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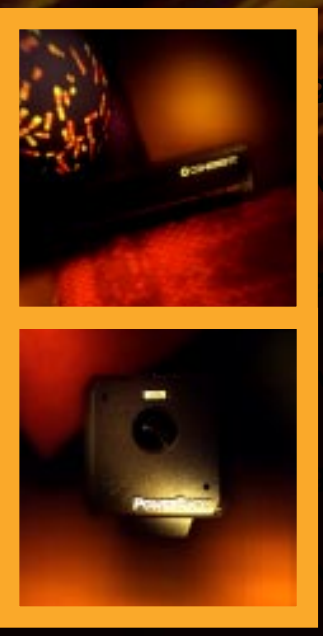
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Find the *Coherent I300C* at our website: ***Click HERE***

Innova PureLight Innova FRED Innova Enterprise

Innova 300 Series

Innova 70 Innova Star Innova Sabre Innova SkyLight



Innova 300 Series

Technical Data

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Innova 300 Series

Ultimate Small-Frame Ion Laser Performance

Innova® 300 Series water-cooled ion lasers provide the ultimate performance of any small-frame (1W to 10W) ion lasers today. The Innova 300 combines an extremely stable passive design with performance-enhancing active components. Coherent's detail-driven engineering approach results in a system that's easy to use, flexible, and simple to integrate into any experiment or apparatus.

A Wide Range of Power Levels, Wavelengths and System Configurations

Innova 300 Series lasers are available in many different power levels and system configurations to meet a wide range of application needs. We offer both argon and krypton models, in versions covering a combined total of more than 20 visible and UV wavelengths. Models are available with dual Brewster-window cavities, for both wavelength and single-frequency flexibility; or with single Brewster-window sealed-mirror configurations, for the longest lifetimes in dedicated pumping or dedicated commercial applications.

Customer Support

Professional and responsive customer support—both before and after a sale—is available worldwide through a network of Coherent sales and service offices.

Innova 300 Series

Key Features

Series V™ Innova Plasma Tube

Metal/ceramic design delivers the highest performance and longest lifetimes of any ion tube.

Dual Brewster window versions for maximum flexibility.

Sealed high reflector, single Brewster window versions deliver longest lifetimes for dedicated applications.

SuperInvar Resonator

High thermal mass, low coefficient of expansion, with matched rods for ultimate pointing and single-frequency performance.



Linear Transistor Passbank Power Supply

Lowest rms and peak-to-peak noise.

Outstanding reliability.



PowerTrack™ Automatic Active-Cavity Stabilization

Operates in both current- and light-regulation, providing fast warm-up, maximum output, highest stability, lowest noise, and optimal spatial mode.

ModeTrack™/ModeTune™ Automatic Active-Etalon Stabilization

Mode-hop-free single-frequency operation over a wide temperature range with highest output power.

Built-in System Intelligence with Three Microprocessors

Allows remote-control module, with LCD display, to provide full system control and complete diagnostics.

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Innova 300 Series

Power Specifications[1]

Argon Systems with Dual Brewster Window Tubes

	I-304	I-305	I-306	I-307	I-308
Multiline Visible[2]	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**
Multiline UV[3]	0.20	0.40	0.50	0.60	0.75
1090.0	0.04	0.05	0.07	0.07	0.10
528.7	0.20	0.35	0.42	0.42	0.55
514.5	**1.70**	**2.00**	**2.40**	**2.40**	**3.20**
501.7	0.30	0.40	0.48	0.48	0.48
496.5	0.50	0.60	0.72	0.72	0.95
488.0	**1.30**	**1.50**	**1.80**	**1.80**	**2.40**
476.5	0.50	0.60	0.72	0.72	0.95
472.7	0.12	0.20	0.24	0.24	0.24
465.8	0.10	0.15	0.18	0.18	0.18
457.9	0.25	0.35	0.42	0.42	0.56
454.5	0.05	0.12	0.14	0.14	0.14
UV 363.8	0.07	0.14	0.17	0.19	0.25
UV 351.1	0.07	0.14	0.17	0.19	0.25

Argon Systems with Sealed Mirror — Visible Region

	I-310
Multiline Visible[2]	**10.0**

Argon Systems with Sealed Mirror — UV Region

	I-324	I-325	I-326	I-328
Multiline UV[3]	**0.20**	**0.40**	**0.50**	**1.0**
UV 363.8	0.07	0.14	0.18	0.36
UV 351.1	0.09	0.18	0.22	0.44

Argon Single-Frequency Powers — Visible Region

	I-304	I-305	I-306	I-307	I-308
514.5	1.00	1.20	1.40	1.40	1.90
488.0	0.75	0.90	1.10	1.10	1.40
457.9	0.15	0.20	0.25	0.25	0.35

Argon Single-Frequency Powers — UV Region

	I-304	I-305	I-306	I-307	I-308
UV 363.8	0.04	0.08	0.10	0.11	0.15
UV 351.1	0.04	0.08	0.10	0.11	0.15

Krypton Systems with Dual Brewster Window Tubes

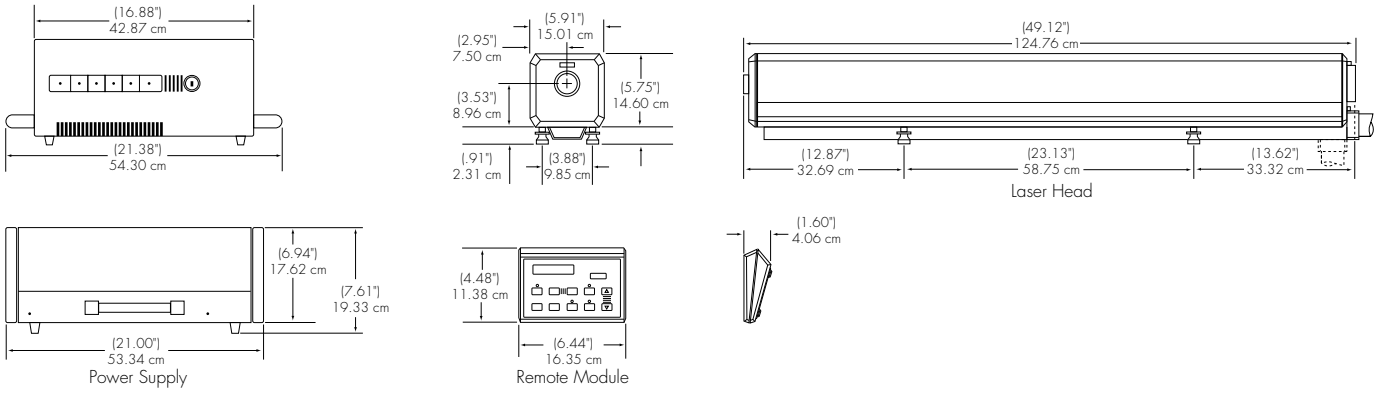
	I-301	I-302
Multiline Red	**1.0**	1.0
Multiline IR	0.25	0.25
Multiline Violet	0.15	**0.60**
Multiline UV[3]	0.15	**0.50**
793.1 - 799.3	0.03	0.03
752.5	0.10	0.10
676.4	**0.15**	0.15
647.1	**0.80**	0.80
568.2	0.15	0.15
530.9	0.20	0.20
520.8	0.07	0.07
482.5	0.03	0.03
476.2	0.05	0.05
413.1	0.10	**0.30**
406.7	0.10	**0.20**
UV 356.4	—	0.12
UV 350.7	—	**0.25**

Krypton Single-Frequency Powers — Visible Region

	I-301	I-302
647.1	0.50	0.50
413.1	0.06	0.15

Krypton Single-Frequency Powers — UV Region

	I-301	I-302
UV 350.7	—	0.15



[1] All powers are listed in watts; all wavelengths, in nanometers. Guaranteed power specifications for standard systems are indicated in bold print. Other specifications are available at an additional charge, which includes the necessary optics and testing. All output powers, except multiline visible, UV and IR powers, refer to TEM_{00} operation. The Innova 307 at 514.5 nm and 488.0 nm exhibits an M^2 value specified to be ≤1.1.

[2] Multiline visible powers range from 457.9 nm to 514.5 nm.

[3] Multiline UV powers range from 333.4 nm to 363.8 nm for argon systems, and from 337.5 nm to 356.4 nm for krypton systems.

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Innova 300 Series

Other Specifications

Beam Parameters

Model	I-304 I-305 I-306 I-307	I-308	I-310[1]	I-324 I-325 I-326	I-328	I-301	I-302
Wavelength in nm at which specifications are measured	514.5	514.5	Multiline Visible	351.1	351.1	647.1	413.1
Diameter (@1/e² points)[2] in mm	1.5	1.8	2.25	1.4	1.5	1.5	1.35
Divergence (full angle) in mrad	0.5	0.4	0.7	0.4	0.35	0.8	0.45
Beam-Pointing Stability in µrad[3]	←			<5.0			→
Beam Offset in µm	←			<5.0			→

Stability and Noise

Long-Term Power Stability	30-Min. Period	8-Hr. Period
Light Regulation with PowerTrack[4]	±0.5%	±1.0%
without PowerTrack[5]	±0.5%	—
Current Regulation with PowerTrack[4]	±1.0%	±1.0%
without PowerTrack[5]	±2.0%	—

Optical Noise (rms) with PowerTrack[6]							
	0.2%	0.2%	0.2%	0.5%	0.5%	0.2%	0.3%

Utility Requirements

Input Power	←		3-phase with ground, nominal 208 volts				→
Voltage Range	←		±10%				+10%/-7.5%
Maximum Current Draw in amps/phase at 208 vac	45-55[7]	55	55	50	60	45	50

Cooling Water

Flow Rate in L/min[8]	8.5	9.6	9.6	8.5	9.6	8.5	9.6
Pressure in kPa[9]	170-415	240-415	240-415	170-415	240-415	170-415	240-415
Inlet Temp. in °C[10]	10-35	10-30	10-30	10-35	10-30	10-35	10-30

System Weights

	Crated
Laser Head	81 kg (178 lbs)
Power Supply	67 kg (147 lbs)
	Uncrated
Laser Head	42 kg (92 lbs)
Power Supply	39 kg (86 lbs)

Footnotes

1. The Model 310 is delivered with an additional mirror. The following values apply for this cavity: Power — 8W; Diameter — 1.8 mm; Divergence — 0.45 mrad.
2. Beam diameter is measured at the output coupler mirror.
3. Per °C change in air or water temperature.
4. Maximum peak variation after a 15-minute warm-up.
5. Maximum peak variation after a 1-hour warm-up.
6. Measured with a 10 Hz to 2 MHz photodiode driving a resistive load at specified wavelength at specified output power.
7. I-304, 45A; I-305, 50A; I-306 and I-307, 55A.
8. To convert liters/min. to U.S. gal./min., multiply by 0.264.
9. To convert kPa to psi, multiply by 0.145.
10. Incoming water temperature must be above the dew point of the ambient air to avoid danger of condensation on high voltage electronic circuitry.

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Innova 300 System Warranty

Coherent offers a limited warranty that covers parts and labor for the entire Innova 300 system. Please refer to the latest version of the Coherent, Inc., Laser Group U.S. Price List or Scientific Product Listing for full details of this warranty coverage.

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ISO 9002 REGISTERED





Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

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