RealLight

2026

LASER PRODUCT CATALOGUE

Realizing The Unreal

RealLight

About RealLight

Beijing RealLight Technology Co., Ltd was founded in 2010, specializing in research, development, manufacturing and sale of diode laser, solid state laser, high energy laser, laser tesing&application equipment, laser research system, supplying innovative and competitive lasers for customers in fields of analytical instrument, aesthetic medicine, lidar ranging, etc.

RealLight is well-versed in laser industry for many years, and is committed to providing superior-quality products and services for customers in different industries, can provide a variety of diode lasers and solid state lasers, which are used in:

Analysis Instrument

Raman spectroscopy, Fluorescence spectroscopy, Particle analyzer, MALDI-TOF-MS, LA-TOF, LIBS, Photoacoustic imaging, Laser-based ultrasound detection, PL detection, Optical coherence tomography, Blood glucose test, Micro-surgery……

Aesthetic Medicine

Laser Surgery, Dental treatment, ENT treatment, Laser therapy, Veterinary therapy, Skin vascular treatment, Laser fat melting, Whitening, Skin rejuvenation, Freckle removal, Mole removal, Tattoo removal, Hair removal, Seed source...

Radar Ranging

Eye-safe ranging, Distance ranging, Micro pulse meteorological radar, Ceilometer, Atmospheric visibility Lidar, Underwater laser imaging radar, Gated imaging radar, Airborne scanning and mapping radar, Coastline mapping radar, Clearance radar...

As a high technology enterprise, RealLight is specialized in providing CW & narrow linewidth diode laser, microchip laser, MOPA laser (based on our self-developed microchip laser as seeds) and accessories.

RealStable®
Diode Laser and System

- CW Laser Components
- CW Laser Modules & Systems
- Raman Probe
- Handpieces
- Therapeutic Fiber
- Diode Laser Stacks

RealSubns®
Microchip Laser

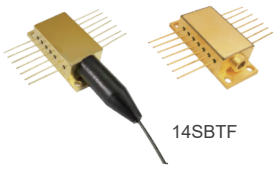
- 1535nm Eye-Safe Erbium Glass Laser
- Sub-Nanosecond Microchip Laser
- Energy Adjustable Microchip Laser
- Sub-Nanosecond Solid State Laser
- Free Space Faraday Rotator and Isolator

RealShock®
High Energy / High Power Laser

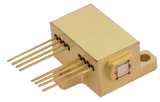
- High Energy Diode Pumped Solid State Laser
- Lamp-Pumped Picosecond Laser
- Lamp-Pumped Q-Switched Nanosecond Laser
- Lamp-Pumped Long Pulse Er:YAG Laser
- Accessories

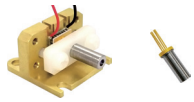
RealStable®Diode Laser Components

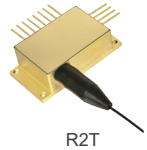
■ Narrow Linewidth Series


14SBTF


08LTR


08LTR-mini


04BCK

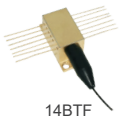

R2T

Wavelength (nm)	532	638	785	808	830	981	1064	784.5/785.5	785/1064	828.5/829.5	532	785	1064
Wavelength Tolerance (nm)	±0.5										±0.5		
Power (mW)	100	500	600	600	600	800	800	600/600	500/800	500/500	100	100	300
Spectral Width (nm)	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.1	<0.1			<0.1		
Temperature Drift of Wavelength / △λ/△T (nm/℃)	0.01										0.01		
Output Configuration	Fiber pigtailed, Free space										Free space		
Beam Mode	Multi-mode										Single-mode		
Connector	FC/PC, SMA905										——		
Fiber Core	105μm / 0.22NA										——		
Optional Functions	PD, Thermistor, TEC										PD, Thermistor, TEC		

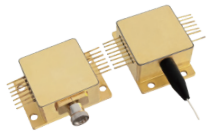
■ Multi-function Series

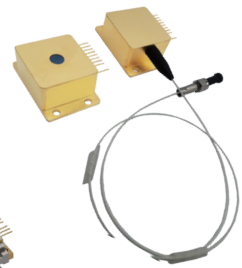

02HBCK


08BULT


14BTF


11RTR

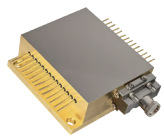

14HHL&15HHL

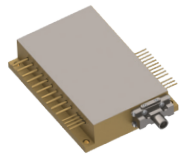

09HHL


R3F


R2D & R3M


R3MH & R4MH & R4D & R5M


R7M


R11M

Wavelength (nm)	405	450	520	638	650	783	803	808	9XX	1064	1470	1720	1940
Power (W)	0.1	4	0.1	1	0.5	8.5	8	45	50	45	15	20	12
Output Configuration	Fiber pigtailed, Fiber detachable												
Fiber Core	105μm, 200μm, 400μm / 0.22NA												
Optional Functions	PD, Thermistor, TEC, Aiming beam, Fiber detector												

Wavelength (nm)	450+638+650+808+905+910+980+1064+1470 (combination of 3 to 5 wavelengths)
Power (W)	4+0.5+0.5+20+150+10+30+20+15
Output Configuration	Fiber pigtailed, Fiber detachable
Fiber Core	200μm, 400μm / 0.22NA
Optional Functions	PD, Thermistor, TEC, Aiming beam, Fiber detector

■ Coaxial Package Series


03BCK

Wavelength (nm)	405	450	520	638	650	638	650
Power (mW)	50	50	50	60	60	130	130
Beam Mode	Single-mode					Multi-mode	
Fiber Core/ Cladding (μm)	4/125, 6/125, 9/125					105/125	
Numerical Aperture	0.14					0.22	
Output Configuration	Fiber pigtailed						

RealStable®
Diode Laser OEM Modules & Systems

■ Narrow Linewidth Laser Diode Module

Applications

- Raman spectroscopy
- Confocal Raman microscopy
- Particle analyzer
- Fluorescence spectroscopy
- Up-conversion materials
- Biological detection
- Super-resolution microscopy

Product Type	NLSO Series Single-mode Narrow Linewidth Laser Module			NLMO Series Multi-mode Narrow Linewidth Laser Module							NLMO Series Dual-wavelength Narrow Linewidth Laser Module			
Center Wavelength (nm)	532*	785	1064	532*	638	785	808	830	981	1064	784/785		785/1064	
Output Power (mW)	100	100	300	100	500	500	600	500	800	800	500	500	500	800
Wavelength Tolerance (nm)	±0.5			±0.5							±0.5 (each wavelength)			
Linewidth (nm)	<0.1			<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.1	<0.1 (each wavelength)			
Wavelength Stability (typ., @4h)	±5 pm	±7 pm		±5 pm	±7 pm						±7 pm			
Power Stability (typ., @4h)	<3%(RMS)	±2%(P-P)		<3%(RMS)	±2%(P-P)						±2%(P-P)			
SMSR	-	35~45		-	>35	>40					>40			
System Parameters														
Adjustbility % Full Power	0~100%													
Warm up Time (min)	15													
Control Interface	PH2.0~10P , USB													
Connector	-			FC/PC , SMA905										
Output Fiber	-			105 μm , 0.22 NA										
Supply Voltage	5VDC/2A													
Power Consumption (typ., W)	<5													
Weight (g)	<150													
Dimensions (mm)	76.2×63.5×22										86×63.5×32			

*532nm is diode pumped solid-state laser.

■ Narrow Linewidth Laser Diode System

Applications

- Raman spectroscopy
- Up-conversion materials
- Super-resolution microscopy
- Fluorescence spectroscopy
- Confocal Raman microscopy
- Biological detection

Product Type	NLM Series Multi-mode Narrow Linewidth Laser							NLM Series Dual-wavelength Narrow Linewidth Laser	
Center Wavelength (nm)	532*	638	785	808	830	981	1064	784/785	785/1064
Output Power (mW)	100	500	500	600	500	800	800	500/500	500/800
Wavelength Tolerance (nm)	±0.5							±0.5 (each wavelength)	
Linewidth (nm)	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.1	<0.1 (each wavelength)	
Wavelength Stability (typ., @4h)	±5 pm	±7 pm							
Power Stability (typ., @4h)	<3%(RMS)	±2%(P-P)						±2%(P-P)	
SMSR (dB)	-	>35	>40					>40	
System Parameters									
Adjustbility % Full Power	0~100%								
Warm up Time (min)	15								
Modulation Input	Analog signal 0~5V								
Control Interface	USB , SMA								
Connector	SMA905 , FC/PC								
Output Fiber	105 μm , 0.22 NA								
Supply Voltage	+12VDC								
Power Consumption (typ., W)	<20								
Weight (kg)	1.2								
Dimensions (mm)	180×102×180.2								

*532nm is diode pumped solid-state laser.

■ Multi-function Laser Diode Module

Applications

- Spectroscopic Detection
- Biomedicine
- Material Analysis
- Display&Lighting
- Laser Manufacturing

AWMO-C

AWMO-D

Center Wavelength (nm)		Optional Wavelength																			
		450	635	650	675	695	755	785	808	830	880	915	940	980	1064	1320	1470	1550	1720	1940
Optical	CW Output Power / P_{op} (W)	3	3	3	3	3	5	5	10	5	10	10	10	10	10	5	5	3	3	3
	Maximum Average Output Power P_{max} (W)	15 (AWMO-C) / 30 (AWMO-D)																		
	Wavelength Tolerance (nm)	±10																		
	Spectral Width / △λ (nm)	<6																		
Aiming Beam	Output Power / P_a (mW)	1~5																		
	Wavelength / λ_a (nm)	650																		
Fiber	Output Mode	Fiber detachable																		
	Fiber Core Diameter / Dcore (μm)	400 (Customizable)																		
	Fiber Length / L (cm)	100±10 (Customizable)																		
	Numerical Aperture / NA	0.22																		
	Connector	SMA905																		
System	Working Mode	CW / QCW																		
	Repetition Rate (kHz)	0~10																		
	Pulse width (ms)	0.05~300																		
	Heat Dissipation	Air Cooling																		
	Control Method	Analog 0~5V power adjustment, TTL 5V duty cycle modulation																		
	Power Supply	12VDC，100W																		
	Operating Temperature (℃)	10~30																		
	Storage Temperature(℃)	0~60																		
	Storage Humidity	0~80% RH																		

*Available wavelength and power combinations are listed in the table above. For further usage information, please contact our company.
*We offer standard stackable laser modules without housings and custom development for system control boards.

■ Multi-function Laser Diode System

Applications

- Spectroscopic Detection
- Biomedicine
- Material Analysis
- Display&Lighting
- Laser Manufacturing

AWM

Center Wavelength (nm)		Optional Wavelength																		
		450	635	650	675	695	755	785	808	830	880	915	940	980	1064	1320	1470	1550	1720	1940
Optical	CW Output Power / P_{op} (W)	3	3	3	3	3	5	5	10	5	10	10	10	10	10	5	5	3	3	3
	Maximum Average Output Power P_{max} (W)	30																		
	Wavelength Tolerance (nm)	±10																		
	Spectral Width / △λ (nm)	<6																		
Aiming Beam	Output Power / P_a (mW)	1~5																		
	Wavelength / λ_a (nm)	650																		
Fiber	Output Mode	Fiber detachable																		
	Fiber Core Diameter / Dcore (μm)	400 (Customizable)																		
	Fiber Length / L (cm)	100±10 (Customizable)																		
	Numerical Aperture / NA	0.22																		
	Connector	SMA905																		
System	Working Mode	CW / QCW，Multi-channel Synchronization																		
	Repetition Rate (kHz)	0~10																		
	Pulse width (ms)	0.05~300																		
	Heat Dissipation	Air Cooling																		
	Display	7-inch capacitive touchscreen																		
	Program Control	Independent setting of power, pulse interval, pulse width, and lasing time																		
	System Power (W)	≤300																		
	Power Supply	100~240 VAC, 50 / 60 Hz																		
	Operating Temperature (℃)	10~30																		
	Storage Temperature(℃)	0~60																		
	Storage Humidity	0~80% RH																		
	System Dimensions (W×H×L, mm)	255.2×166.4×279.3																		

*Available wavelength and power combinations are listed in the table above. For further usage information, please contact our company.

■ Multi-function Laser Diode Module

Applications

- Spectroscopic Detection
- Biomedicine
- Material Analysis
- Display&Lighting
- Laser Manufacturing

AWSO-B

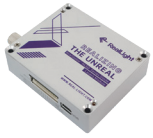
Center Wavelength（nm）		405	450	520	638	650
Optical	CW Output Power / P_{op} (mW)	50	50	50	60	50
	Wavelength Tolerance (nm)	±10				
	Spectral Width / △λ (nm)	<3				
	Temperature Drift of Wavelength / △λ/△T (nm/℃)	0.3				
	Beam Profile	Single-Mode				
	Module Layout	4*9, 36 output channels in total				
Fiber	Fiber Core Diameter / Cladding Diameter (μm)	4/125, 6/125, 9/125				
	Numerical Aperture / NA	0.14				
	Fiber Length / L (cm)	200±5				
	Connector	SMA 905 metal ferrule (50mm in length, 3.17mm outer diameter)				
Electrical	Working Mode	CW / QCW				
	Repetition Rate (kHz)	0~2				
	Pulse width (ms)	<40				
	Working Time (min)	<45				
	Temperature Control	Built-in TEC, real-time temperature monitoring				
	Control Method	Independent control, Synchronized output allowed				
	Communication	RS232 communication via DB9 port				
	Operating Temperature (℃)	10~35				
	Storage Temperature(℃)	0~60				
	Storage Humidity	0~80% RH				

*Available wavelength and power combinations are listed in the table above. For further usage information, please contact our company.
*We offer standard stackable laser modules without housings and custom development for system control boards.

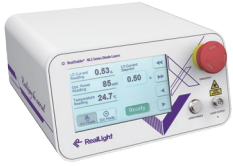
■ Multi-function Laser Diode Module & System

Applications

- Fluorescence detection
- BLaser-induced fluorescence (LIF)
- Fluorescence Spectrometer
- Particle size analysis
- Flow cytometer



AWMO-A/AWSO-A



AWS-A

Product Type	AWMO-A Series Multi-mode Diode Laser Module					AWSO-A Series Single-mode Diode Laser Module					AWS-A Series Single-mode Diode Laser System				
Center Wavelength (nm)	405	450	520	638	650	405	450	520	638	650	405	450	520	638	650
Output Power (mW)	100	100	100	130	130	50	50	50	60	60	50	50	50	60	60
Wavelength Tolerance (nm)	±10														
Linewidth (nm)	<3														
Power Stability (typ., @4h)	±2%(P-P)														
System Parameters															
Adjustbility % Full Power	0~100%														
Warm up Time (min)	15														
Control Interface	PH2.0~10P , USB					PH2.0~10P , USB					USB , SMA				
Connector	FC/PC , SMA905														
Output Fiber	105 μm , 0.22 NA					4 / 6 / 9 μm , 0.22 NA					4 / 6 / 9 μm , 0.22 NA				
Supply Voltage	5VDC/2A					5VDC/2A					+12VDC				
Power Consumption (typ., W)	<5					<5					<7				
Weight (g)	<150					<150					1200				
Dimensions (mm)	76.2×63.5×28					76.2×63.5×28					180×102×180.2				

*Available wavelength and power combinations are listed in the table above. For further usage information, please contact our company.

RealStable®Raman Probe

■ RL-RP Series Raman Probe

RL-RP Series Raman Probe				
Part No.	RL-RP-532-(F/S) S	RL-RP-785-(F/S) S	RL-RP-830-(F/S) S	RL-RP-1064-(F/S) S
Center Wavelength（nm）	532	785	830	1064
Spectral Range（cm^{-1}）	176-4000	176-3500	176-2800	200-3000
Operation Mode	Fiber pigtailed			
Probe Dimensions（mm）	107x30x13			
Filter Efficiency	OD6			
Working Distance（mm）	7.5			
Excitation Fiber	105μm，NA0.22；SMA905 or FC/PC			
Collection Fiber	200μm，NA0.22；SMA905			
Fiber Length（cm）	(100+30)±0.2			
Working Temperature（℃）	10-30			
Working Humidity	0-75%RH			

■ RL-IRP Series Immersion Raman Probe

RL-IRP Series Immersion Raman Probe				
Part No.	RL-IRP-532-(F/S)S	RL-IRP-785-(F/S)S	RL-IRP-830-(F/S)S	RL-IRP-1064-(F/S)S
Center Wavelength（nm）	532	785	830	1064
Spectral Range（cm^{-1}）	176~4000	176~3500	176~2800	200~3000
Operating Mode	Fiber pigtailed			
Probe Outer Dimensions（mm）	12			
Probe Tube Length	customizable			
Filter Efficiency	OD6			
Working Distance/Applicable System	0.5~1mm / Liquid			
Excitation Fiber	105μm，NA0.22；SMA905 or FC/PC			
Collection Fiber	200μm，NA0.22；SMA905			
Fiber Length（cm）	(100+30)±0.2			
Operating Temperature（℃）	-20~150			
Maximum Pressure Resistance（MPa）	1			
pH Tolerance Range	1~14			

RealStable®Handpieces

■ RL-HP-01 Handpieces

Lens or Working Tip	L101A Focus Lens	L201A Collimating Lens	L301A Small Beam Expansion Lens	L302A Large Beam Expansion Lens
Wavelength Range（nm）	600~1100			
Beam Diameter[1]（mm）	1,2,3 (3 levels)	5	20	30
Handpiece Transmission	>90%			
Working Mode	Fiber transmission, replaceable lens or working tip			
Fiber Core（μm）	400			
Numerical Aperture of Fiber	0.22			
Fiber Connector	SMA905			
Fiber Length（m）	2±0.1			
Fiber Jacket（mm）	6（Armored）			
Working Temperature（℃）	10~30			
Storage Temperature（℃）	-20~60			
Working/Storage Humidity	10~60% RH			

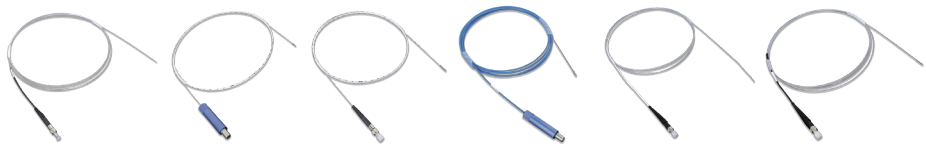
■ RL-HP-02 Handpieces

Lens or Working Tip	L102A Small Focus Lens	L103A Large Focus Lens	L303A Beam Expansion Lens	L304A Large Ball Lens	T101A Bended Tip
Wavelength Range（nm）	600~1100				
Handpiece Transmission	>90%	>90%	>90%	>80%	>80%
Working Mode	Fiber transmission, replaceable lens or working tip				
Fiber Core（μm）	400				
Numerical Aperture of Fiber	0.22				
Fiber Connector	SMA905				
Switch Connector	4-pin aviation connector				
Fiber Length（m）	2±0.1				
Fiber Jacket（mm）	6（Armored）				
Working Temperature（℃）	10~30				
Storage Temperature（℃）	-20~60				
Working/Storage Humidity	10~60% RH				

■ RL-HP-03 Handpieces

Lens or Working Tip	T301A Curved Working Tip	T302A Fiber Tip	L304A Beam Expansion Lens	T102A Bended Tip
Wavelength Range（nm）	300~2200			
Handpiece Transmission	>80%	>90%	>90%	>80%
Working Mode	Fiber transmission, replaceable lens or working tip			
Core of Fiber Tip（μm）	-	300，400	-	-
Fiber Core（μm）	200			
Numerical Aperture of Fiber	0.22±0.02			
Fiber Connector	SMA905			
Fiber Length（m）	2±0.1（Customizable）			
Fiber Jacket（mm）	3			
Working Temperature（℃）	10~30			
Storage Temperature（℃）	-20~60			
Working/Storage Humidity	10~60% RH			

RealStable®Therapeutic Fiber



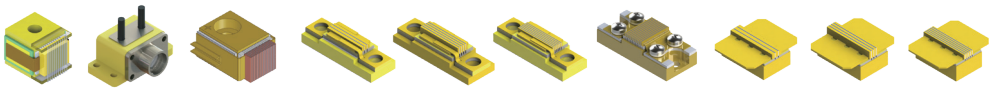
Fiber Type	Point-Emission Fiber	Single-Ring Fiber	Dual-Ring Fiber
Part No.	F01-400-0.37-CR-3-SM	F02-400-0.37-WT-3-SM	F03-600-0.22-WT-3-SM
Wavelength Range（nm）	400~1700	400~1700	350~2300
Fiber Core Diameter（μm）	400（Customizable）	400	600
Fiber Outer Diameter（μm）	730	800	950
Numerical Aperture NA	0.37（Customizable）	0.37	0.22
Fiber Connector	SMA905	SMA905	SMA905
Jacket Color	Transparent	White	White
Fiber Length（m）	3	3	3
Glass Tube Outer Diameter（mm）	–	1.8	1.8
Glass Tube Length（mm）	–	12	12

Fiber Type	Tapered Fiber	Diffusing Fiber	Spherical Fiber
Part No.	F04-600-0.37-CR-3-SM	F05-400-0.37-CR-3-SM	F06-400-0.37-CR-3-SM
Wavelength Range（nm）	400~1700	400~1700	400~1700
Fiber Core Diameter（μm）	600（Customizable）	400（Customizable）	400（Customizable）
Fiber Outer Diameter（μm）	750	730	730
Numerical Aperture NA	0.37	0.37	0.37
Fiber Connector	SMA905	SMA905	SMA905
Jacket Color	Transparent	Transparent	Transparent
Fiber Length（m）	3	3	3
Glass Tube Outer Diameter（mm）	1.8	–	1.3
Glass Tube Length（mm）	12	–	12
Diffusing Soft Cylinder Length（cm）	–	1~5（Customizable）	–

*All RL-F series therapeutic fibers can be customized according to customer specifications.

RealStable®Diode Laser Stacks

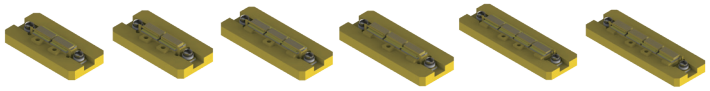
■ GS Series Condution-cooled Diode Laser Array



Optical Parameters											
Part Number	GS06	GS07	GS12			GS15			GS16		
Center Wavelength λ_c (nm)	796~808	796~808	940	790~812		940	790~812		940	790~812	
Wavelength Tolerance $\delta\lambda_c$ (nm)	±5	±3	±5	±3		±5	±3		±5	±3	
Output Power per Bar (W)	200	180	100	100	200	100	100	200	100	100	200
Number of Bars	9	1~15	1~2	3~6	2~4	1~2	5~12	5~10	1~2	1~5	1~3
Bar Length (mm)	5	5	10			10			10		
Bar-to-Bar Pitch (mm)	0.6	~0.4	0.8	0.43	0.55	0.8	0.43	0.55	0.8	0.43	0.55
Spectral Width (FWHM) (nm)	≤5	≤5	≤5			≤5			≤5		
Fast Axis Divergence Angle (FWHM) (typ., °)	8 (Customizable)	40	40			40			40		
Slow Axis Divergence Angle (FWHM) (typ.,°)	12 (Customizable)	12	10			10			10		
Wavelength Temperature Coefficient (nm/℃)	~0.3	~0.3	~0.3			~0.3			~0.3		
Electrical Parameters											
EO Conversion Efficiency (%)	>48	>50	≥50			≥50			≥50		
Threshold Current I_{th} (A)	<27	<20	≤20	≤20	≤30	≤20	≤20	≤30	≤20	≤20	≤30
Operating Current I_{op} (A)	<170	≤170	100	100	220	100	100	220	100	100	220
Operating Voltage V_{op} (V)	<2.1	<2.1	≤2.1			≤2.1			≤2.1		
Duty Cycle (%)	<0.8	<0.8	≤3% @200W	≤0.8% @600W	≤0.6% @800W	≤6% @200W	≤1% @1200W	≤0.6% @2000W	≤1.5% @200W	≤0.6% @500W	≤0.6% @600W
Pulse Width (μs)	<300	<300	≤3000	≤300		≤3000	≤300		≤3000	≤300	
Repetition Rate (Hz)	<30	<30	1~10	1~25	1~20	1~20	1~30	1~20	1~5	1~20	
Environment Parameters											
Operating Temperature (℃)	-40~75	-40~75	-40~65			-40~65			-40~65		
Storage Temperature (℃)	-45~80	-45~80	-45~85			-45~85			-45~85		

*Different wavelengths, numbers of bars, bar pitches and other specifications are available upon request.

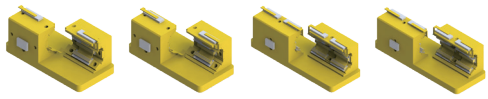
■ AA Series Condution-cooled Diode Laser Array



Optical Parameters						
Package Type	AA-2		AA-3		AA-4	
Center Wavelength λ_c (nm)	790~812		790~812		790~812	
Wavelength Tolerance $\delta\lambda_c$ (nm)	±3		±3		±3	
Output Power per Bar (W)	100	200	100	200	100	200
Number of Bars per Stack	8	6	8	6	9	7
Bar-to-Bar Pitch (mm)	0.43	0.55	0.43	0.55	0.43	0.55
Emission Area (mm×mm)	3×21	2.75×21	3×32	2.75×32	3.5×43	3.3×43
Stack-to-Stack Pitch (mm)	1		1		1	
Number of Stacks	2		3		4	
Spectral Width per Wavelength (FWHM) (nm)	≤6		≤6		≤6	
Fast Axis Divergence Angle (FWHM) (typ., °)	40		40		40	
Slow Axis Divergence Angle (FWHM) (typ.,°)	10		10		10	
Wavelength Temperature Coefficient (nm/℃)	~0.3		~0.3		~0.3	
Electrical Parameters						
EO Conversion Efficiency (%)	≥50		≥50		≥50	
Threshold Current I_{th} (A)	≤20	≤30	≤20	≤30	≤20	≤30
Operating Current I_{op} (A)	100	220	100	220	100	220
Operating Voltage V_{op} of each Bar (V)	≤2.1		≤2.1		≤2.1	
Duty Cycle (%)	≤0.8%@1600W	≤0.6%@2400W	≤0.8%@2400W	≤0.6%@3600W	≤0.8%@3600W	≤0.6%@5600W
Pulse Width (μs)	≤300		≤300		≤300	
Repetition Rate (Hz)	1~25	1~20	1~25	1~20	1-25	1-20
Environment Parameters						
Operating Temperature (℃)	-40~65		-40~65		-40~65	
Storage Temperature (℃)	-45~85		-45~85		-45~85	

*Wavelengths from 940nm to 960nm available upon request.
*Custom number of bars, bar-to-bar pitch, and stack-to-stack pitch are available upon request.

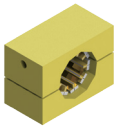
PA Series Conduction-cooled Diode Laser Array



Optical Parameters				
Package Type	PA-1		PA-2	
Center Wavelength λ_c (nm)	790~812		790~812	
Wavelength Tolerance $\delta\lambda_c$ (nm)	±3		±3	
Output Power per Bar (W)	100	200	100	200
Number of Horizontal Arrays	1		2	
Array-to-Array Pitch	-		3	
Number of Bars per Stack	1~4	1~3	1~4	1~3
Bar-to-Bar Pitch (mm)	0.43	0.55	0.43	0.55
Spectral Width (FWHM) (nm)	≤6		≤6	
Fast Axis Divergence Angle (FWHM) (typ., °)	40		40	
Slow Axis Divergence Angle (FWHM) (typ.,°)	10		10	
Wavelength Temperature Coefficient (nm/℃)	~0.3		~0.3	
Electrical Parameters				
EO Conversion Efficiency (%)	≥50		≥50	
Threshold Current I_{th} (A)	≤20	≤30	≤20	≤30
Operating Current I_{op} (A)	100	220	100	220
Operating Voltage V_{op} of each Bar (V)	≤2.1		≤2.1	
Duty Cycle (%)	≤0.8%@2400W	≤0.6%@3600W	≤0.8%@4800W	≤0.6%@7200W
Pulse Width (μs)	≤300		≤300	
Repetition Rate (Hz)	≤25	≤20	≤25	≤20
Environment Parameters				
Operating Temperature (℃)	-40~65		-40~65	
Storage Temperature (℃)	-45~85		-45~85	

*Wavelengths from 940nm to 960nm available upon request.
*Custom number of bars, bar-to-bar pitch, and stack-to-stack pitch are available upon request.

CA01 Series Circular Conduction-cooled Diode Laser Array



Optical Parameters		
Center Wavelength λ_c（nm）	790~812	
Wavelength Tolerance $\delta\lambda_c$（nm）	±3	
Output Power per Bar（W）	100	200
Number of Horizontal Arrays	customized	
Array-to-Array Pitch	customized	
Number of Bars per Stack	customized	
Bar-to-Bar Pitch（mm）	customized	
Spectral Width（FWHM）（nm）	<6	
Fast Axis Divergence Angle（FWHM）（°）	≤40	
Slow Axis Divergence Angle（FWHM）（°）	≤10	
Wavelength Temperature Coefficient（nm/℃）	~0.3	
Electrical Parameters		
EO Conversion Efficiency（%）	≥50	
Threshold Current I_{th}（A）	≤20	≤30
Operating Current I_{op}（A）	100	220
Operating Voltage V_{op} of each Bar（V）	≤2.1	
Duty Cycle（%）	<0.8%	
Pulse Width（μs）	≤300	
Repetition Rate（Hz）	≤25	≤20
Environment Parameters		
Operating Temperature（℃）	-40~65	
Storage Temperature（℃）	-45~85	

*Wavelengths from 940nm to 960nm available upon request.
*The installation and wiring can be customized to meet the customer's requirements.

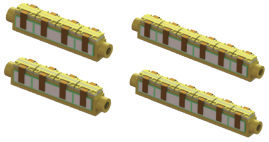
Applications

- Pumping source
- Laser processing
- Scientific research
- Illumination

Key Features

- Hard solder package
- High peak power
- High temperature application
- High reliability
- Dual wavelength integration

WA Series Water Cooled Diode Laser Array



Optical Parameters				
Package Type	WA-4		WA-6	
Center Wavelength λ_c (nm)	790~812			
Wavelength Tolerance $\delta\lambda_c$ (nm)	±3			
Output Power per Bar (W)	100	250	100	250
Number of Stacks	4		6	
Stack-to-Stack Pitch (mm)	0.5			
Maximum Peak Power (W)	1200	2000	1800	3000
Number of Bars per Stack	1~3	1~2	1~3	1~2
Bar-to-Bar Pitch (mm)	0.43	0.55	0.43	0.55
Spectral Width (FWHM) (nm)	≤6			
Fast Axis Divergence Angle (FWHM) (typ., °)	40			
Slow Axis Divergence Angle (FWHM) (typ.,°)	10			
Wavelength Temperature Coefficient (nm/℃)	~0.3			
Electrical Parameters				
EO Conversion Efficiency (%)	≥50			
Threshold Current I_{th} (A)	≤20	≤30	≤20	≤30
Operating Current I_{op} (A)	100	220	120	220
Operating Voltage V_{op} of each Bar (V)	≤2.1			
Duty Cycle (%)	≤3			
Pulse Width (μs)	≤300			
Repetition Rate (Hz)	≤100			
Environment Parameters				
Water Flow Rate (L/min)	≥3		≥5	
Water Pressure (Mpa)	≤0.5			
Operating Temperature (℃)	10~40			
Storage Temperature (℃)	-20~60			

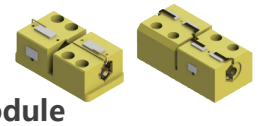
*Wavelengths from 940nm to 960nm available upon request.
*Custom number of bars, bar-to-bar pitch, and stack-to-stack pitch are available upon request.

WV Series Macro Channel Diode Laser Array

Optical Parameters				
Product Type	WV10	WV11	WV13	WV14
Center Wavelength λ_c (nm)	808			
Wavelength Tolerance $\delta\lambda_c$ (nm)	±15			
Output Power (W)	600	1200	2400	3000
Number of Bars	6	12	12	15
Bar-to-Bar Pitch (mm)	2.18	2.18	2.77	2.17
Spot Size (mm)	10 X10.9	10 X 24	10 X 30.47	10 X 30.38
Fast Axis Full Divergence Angle (FWHM) (°)	78 (or customized angle)			
Slow Axis Full Divergence Angle (FWHM) (°)	20			
Wavelength Temperature Coefficient (nm/℃)	~ 0.3			
Electrical Parameters				
Operating Current I_{op} (A)	≤100	≤100	≤200	≤200
Threshold Current I_{th} (A)	≤20	≤20	≤30	≤30
Operating Voltage V_{op} (V)	≤12	≤24	≤24	≤30
Duty Cycle (max., %)	30	30	20	20
Pulse Width (max., ms)	200			
Repetition Rate (Hz)	1 ~ 10			
Cooling Parameters				
Cooling Water Requirements	Deionized Water or Distilled Water			
Water Temperature (℃)	20 ~ 30			
Water Pressure (Mpa)	0.25 ~ 0.35	0.35 ~ 0.45	0.3 ~ 0.4	0.3 ~ 0.4
Water Flow Rate (L/min)	2.5 ~ 3.5	3.5 ~ 4.5	3.0 ~ 4.0	3.0 ~ 4.0

*Custom wavelengths available upon request.

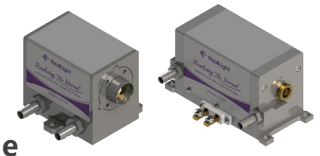
Conduction Cooled QCW Diode Side-Pumped Module



Optical Parameters					
Pump Wavelength (nm)	808±3				
Spectral Width (nm)	≤5		≤6		
Pump Peak Power (W)	1800	2400	4800	6000	7200
Crystal Material	Nd:YAG				
Crystal Diameter (mm)	Φ4×20	Φ5×20	Φ5×30	Φ6×30	Φ7×30
Number of Crystals	2				
Number of Bars	18	24	48	60	72
Electrical Parameters					
Operating Current (A)	<110		<100		
Operating Volatge (V)	<36	<48	≤96	<120	<144
Working Mode	QCW				
Duty Cycle (%)	≤0.6				
Pulse Width (μs)	≤300				
Repetition Rate (Hz)	≤20				
Thermal Parameters					
Ambient Temperature (℃)	-40~65				
Storage Temperature (℃)	-45~80				

*Custom wedge angles for the crystal rod are available upon request.

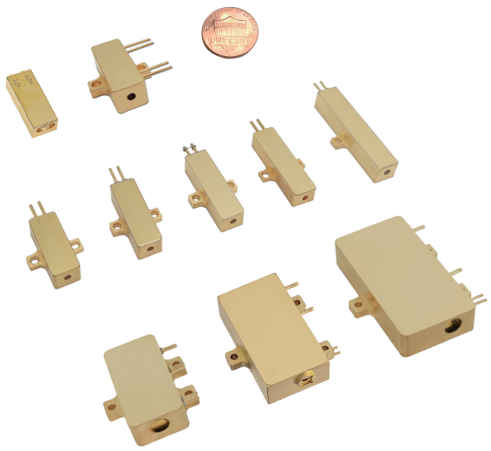
Water Cooled QCW Diode Side-pumped Module



Optical Parameters						
Pump Wavelength (nm)	808±3					
Spectral Width (nm)	≤5					
Pump Peak Power (W)	2400	3000	6000	7500	12000	15000
Crystal Material	Nd:YAG					
Crystal Diameter (mm)	Φ3×75	Φ4×75	Φ5×105	Φ6×105	Φ7×105	Φ8×105
Number of Bars	12		30		60	
Electrical Parameters						
Operating Current (A)	<200	<250	<200	<250	<200	<250
Operating Volatge (V)	<24	<24	<60	<60	<120	<120
Working Mode	QCW					
Duty Cycle (%)	≤3		≤3		≤1.5	
Pulse Width (μs)	≤300					
Repetition Rate (Hz)	≤100		≤100		≤50	
Other Parameters						
Water Flow Rate (L/min)	8~10		10~15		10~15	
Water Pressure (MPa)	<0.5					
Coolant	Distilled Water					
Operating Temperature (℃)	10~35					
Storage Temperature (℃)	-10~50					

*Custom wedge angles for the crystal rod are available upon request.

RealSubns® Erbium glass 1535nm Eye-safe Laser



Product Type	Low Energy 1535nm Erbium glass Laser							
Wavelength (nm)	1535							
Pulse energy (μJ)	100	160	200	300	400	500	800	1000
Repetition rate (Hz)	10							5
Pulse width (typ., ns)	3		4		5		6	
RMS	3%							
Beam full divergence (mrad)	≤11		≤10	≤9			≤7	
Beam profile	TEM_{00}							
Operating current (A)	8			12	15	20	30	
Operating Voltage (V)	2							
Dimensions (L×W×H,mm)	21x8x7	16.1x6.3x4.32	21x8x7	25x8x7	32x8x7			
Weight (g)	8	3	8	10	13			
Operation temperature (˚C)	-40~65							
Storage temperature (˚C)	-45~80							

Product Type	High Energy 1535nm Erbium glass Laser					High Repetition Rate Erbium glass Laser		
Wavelength (nm)	1535					1535		
Pulse energy (μJ)	1000	1500	2000	2000	3000	40	20	10
Repetition rate (Hz)	5	10	5	1	5	1 kHz	2.5 kHz	5 kHz
Pulse width (typ., ns)	10				12	5	6	8
RMS	3%					3%		
Beam full divergence (mrad)	≤5.5		≤5		≤3.5	≤20	≤17	≤18
Beam profile	TEM_{00}					TEM_{00}		
PIN amplitude (typ., V@50Ω resistance)	2	3			2	–		
Operating current (A)	70					5		
Operating Voltage (V)	2	4			6	2		
Dimensions (L×W×H,mm)	38x20x12	49.5x25x12			58x30x12	25x8x7		
Weight (g)	80	100			130	10		
Operation temperature (˚C)	-40~65					-40~65		
Storage temperature (˚C)	-45~80					-45~80		

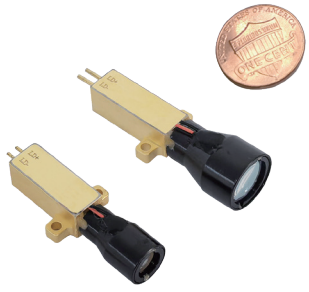
Applications

- Laser range finder
- Meteorological radar
- Laser fuse
- Remote sensing
- LiDAR

Key Features

- Passively Q-Switched, Erbium glass
- Eye-safe
- Extremely light
- Super compact design
- Wide operating temperature range

RealSubns®1535nm Eye-safe Laser Transmitter



Product Type	T01 Series			T02 Series	
Wavelength (nm)	1535				
Pulse energy of the laser (μJ)	100	200	300	100	200
Transmitter transmittance	>90%				
Repetition rate (Hz)	10				
Pulse width (typ., ns)	3	4	4	3	4
Energy Stability (RMS)	3%				
Beam diameter (typ., mm)	9			5	
Beam full divergence (mrad)	≤0.5			≤0.8	
Beam profile	TEM_{00}				
PIN amplitude (typ., V@50Ω resistance)	3				
Operating current (A)	8	8	12	8	
Operating Voltage (V)	2				
Weight (g)	13.5			11	
Operation temperature (˚C)	-40~65				
Storage temperature (˚C)	-45~80				

Applications

- Laser range finding
- Remote sensing
- LiDAR

Key Features

- Eye-safe laser wavelength
- Integrated photodiode
- Small divergence angle
- Super compact design
- High reliability

RealSubns®Microchip Lasers

Applications

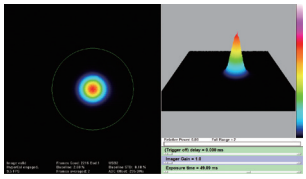
- LIDAR
- TOF-MS
- Optical metrology
- Super-continuum generation
- Seed laser
- LIMS
- Nonlinear optics
- Photodynamic therapy
- Biomedicine
- LIBS
- Micromachining
- Envronmental monitoring
- Imaging radar
- LIF
- Photolithography
- Laser remote sensing
- Laser ranging
- LIPS
- Atmospheric monitoring
- 3D scanning and imaging
- Laser-based ultrasound detection
- Raman spectroscopy Spectrum analysis
- Pump source for optical parametric oscillators

Product Type		MCA Series 1.5ns Microchip Laser																MCD Series 350ps			
Wavelength (nm)		1064				532				355				266				1064	532	355	266
Repetition rate (kHz)		1	5	10	20	1	5	10	20	1*	5*	10*	20*	1*	5*	10*	20*	0.1	0.1	0.1	0.1
Average power (mW)		120	300	400	400	60	150	150	200	30	50	50	60	10	40	30	40	10	3	1.5	0.5
Pulse energy (μJ)		120	60	40	20	60	30	15	10	30	10	5	3	10	8	3	2	100	30	15	5
Pulse width (ps)		2000		1500		1500	1200			1500	1200			1500	1200			350	300	300	300
Power stability (RMS, @8h)		<3%																<3%			
Beam profile		TEM_{00}																TEM_{00}			
Beam full divergence (typ., mrad)	Horizontal @1/e²	8				6				5				5				12	10	8	8
	Vertical @1/e²	8				6				5				5				12	10	8	8
Polarization ratio		>100:1																>100:1			
System Parameters																					
Supply power voltage		100~240 VAC, 50/60 Hz																100~240 VAC, 50/60 Hz			
Control interface		RS232, USB																RS232, USB			
Power consumption (W)		≤45																≤25			
Power dimensions (W×H×L,mm)		180×102×180																180×102×180			
Laser dimensions (W×H×L,mm)		45×33×120																45×33×120			
Operation temperature (℃)		15~35																15~35			
Storage temperature (℃)		0~60																0~60			

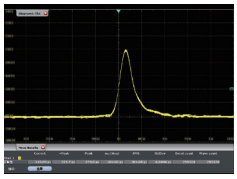
Product Type		MCC Series 750ps Microchip Laser													MCH Series 300ps SLM					
Wavelength (nm)		1064			532			355			266			213	1064			532		
Repetition rate (kHz)		1	5	10	1	5	10	1*	5*	10*	1*	5*	10*	1*	20	50	100	20	50	100
Average power (mW)		100	300	300	50	150	150	20	50	50	10	40	40	4	60	100	100	30	50	50
Pulse energy (μJ)		100	60	30	50	30	15	20	10	5	10	8	4	4	3	2	1	1.5	1	0.5
Pulse width (ps)		750			750			650			650			650	350		500	300		500
Power stability (RMS, @8h)		<3%													<3%					
Beam profile		TEM_{00}													TEM_{00}					
Beam full divergence (typ., mrad)	Horizontal @1/e²	8	12		7	10		5	8		5	8		5	25		30	16		25
	Vertical @1/e²	8	12		7	10		5	8		5	8		5	25		30	16		25
Polarization ratio		>100:1													>100:1					
System Parameters																				
Supply power voltage		100~240 VAC, 50/60 Hz													100~240 VAC, 50/60 Hz					
Control interface		RS232, USB													RS232					
Power consumption (W)		≤45													≤35	≤40	≤40	≤35	≤40	≤40
Power dimensions (W×H×L,mm)		180×102×180													150×54×105					
Laser dimensions (W×H×L,mm)		45×33×120													45×33×120					
Operation temperature (℃)		15~35													15~35					
Storage temperature (℃)		0~60													0~60					

Product Type		MCI Series 2.5ns		MCJ Series 1ns Microchip Laser				MCL Series 2.5ns	
Wavelength (nm)		946	473	1030	515	343	257	1319	660
Repetition rate (kHz)		1	1	1	1	1*	1*	1*	1*
Average power (mW)		20	4	100	40	20	8	50	10
Pulse energy (μJ)		20	4	100	40	20	8	50	10
Pulse width (ps)		2500	2000	1000	900	800	800	2500	2000
Power stability (RMS, @8h)		<3%		<3%				<3%	
Beam profile		TEM_{00}		TEM_{00}				TEM_{00}	
Beam full divergence (typ., mrad)	Horizontal @1/e²	9	7	6	4	3	2	10	6
	Vertical @1/e²	9	7	6	4	3	2	10	6
Polarization ratio		>100:1		>100:1				>100:1	
System Parameters									
Supply power voltage		100~240 VAC, 50/60 Hz		100~240 VAC, 50/60 Hz				100~240 VAC, 50/60 Hz	
Control interface		RS232, USB		RS232, USB				RS232, USB	
Power consumption (W)		≤15		≤45				≤45	
Power dimensions (W×H×L,mm)		180×102×180		180×102×180				180×102×180	
Laser dimensions (W×H×L,mm)		45×33×120		45×33×120				45×33×120	
Operation temperature (℃)		15~35		15~35				15~35	
Storage temperature (℃)		0~60		0~60				0~60	

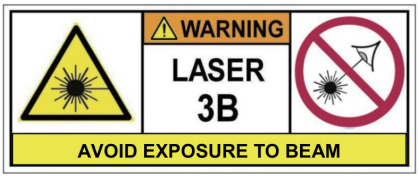
*Side laser outlet configuration（middle laser outlet configuration unless otherwise stated）.



Beam Profile



Typical Pulse Width



RealSubns®MCA-R 2ns Microchip Laser

Applications

- LIDAR
- Laser ranging
- Atmospheric monitoringe

Key Features

- Pulse width down to 2ns
- Single pulse energy up to 180μJ
- Repetition rate up to 2.5kHz
- Spatial mode TEM_{00}
- Sealed package, high reliability

Optical Parameters					
Wavelength（nm）		1064		532	
Repetition rate (kHz)		2.5*			
Average power (mW)		275	450	138	225
Pulse energy (μJ)		110	180	55	90
Pulse width (ps)		2000	2500	2000	2500
Power stability (RMS, @8h)		<3%			
Beam profile		TEM_{00}			
Beam full divergence (typ., mrad)	Horizontal @1/e²	≤3		≤2.5	
	Vertical @1/e²	≤3		≤2.5	
Polarization ratio		>100:1			
System Parameters					
Supply power voltage		12V DC			
Control interface		RS232, USB			
Power consumption (W)		≤45			
Power dimensions (W×H×L,mm)		86×30.5×101			
Laser head dimensions (W×H×L,mm)		45×33×120			
Operation temperature (℃)		15~35			
Storage temperature (℃)		0~60			

*Side laser outlet configuration.

RealSubns®MCO Series Energy Adjustable Microchip Lasers

Output Mode		Free Space				Fiber Pigtailed			
Wavelength (nm)		1064	532	355	266	1064	532	355	266
Repetition rate (Hz)		1~200				1~200			
Max. energy output (μJ)		60	30	25	15	50	25	25	10
Pulse width (ns)		≤1				≤1			
Energy stability (RMS, @8h)		<3%				<3%			
Adjusting precision of output energy		1%				1%			
Beam profile (Free space output)		TEM_{00}				Fiber 200μm/0.22NA			
Full angle divergence typ. (mrad)	Horizontal @1/e²	≤2				-	-	-	-
	Vertical @1/e²	≤2				-	-	-	-
Polarization		≥100:1				≥100:1			
System Parameters									
Supply power voltage		24V DC				24V DC			
Modulation input		TTL 0~5V, SMB input				TTL 0~5V, SMB input			
Control interface		RS232				RS232			
Peak power consumption (W)		<30				<30			
Average power consumption (W)		<15				<15			
Laser dimensions (W×H×L,mm)		82×102.8×240				82x79x250			
Operation temperature (℃)		15~35				15~35			
Storage temperature (℃)		0~60				-10~60			

Applications

- Laser engraving
- Laser photoluminescence
- Laser mass spectroscopy
- Raman spectroscopy
- Semiconductor inspection
- Laser capture microdissection
- LIBS
- LiDAR
- Laser remote sensing
- Laser marking
- Laser-induced fluorescence (LIF)
- Thin film scribing and processing
- Photoacoustic Imaging
- Ultraviolet microscopy
- Laser spark plug

Key Features

- Pulse width<1ns
- Repetition rate variable from 1-200Hz
- Energy adjustable by PC control
- Sealed package, high reliability
- Plug and play, include PC control software
- Photodiode output signal with time jitter<100ps
- available upon request

RealSubns®MCD Series 350ps-2ns Low Repetition Rate OEM Microchip Laser

Applications

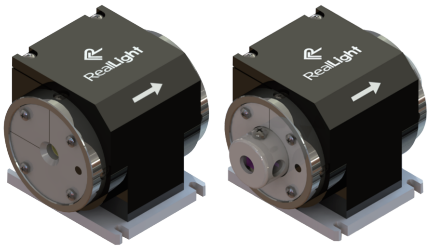
- Medical cosmetology
- Laser range finding
- Laser ablation

Key Features

- Pulse width down to 350ps
- Single pulse energy up to 500μJ
- High polarization direction stability
- Spatial mode TEM_{00}
- Compact structure and high reliability
- Dual pulse width output optional
- Red light indication optional

Optical Parameters				
Wavelength（nm）		1064		
Repetition rate (kHz)		0.01		
Average power (mW)		2	5	3/3
Pulse energy (μJ)		200	500	300/300
Pulse width (ps)		350	350	500/2000
Power stability (RMS, @8h)		<3%		
Beam profile		TEM_{00}		
Beam full divergence (typ., mrad)	Horizontal @1/e²	8	6	6/4
	Vertical @1/e²			
Polarization ratio		P Polarization >100:1		500ps:P Polarization >100:1 2ns:S Polarization >100:1
System Parameters				
Supply power voltage		12V 2A		
Control interface		SMA		
Power consumption (W)		≤10		
Power dimensions (W×H×L,mm)		68×35×120		100×23×100
Laser head dimensions (W×H×L,mm)		45×33×120		145×70×46
Operation temperature (℃)		15~35		
Storage temperature (℃)		0~60		

Free Space Faraday Rotator and Isolator



Key Features

- High isolation
- Low insertion loss
- Various clear aperture
- Double escape ports
- Various wavelength options
- Output polarization states adjustablel

Applications

- Amplified laser
- Mode-locked laser
- Semiconductor laser
- Optical test instrumentation
- Optical parametric oscillator

Product	Part No.	Wavelength	Clear Aperture	Rotation Angle @25℃	Extinction @25℃	Transmission @25℃	Damage Threshold @10ns	Package
Rotator	RL-ROT-1030-2.5	1030nm	2.5mm	45°±1°	＞30dB	＞95%	5J/cm²	3#
	RL-ROT-1030-5		5mm					
	RL-ROT-1064-2.5	1064nm	2.5mm					
	RL-ROT-1064-5		5mm				10J/cm²	

Product	Part No.	Wavelength	Clear Aperture	Isolation @25℃	Transmission @25℃	Polarizer	Damage Threshold @10ns	Package
Isolator	RL-ISO-1030-2.5	1030nm	2.5mm	＞30dB	＞90%	PBS Cube	5J/cm²	3#
	RL-ISO-1030-5		5mm					
	RL-ISO-1064-2.5	1064nm	2.5mm					
	RL-ISO-1064-5		5mm					

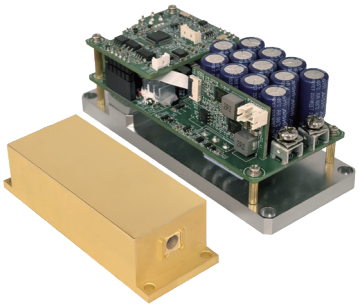
RealShock® AQE Series Diode Pumped Actively Q-switched Laser

Key Features

- Multiple wavelengths available: 1064/532/355/266nm
- Conduction cooling, low power consumption, high stability
- Supports both internal and external trigger functions
- Wide-temperature operation products are available for customization
- Optical shutter and energy detection functions can be customized
- Fiber coupling and position switch can be customized

Product Type		AQE Series 50mJ DPAQSL				AQE Series 100mJ DPAQSL				AQE Series 180mJ DPAQSL			
Wavelength (nm)		1064	532	355	266	1064	532	355	266	1064	532	355	266
Repetition rate (Hz)		1~20				1~20				1~10			
Pulse energy (mJ)		50	25	15	5	100	50	25	10	180	100	50	20
Pulse width (ns)		≤6				≤10				≤10			
Power stabilty (RMS)		≤3%				≤3%				≤8%			
Full angle divergence typ. (mrad)	Horizontal @1/e²	≤4				≤3				≤4			
	Vertical @1/e²	≤4				≤3				≤4			
Beam diameter (at output port, mm)		3*3				4*4				6			
Cooling method		Air cooling											
Laser dimensions (W×H×L,mm)		95×70×150		95×70×190		125×70×170		125×70×210		160×85×230			
Operation temperature (℃)		10~35											
Storage temperature (℃)		-20~60											
Driver Parameters													
Supply power voltage		24VDC											
Control interface		J30J~21P											
Power consumption (W)		120W				150W				200W			
Trigger mode		Trigger In/Out											

RealShock® PQE Series High Energy Solid-state Lasers



Applications

- Laser ablation
- Laser-induced breakdown spectroscopy (LIBS)
- Optical damage threshold testing

Key Features

- Pulse width < 3ns
- Pulse energy > 10mJ
- Compact size, no water cooing required
- Suitable for handheld devices
- Cost effective

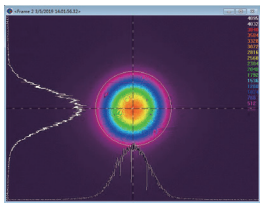
Optical Parameters		
Part Number		PQE-1064-0.01-10
Wavelength(nm)		1064
Repetition rate(Hz)		10
Pulse energy (mJ)		>10
Pulse width (ns)		<3
Power stabilty (RMS)		<3%
Full angle divergence typ. (mrad)	Horizontal @1/e²	3
	Vertical @1/e²	3
Cooling method		air cooling
Laser dimensions (W×H×L,mm)		83×30×22.1
Operation temperature (℃)		10~35
Storage temperature (℃)		-20~60
Driver Parameters		
Supply power voltage		12VDC
Control interface		RS-232,I/O
Power consumption (W)		20W（MAX）
Drive board dimensions (W×H×L,mm)		45×39.6×110.3
Trigger mode		Trigger In/Out

RealShock®HQP Series High Peak Power Sub-nanosecond Lasers

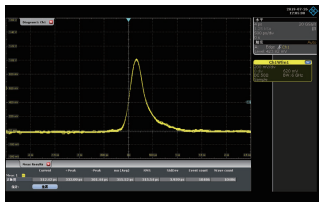
Optical Parameters							
Wavelength (nm)		1064			532		
Repetition rate (kHz)		5	20	50	5	20	50
Average power (W)		2.5	5	4	1.25	2.5	2
Pulse energy (μJ)		500	250	80	250	125	40
Pulse width (ps)		<2000	<1000	<500	<2000	<1000	<500
Power stability (RMS, @8h)		<3%					
Beam profile		TEM_{00}					
Beam full divergence (typ., mrad)	Horizontal @1/e²	<10					
	Vertical @1/e²	<10					
Polarization ratio		>100:1					
System Parameters							
Supply power voltage		15VDC					
Modulation input		5V TTL					
Trigger output		3V@50Ω					
Control interface		RS232					
Power consumption (W)		<200					
Power dimensions (W×H×L,mm)		172×100×197					
Laser head dimensions (W×H×L,mm)		85×91.6×240					
Operation temperature (℃)		15-35					
Storage temperature (℃)		-20~60					

Applications

- LiDAR
- Scanning and imaging lidar
- Laser engraving
- Laser etching
- Laser precision
- Laser Precision drilling
- Ultrasonic testing
- Micro-nano processing
- Ophthalmic treatment
- Laser-induced breakdown spectroscopy(LIBS)

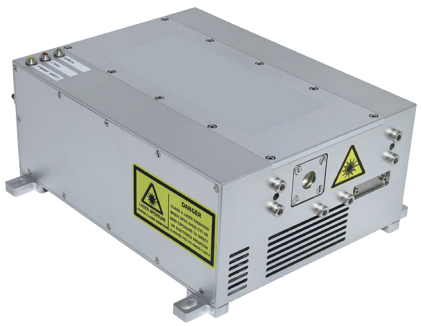


Beam Profile



Typical Pulse Width

RealShock®HQE-1 Series High Energy Diode-pumped Solid-state Laser

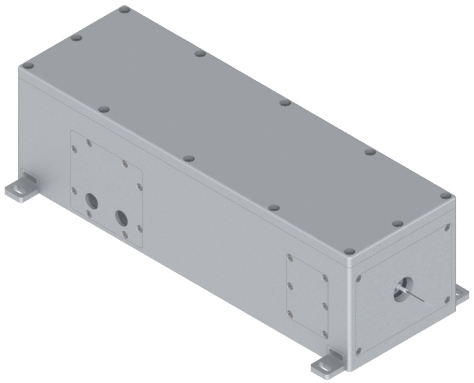


Optical Parameters		
Wavelength (nm)		2940
Repetition rate (Hz)		10
Pulse energy (mJ)		200@120μs
Pulse width (μs)		120
Energy stability (RMS)		<3%
Beam full divergence (typ., mrad)	Horizontal @1/e²	4
	Vertical @1/e²	6
Beam diameter (mm)		4
Cooling		Conduction cooled
Output mode		Free space
System Parameters		
Supply power voltage		220VAC±5% 50~60Hz
Power consumption (W)		200
Laser head dimensions (W×H×L,mm)		160×85×190
Operation temperature (℃)		20~25

Applications

- Laser medicine
- Laser surgery and therapy
- Laser welding
- Material processing

RealShock® HQE-2 Series High Energy Diode-pumped Solid-state Laser



Optical Parameters		
Wavelength (nm)		2940
Repetition rate (Hz)		10
Pulse energy (mJ)		200@100μs
Pulse width (μs)		100
Energy stability (RMS)		<3%
Beam full divergence (typ., mrad)	Horizontal @1/e²	4
	Vertical @1/e²	4
Beam diameter (mm)		3
Cooling		Water cooled
Output mode		Free space / fiber / articulated arm
System Parameters		
Supply power voltage		220VAC±5% 50~60Hz
Power consumption (W)		200
Laser head dimensions (W×H×L,mm)		120×110×370
Operation temperature (˚C)		20~25

Applications

- Laser medicine
- Laser surgery and therapy
- Laser welding
- Material processing

Key Features

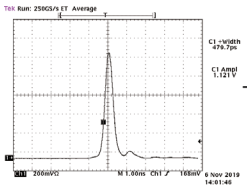
- Long lifetime, easy maintainmence
- High conversion efficiency
- Excellent energy stability
- Good electromagnetic compatibility
- Free space / fiber / articulated arm output

RealShock®HQF Series Lamp-pumped Picosecond Laser

Wavelength (nm)		1064 / 532	
Repetition rate (Hz)		1~10	
Pulse energy (mJ)		500mJ@1064nm, 250mJ@532nm	400mJ@1064nm, 200mJ@532nm
Energy stability RMS		<2%@1064nm, <3%@532nm	<3%@1064nm, <4%@532nm
Other parameters			
Pulse width FWHM (ps)		350	400
Beam full divergence (typ., mrad)	Horizontal @1/e²	<3	
	Vertical @1/e²	<3	
Beam diameter (mm)		~11	
Spatial profile		Top hat	
Polarization direction		Vertical	
Electrical supply		220V/110V±10%AC, 50/60Hz	
Power consumption		<500W	
Environment requirements		temperature 10~30˚C, humidity <75%	

Applications

- Laser ranging
- Particle image velocimetry (PIV)
- Laser shock processing (LSP)
- Laser-based ultrasound detection
- Tissue ablation
- Aesthetic medicine
- Differential absorption lidar
- Micromachining
- Laser-induced breakdown spectroscopy (LIBS)
- Planar laser induced fluorescence (PLIF)
- Raman spectroscopy
- Non-linear optics



Typical Pluse

Beam Profile

RealShock®HQF Series Lamp-pumped Picosecond Laser with Built-in Energy Detector

Wavelength (nm)		1064 / 532
Repetition rate (Hz)		1~10
Pulse energy (mJ)		500mJ@1064nm, 250mJ@532nm
Energy stability RMS		<2%@1064nm, <3%@532nm
Other parameters		
Pulse width FWHM (ps)		300
Beam full divergence (typ., mrad)	Horizontal @1/e²	<3
	Vertical @1/e²	<3
Beam diameter (mm)		~11
Spatial profile		Top hat
Polarization direction		Vertical
Electrical supply		220V/110V±10%AC, 50/60Hz
Power consumption		<800W
Environment requirements		temperature 18~35℃, humidity <75%

Applications

- Laser ranging
- Particle image velocimetry (PIV)
- Laser shock processing (LSP)
- Laser-based ultrasound detection
- Tissue ablation
- Aesthetic medicine
- Differential absorption lidar
- Micromachining
- Laser-induced breakdown spectroscopy (LIBS)
- Planar laser induced fluorescence (PLIF)
- Raman spectroscopy
- Non-linear optics

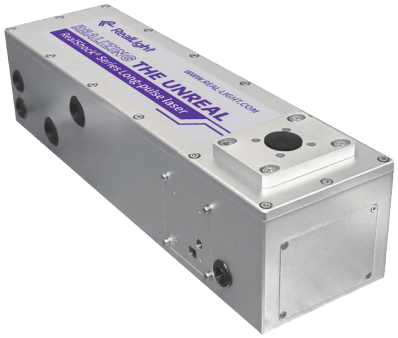
RealShock®HQF Series Lamp-pumped Q-switched Nanosecond Laser

Wavelength (nm)		1064 / 532	
Repetition rate (Hz)		1~10	
Pulse energy (mJ)		800mJ@1064nm, 400mJ@532nm	1200mJ@1064nm, 600mJ@532nm
Energy stability RMS		<2%@1064nm, <3%@532nm	
Other parameters			
Pulse width FWHM （ns）		<8	
Beam full divergence (typ., mrad)	Horizontal @1/e²	<5	
	Vertical @1/e²	<5	
Pointing stability （μrad）		<50	
Time jitter （RMS,ns）		<0.5	
Beam diameter （mm）		~9.5	~10.5
Spatial profile		Top hat	
Polarization state		linear polarization	
Cooling method		water cooling	
Electrical Supply		220V/110V±10%AC, 50/60Hz	
Power consumption		<700W	
Environment requirements		temperature 18~35℃, humidity <75%	

Applications

- Aesthetic medicine
- Laser ranging
- Differential absorption lidar
- Laser shock processing(LSP)
- Laser-based ultrasound detection
- Raman spectroscopy
- Particle image velocimetry(PIV)
- Laser-induced breakdown spectroscopy(LIBS)
- Laser-induced fluorescence (LIF)
- Non-linear optics
- Micromachining
- Tissue ablation

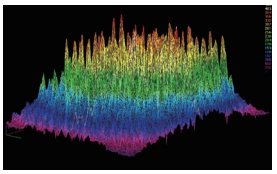
RealShock®HQF Series Lamp-Pumped Long Pulse 2940nm Er:YAG Laser



Wavelength (nm)	2940
Single Pulse Energy (mJ)	500mJ@20Hz, 2000mJ@10Hz
Pulse Width (μs)	300~500
Power (W)	20
Other Optical & System Parameters	
Beam Mode	Multi-mode
Output Method	Articulated arm output / Fiber output
Laser energy stability (St)	±20% max.
Laser energy reproducibility (Rp)	±20% max.
Aiming Beam Wavelength	532±20nm
Aiming Beam Power	>2mW
Working Conditions	Ambient temperature: 10˚C~30˚C
	Relative humidity: 10%~73% (non-condensing)
	Atmospheric pressure: 86kPa~106kPa
	Power supply: 220V/110V±10%AC, 50/60Hz

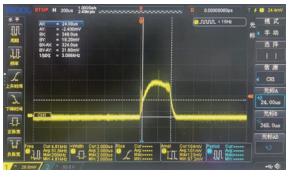
Applications

- Periodontics
- Implantology
- Skin Rejuvenation



Beam intensity distribution

Beam Profile



Typical pulse (2940nm)

RealShock®HQF Series Lamp-Pumped Dual-Wavelength Long-Pulse Laser (2940nm & 1064nm)

Wavelength (nm)	2940		1064	
Single Pulse Energy (mJ)	1000	1000	500	200
Pulse Width (μs)	50~1000		150~25000	
Repetition Rate (Hz)	20	10	30	25
Power (W)	20	10	15	5
Other Optical & System Parameters				
2940nm&1064nm Beam Mode	Multi-mode			
Output Method	via articulated arm (appearance subject to end-user requirements)		via optical fiber (300μm core)	via optical fiber (200μm core)
Laser energy stability (St)	±20% max.			
Laser energy reproducibility (Rp)	±20% max.			
Aiming Beam Wavelength	532±20nm			
Aiming Beam Power	>2mW			
Working Conditions	Ambient temperature: 10˚C~30˚C			
	Relative humidity: 10%~73% (non-condensing)			
	Atmospheric pressure: 86kPa~106kPa			
	Power supply: 220V/110V±10%AC, 50/60Hz			

Applications

- Periodontics
- Implantology
- Pigmentary Disorders
- Vascular Lesions
- Soft Tissue Surgery
- Photobiomodulation

RealShock® Power Supply Control System for Lamp-Pumped Lasers

Part Number	SCR-1kW-220V	SCR-2kW-220V
Power (W)	1000	2000
Power Supply Type	Silicon Controlled Rectifier	
Program Functions	Touchscreen control, RS232 remote communication control, internal and external trigger function	
Display Language	Default English, multi-language framework reserved	
Cooling Method	Air cooling	
Power Supply Requirements	220V±10%AC, 50/60Hz, 10A	220V±10%AC, 50/60Hz, 16A
Operating Environment	Temperature: 15~30°C, Relative Humidity: <60%	
Storage Temperature (°C)	-20~60	

* A 110V power input can be customized.

Applications

- Radar ranging
- Biomedical Applications
- Laser-induced breakdown spectroscopy (LIBS)
- Laser ultrasonic measurement
- Laser-induced fluorescence (LIF)
- Particle image velocimetry (PIV)

Key Features

- User-friendly touch screen display and control
- Includes emergency stop switch, enable switch and switch protection function
- Includes water flow monitoring and temperature monitoring functions
- Internal trigger and external trigger modes
- Optional optical shutter and energy monitoring function
- Highly integrated, easy to transport and maintain

RealShock® Articulated Arm and Handpieces for Picosecond Laser

Parameters of the articulated arm	
Wavelength Range	1064nm, 650nm, 532nm
Number of Joints	7 Joint unit
Maximum Aperture	φ16mm
Optical Path Length	1670mm
Transmission Efficiency	>90%
Spot Size Knob Error	±0.5mm
Material	6061 Aluminum Alloy
Total Weight	10.5kg
Color	Customizable Color

Handpieces

- Zoom Handpiece 
- FLA Fractional Lens Handpiece 
- Collimation Handpiece 
- DOE 532nm Fractional Scanner Handpiece 
- DOE 1064nm Fractional Scanner Handpiece 

RealShock® Articulated Arm and Handpieces for Q-switched Laser

Parameters of the articulated arm	
Wavelength Range	1064nm, 650nm, 532nm
Number of Joints	7 Joint unit
Maximum Aperture	φ16mm
Optical Path Length	1677.5mm
Transmission Efficiency	>85%
Spot Size Knob Error	±0.5mm
Material	6061 Aluminum Alloy
Total Weight	10.5kg
Color	Customizable Color

Handpieces

- Zoom Handpiece 
- Dye 650nm Handpiece 
- Dye 585nm Handpiece 
- FLA Fractional Lens Handpiece 
- DOE 532nm Fractional Scanner Handpiece 
- DOE 1064nm Fractional Scanner Handpiece 
- Collimation Handpiece 

RealShock® Articulated Arm for 2940nm Er:YAG Pulse Solid-state Laser

Parameters of the articulated arm	
Wavelength Range	2940nm, 532nm
Number of Joints	7 Joint unit
Maximum Aperture	φ17mm
Optical Path Length	1619mm
Transmission Efficiency	>90%
Spot Size Knob Error	±0.3mm
Material	6061 Aluminum Alloy
Total Weight	10.2kg
Color	White

Key Features

- Hermetically sealed design, immune to dust contamination
- Smooth operation with a consistently precise beam path

RealShock® Laser Crystal & Glass

■ Cr,Tm,Ho:YAG

Product	Cr,Tm,Ho:YAG
Laser Wavelength	2.094 μm
Photon Energy	9.55 x 10^{-20} J
Radiation Cross Section	7 x 10^{-21} cm^2
Fluorescence Lifetime	8.5 ms
Refractive Index	1.80 @2.08 μm
Aperture	>90%
Absorption Line Width	4 nm
Diode Pump Band	781 nm
Main Pump Belt	400~800 nm
Flatness	λ/10@ 633 nm

■ Er:YAG

Product	Er:YAG
Laser Wavelength	2940 nm (High Doping); 1645 nm (Low Doping)
Photon Energy	6.75×10^{-20}J@2940nm
Pump Absorption Bandwidth	600~800 nm (High Doping); 1530 nm (Low Doping)
Damage Threshold	>500MW/cm^2
Emission Cross Section	3×10^{-20} cm^2
Fluorescence Lifetime	0.23 ms (High Doping); 2~5 ms (Low Doping)
Refractive Index	1.7838@2940 nm

■ Ho:YAG

Product	Ho:YAG
Laser Wavelength	2.05μm
Effective Stimulated Absorption Cross Sectionpan	1.09×$10^{-20}$$cm^2$
Effectively Stimulated Emission Cross Section/span	1.14×$10^{-20}$$cm^2$
Pump Wavelength	1908 nm
Laser Wavelength	2090 nm
Fluorescence Lifetime	7 ms
Quantum Efficiency	1
Refractive Index @1.030 μm	1.82

■ Nd: YAG

Product	Nd: YAG
Photon Energy	1.86×10^{-19} J
Laser Transition Wavelength，λl（nm）	1064
Pump Transition Wavelength，λp（nm）	808
Pump Transition Bandwidth，Δλp（nm）	<4
Laser Transition Bandwidth，Δλl（nm）	~0.6
Upper Laser Tube Life，τ（ms）	0.26
Quantum Defect Fraction	0.24
Fractional Heat Generation	0.37
Refractive Index	1.8197 @1.064 μm
Fluorescence Lifetime	230 μs

■ Ruby (Cr:Al_2O_3)

Product	Ruby (Cr:Al_2O_3)
Crystal Structure	Hexagonal
Tuning Range (nm)	680 – 1100
Pump Range (nm)	450 – 532
Absorption Coefficient @510 nm (cm^{-1})	0.5 – 2.5
FOM	>200
Orientation	90° to c axis
Parallelism	10″
Flatness	0.2
Orientation Tolerance	< 5°
Wide-band AR coating (%)	< 0.2

■ Ti:Sapphire

Product	Ti:Sapphire
Fluorescence emission wavelength range	600-1200 nm
Peak emission wavelength	~780 nm
Center	800 nm
Tunable Absorption Band	400-600 nm
Absorption Peak	488 nm
Stimulated emission cross-section at 795 nm	2.8x10^{-19} cm^2
Saturation flux at 795 nm	E_s=0.9 J/cm^2
Fluorescence Lifetime	3.2 μs
Emission Line Width	650-1100 nm
Damage threshold (10 ns, 1064 nm)	10 J/cm^2

■ Sm:Glass

Product	Sm:Glass
UV Cutoff (5mm,2% transmission) (nm)	350
IR Cutoff (nm)	2500
Refractive Index (d 589.3nm)	1.563
Refractive Index (1053nm)	1.57
Abbe Value	56.6
Density (g/cm^3)	2.87
Dw(H_2O 98℃) (mg/(cm^2/day))	0.109
Transformation Temp. (℃)	490
Softening Temp. (℃)	540
Thermal Conductivity (25 ℃) (W/mK)	1.1

■ Erbium Glass (Er,Cr,Yb Glass)

Product	Erbium Glass (Er,Cr,Yb Glass)
Optical Density	0.1 to 0.8
Fluorescent Lifetime	7.7-8.2 ms
Concentration	0.5 mol % ~ 3 mol %
Emission Wavelength	1535 nm
Absorption Coefficient	1.0 cm^{-1} ~ 7 cm^{-1}
Emission Absorption Cross Section	0.75×$10^{-20}$$cm^2$@1535nm
Transmittance	10% to 90%
Coating	AR≤ 0.2% @1535nm
Damage Threshold	> 500 MW / cm^2

* All the data in the table of this book are the typical values obtained from the tests at room temperature of 25℃, and the final data is subject to the final test report.

As a high technology enterprise, RealLight is specialized in providing CW & narrow linewidth diode laser, microchip laser, MOPA laser (based on our self-developed microchip laser as seeds) and accessories.

— Realizing The Unreal —

BEIJING REALLIGHT TECHNOLOGY CO., LTD.

BEIJING REALLIGHT TECHNOLOGY CO.,LTD
F-5-501,No.139,3rd Jinghai Road,
Beijing Development Area,
Beijing 100176,China

Phone: 0086-10-59089508
E-mail: sales@real-light.com
Web: www.reallightlaser.com
V6.4.1

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