable with Flying Leads	\$1000
1253606	<b>STR-520-35-CW-FL-D01-XX-S-TX</b> StingRay, 520 nm, 35 mW, Elliptical Dot Beam, Pre-focused to 500 mm distance, 5-second Power-on Delay, 500 mm cable with Flying Leads, Includes RS-232 communications	\$990
1285005	<b>STR-639-5-CW-FL-L01-20-S-XX-8</b> StingRay, 639 nm, 5 mW, Single Line, 20° Fan Angle, Pre-focused to 500 mm distance, 500 mm cable with Flying Leads	\$500
1276557	<b>STR-639-5-CW-FL-L01-45-S-XX-8</b> StingRay, 639 nm, 5 mW, Single Line, 45° Fan Angle, Pre-focused to 500 mm distance, 500 mm cable with Flying Leads	\$500
1277105	<b>STR-639-10-CW-P-L01-75-E-XX</b> StingRay, 639 nm, 10 mW, Single Line, 75° Fan Angle, Pre-focused to 500 mm distance, Extended Depth of Focus, 500 mm cable with Flying Leads	\$525
1262766	<b>STR-660-10-CW-FL-L01-10-S-XX-8</b> StingRay, 660 nm, 10 mW, Single Line, 10° Fan Angle, Pre-focused to 500 mm distance, 500 mm cable with Flying Leads	\$490
1255565	<b>STR-660-10-A-FL-L01-20-E-XX</b> StingRay, 660 nm, 10 mW, Single Line, 20° Fan Angle, Pre-focused to 500 mm distance, Extended Depth of Focus, 500 mm cable with Flying Leads, Analog Modulation enabled	\$540
1258287	<b>STR-660-10-CW-FL-L01-60-S-TX</b> StingRay, 660 nm, 10 mW, Single Line, 60° Fan Angle, Pre-focused to 500 mm distance, 500 mm cable with Flying Leads, Includes RS-232 communications	\$540

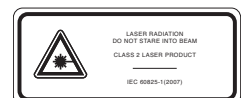
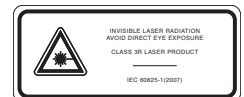
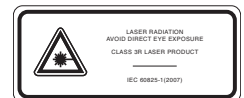
**MOST POPULAR CONFIGURATIONS READY FOR IMMEDIATE DELIVERY (continued):**

Part Number	Description	Price
1289028	<b>STR-660-35-CW-HR-L01-1-S-XX-8</b> StingRay, 660 nm, 10 mW, Single Line, 1° Fan Angle, Pre-focused to 500 mm distance, ~1 Meter cable with Hirose Connector	\$595
1288507	<b>STR-660-35-CW-HR-L01-20-S-XX-8</b> StingRay, 660 nm, 35 mW, Single Line, 20° Fan Angle, Pre-focused to 500 mm distance, ~1 Meter cable with Hirose Connector	\$595
1280731	<b>STR-660-100-T-FL-L01-10-S-TX</b> StingRay, 660 nm, 100 mW, Single Line, 10° Fan Angle, Pre-focused to 500 mm distance, ~1 Meter cable with Hirose Connector, Digital Modulation enabled, Includes RS-232 communications	\$1045
1280028	<b>STR-660-100-T-HR-L01-15-E-TX-5</b> Stingray, Separate Driver (Enclosed) with 150 mm between laser and driver, 660 nm, 100 mW, Single Line, 15° Fan Angle, Pre-focused to 500 mm distance, Extended Depth of Focus, ~1 Meter cable with Hirose Connector, Digital Modulation enabled, Includes RS-232 communications	\$1220
1280027	<b>STR-660-100-T-HR-L01-30-E-TX-5</b> Stingray, Separate Driver (Enclosed) with 150 mm between laser and driver, 660 nm, 100 mW, Single Line, 30° Fan Angle, Pre-focused to 500 mm distance, Extended Depth of Focus, ~1 Meter cable with Hirose Connector, Digital Modulation enabled, Includes RS-232 communications	\$1220
1285314	<b>STR-660-100-CW-HR-L01-45-S-XX-8</b> StingRay, 660 nm, 100 mW, Single Line, 45° Fan Angle, Pre-focused to 500 mm distance, ~1 Meter cable with Hirose Connector	\$1005
1262526	<b>STR-660-100-CW-FL-L01-60-S-XX</b> StingRay, 660 nm, 100 mW, Single Line, 60° Fan Angle, Pre-focused to 500 mm distance, 500 mm cable with Flying Leads	\$945
1286514	<b>STR-785-90-T-FL-D01-XX-S-XX</b> StingRay, 785 nm, 90 mW, Elliptical Dot Beam, Pre-focused to 500 mm distance, 500 mm cable with Flying Leads	\$675
1231404	<b>Accessory, StingRay Controller with Keypress and Interlock</b> Includes control software and power supply. Use with lasers that include a Hirose connector.	\$285



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all StingRay and BioRay lasers. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative. Printed in the U.S.A. MC-010-17-0M0417 Copyright ©2017 Coherent, Inc.