Omicron-Laserage
Laserprodukte GmbH

Product catalogue
Light sources

more than
20 Years
of experience

Omicron-Laserage Laserprodukte GmbH has been founded in 1989 and is since then developing and producing lasers and LED light sources for industrial and scientific applications. A broad variety of diode lasers, DPSS lasers and High-Power LED light sources has been created and brought to perfection.

Customized
products

As a manufacturer of customized and OEM products, Omicron has positioned itself as a market leader for single-mode diode lasers and fibre coupled High-Power LED modules. Omicron offers development and production services for individually customized light sources for applications like microscopy, flow-cytometry, printing, reprographics, disc mastering and many more.

Ultimate
service

Strong service and support is a company philosophy.
With Omicron light sources our customers do not only buy a product.
Full support during system integration, direct technical assistance and fast reaction times are always guaranteed.
Long term customer satisfaction is our goal.

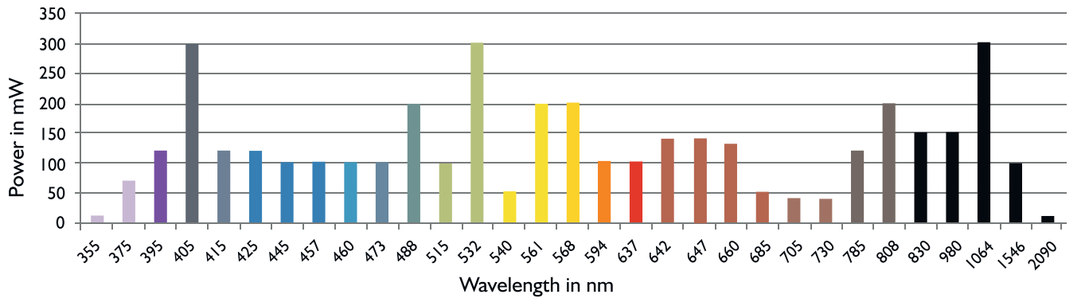
Feature pictograms

- Analogue modulation capability
- UL certified
- High stability CW operation
- Digital modulation capability
- 24VDC supply voltage
- Automatic Power Control
- 12-24VDC supply voltage
- Automatic Aging Compensation
- 5VDC supply voltage
- Deepstar® functionality
- Single transverse mode
- Worldwide mains supply
- Single longitudinal mode
- Multiple transverse mode
- RS-232 interface
- USB 2.0 interface
- CDRH compliant operation

Index

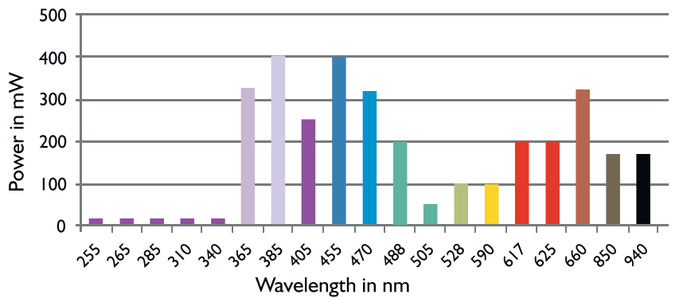
For the most actual information about available wavelengths and output powers go to: www.omicron-laser.de

Available output powers for Omicron singlemode Lasers



Multimode & Highpower (S. 19)
with higher output powers available

Available output powers for Omicron LED solutions



The LDM Series - Versatile High-End Diode Lasers

The Omicron LDM series lasers are the most versatile diode lasers on the market. Their modular principle allows customization in a very quick and easy way. Direct fibre coupling, beam collimation between 0.5 and 15mm (1/e2), direct focusing on customer´s demand and many more can be realized by using standard modules that just change the length of the LDM laser head. Thirteen different laser models in combination with 20 different modules and more than 50 different wavelengths lead into a variety of more than 1000 different lasers.
The thirteen different laser models cover a huge range of todays most demanding applications like microlithography, DVD and Blu-Ray disc mastering, printing, reprography, microscopy and many more. High stability CW operation as well as high speed digital and analogue modulation up to 500 Megahertz are available.

Make your choice…

Available models:

CW Lasers	CWA	Laboratory style CW laser
	CWA.L	Intelligent CW laser
	CWA.L.WS	Wavelength stabilized CW lasers
	CWA.L.US	Ultra stabilized CW lasers
	CWA.L.NB	Narrow Bandwidth DFB lasers
Modulated Lasers	150/500	Diode lasers with 150/500MHz digital modulation
	TA Deepstar®	Diode lasers with >2.500.000:1 modulation depth
	DC180	Diode lasers with 4-Level digital modulation >180MHz
	PS350	Diode lasers with programmable Pulse-Shaping >350MHz
	A350	Diode lasers with >350MHz analogue modulation
High Power/ Multiline	Dual Diode	Diode laser with two beam-combined laser diodes
	Dual Wavelength	Diode lasers with two different wavelengths
	Triple Wavelength	Diode lasers with three different wavelengths
Wavelength range:	375-1064 nm (others on request)	
Optical output power:	up to 3000mW	

LDM Series CW Lasers

LDM □□□□.□□□□. CWA

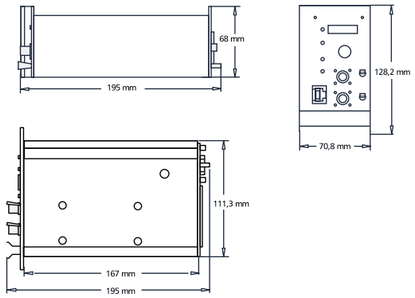
Wavelength in nm Power in mW

CW | xxx MHz | xxx MHz | SM | MM | 85-245V AC

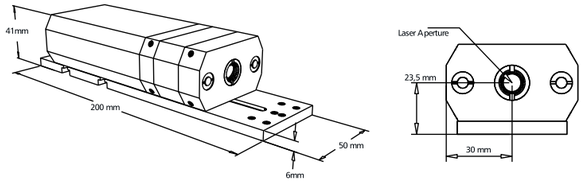
CWA - High Stability CW laser diode modules with laboratory style controller

	Blue- /Greenphoton® CWA	Redphoton® CWA
Wavelengths & Powers (other wavelengths and powers on request)	Single-Mode (SM): 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW Multi-Mode (MM): 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 405nm / 600mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3) 445nm / 1200mW (M^2 = 5...6)	Single-Mode (SM): 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW Multi-Mode (MM): 638nm / 250mW 670nm / 500mW 808nm / 1000mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <3 (MM)	<1.2 (SM) <10 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)
Modulation speed	Analogue: 100Hz Digital: 10kHz	Analogue: 100Hz Digital: 10kHz
Supply voltage	85-245VAC, 50/60Hz	
Features	Safety interlock LCD-working-hours display Remote connector	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit	

CWA Controller



CWA/CWA.L Laser head



Note: Laserhead dimensions may vary

LDM □□□□.□□□□. CWA.L

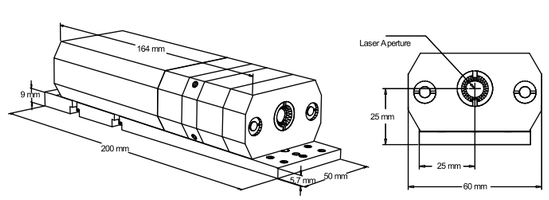
Wavelength in nm Power in mW

CW | xxx MHz | xxx MHz | SM | MM | RS 232 | 24V DC

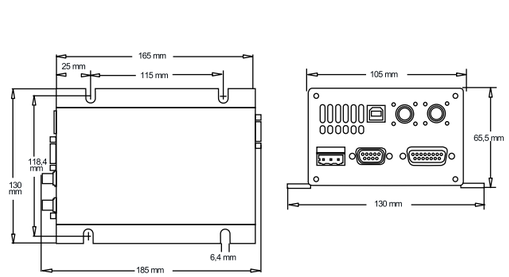
CWA.L - OEM high stability CW laser diode modules with intelligent controller for machine integration

	Blue- /Greenphoton® CWA.L	Redphoton® CWA.L
Wavelengths & Powers (other wavelengths and powers on request)	Single-Mode (SM): 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW Multi-Mode (MM): 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3)	Single-Mode (SM): 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW Multi-Mode (MM): 638nm / 250mW 670nm / 500mW 808nm / 1000mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <3 (MM)	<1.2 (SM) <10 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)
Modulation speed	Analogue: 100Hz Digital: 10kHz	Analogue: 100Hz Digital: 10kHz
Supply voltage	24VDC / 2 Amp.	
Features	Safety interlock RS-232 Interface Remote connector	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.24VPSU - worldwide power supply unit	

„modehopping free“-Version



CWA.L Controller



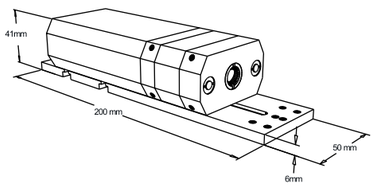
LDM □□□□.□□□. CWA.L.WS
Wavelength in nm Power in mW

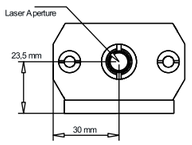
CW | SLM | RS 232 | 24V DC

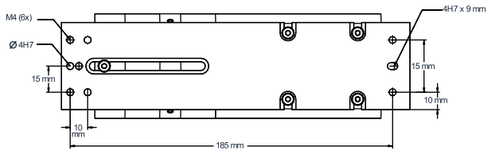
CWA.L.WS / US - Wavelength stabilized CW laser diode modules with enhanced coherence length

	Bluephoton® CWA.L.WS	Redphoton® CWA.L.WS	Blue/Redphoton® CWA.L.US
Wavelengths & Powers (other wavelengths and powers on request)	Single-Mode (SM): 375nm / 16mW 405nm / 100mW Multi-Mode (MM): 405nm / 350mW (M^2<6)	Single-Mode (SM): 658nm / 130mW 808nm / 200mW 830nm / 200mW 976nm / 150mW 1016nm / 100mW	Single-Mode (SM): 658nm / 130mW 808nm / 200mW 830nm / 200mW 976nm / 150
Beam diameter (other diameters on request)	1.25mm (1/e²) +/- 0.25mm (SM) 2.5mm (1/e²) +/- 0.25mm (MM)	1.25mm (1/e²) +/- 0.25mm	1.25mm (1/e²) +/- 0.25mm
Beam quality M^2	<1.2 (SM) <3 (MM)	<1.2	<1.2
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)	<1.1:1 (SM)
Optical bandwith	<0.02nm (FWHM)	<0.02nm (FWHM)	<150MHz(FWHM)
Polarisation	>100:1 vertical	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h	<1% / h
Noise 0Hz-100MHz	<0.5% peak<>peak	<0.5% peak<>peak	<1% peak<>peak
Modulation speed	Analogue: 100Hz Digital: 10kHz	Analogue: 100Hz Digital: 10kHz	Analogue: 100Hz Digital: 10kHz
Supply voltage	24VDC / 2 Amp.		
Features	Safety interlock RS-232 Interface Remote connector		
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.24VPSU - worldwide power supply unit		

CWA.L.WS / CWA.L.NB / CWA.L.US Laser head







Note: Laserhead dimensions may vary

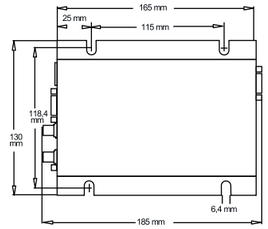
LDM □□□□.□□□. CWA.L.NB
Wavelength in nm Power in mW

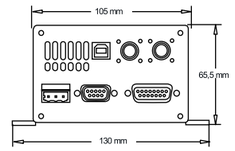
CW | xxx MHz | xxx MHz | SM | RS 232 | 24V DC

CWA.L.NB - Narrow Bandwidth CW laser diode modules using DFB diode technology

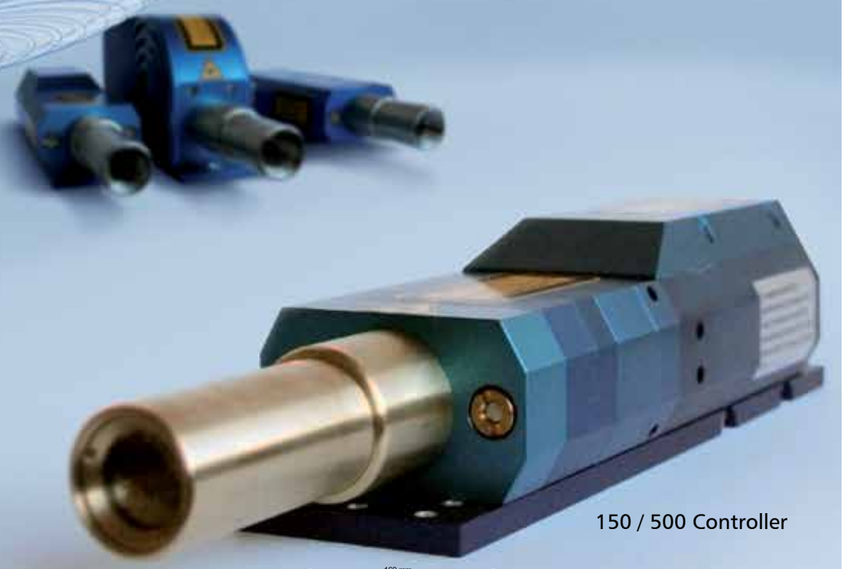
	Redphoton® CWA.L.NB
Wavelengths & Powers (other wavelengths and powers on request)	Single-Mode (SM): 760nm / 40mW 763nm / 30mW 773nm / 75mW 780nm / 80mW 785nm / 80mW 852nm / 150mW 937nm / 100mW 976nm / 150mW 1060nm / 150mW
Beam diameter (other diameters on request)	1.25mm (1/e²) +/- 0.25mm
Beam quality M^2	<1.2
Astigmatism (corrected)	<0.2*ZR
Beam ellipticity	<1.1:1
Optical bandwith	<01 MHz (2 MHz typical)
Coherence length	>20 meters
Polarisation	>100:1 vertical
Power stability	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak
Modulation speed	Analogue: 100Hz Digital: 10kHz
Supply voltage	24VDC / 2 Amp.
Features	Safety interlock RS-232 Interface Remote connector
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.24VPSU - worldwide power supply unit

CWA.L.WS / CWA.L.NB / CWA.L.US Controller

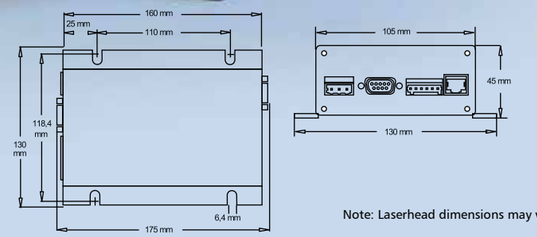




LDM Series
Modulated Lasers



150 / 500 Controller



Note: Laserhead dimensions may vary

LDM □□□□.□□□.□□□

Wavelength in nm | Power in mW | Model 150 or 500 (in MHz)

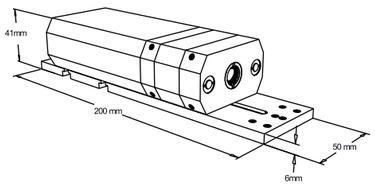
150: xxx MHz | xxx MHz | SM | MM | RS 232 | 24V DC

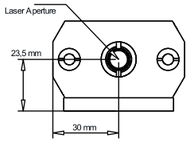
500: xxx MHz | xxx MHz | SM | MM | RS 232 | 24V DC

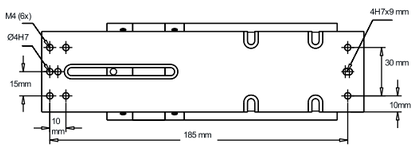
150 / 500 - Modulated Lasers with >150 / >500MHz Digital Modulation Speed

	Blue- /Greenphoton® 150/500	Redphoton® 150/500
Wavelengths & Powers (other wavelengths and powers on request)	**Single-Mode (SM):** 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW **Multi-Mode (MM):** 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3)	**Single-Mode (SM):** 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW **Multi-Mode (MM):** 638nm / 250mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)
Modulation speed	Analogue: 1MHz Digital: >150MHz Digital: >500MHz	
Modulation input signals	Analogue: 0...5V -> 0 ... 100% Digital: TTL, PECL LV-TTL or LVDS on request	
Rise and fall time	<1ns	
Extinction ratio	>250:1	
Supply voltage	24VDC, 2 Amp.	
Features	Safety interlock RS-232 Interface	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.24VPSU - worldwide power supply unit LDM.MON - high-speed light monitoring	

150 / 500 Laser head







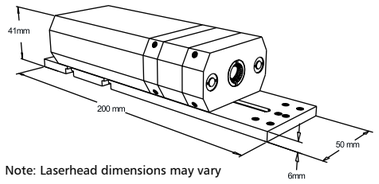
LDM □□□□.□□□.TA
Wavelength in nm Power in mW

xxx MHz | xxx MHz | Deep star | SM | MM | RS 232 | 24V DC

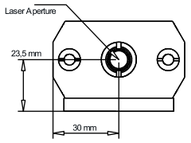
TA Deepstar® - Diode Lasers with Infinite Modulation Depth

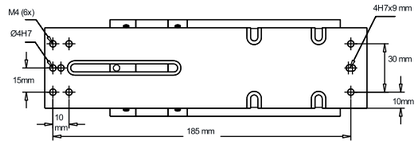
	Blue- /Greenphoton® TA	Redphoton® TA
Wavelengths & Powers (other wavelengths and powers on request)	**Single-Mode (SM):** 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW **Multi-Mode (MM):** 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3)	**Single-Mode (SM):** 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 705nm / 40mW 730nm / 40mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW **Multi-Mode (MM):** 638nm / 250mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)
Modulation speed	Analogue: up to 15MHz @ -3dB Digital: >150MHz	
Modulation input signals	Analogue: 0...1V / 50 Ohm (15MHz) or Analogue: 0...5V / 10 kOhm (>5MHz) Digital: 0...1V / 50 Ohm with prog. Trigger-Level (>150MHz) or Digital: 0...5V / 200 Ohm with prog. Trigger-Level (>100MHz)	
Rise and fall time	Analogue: <25ns Digital: <1ns	
Modulation depth	>2.500.000:1	
Supply voltage	24VDC, 2 Amp.	
Features	Safety interlock RS-232 Interface	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.24VPSU - worldwide power supply unit LDM.MON - high-speed light monitoring	

Deepstar / DC180 Laser head



Note: Laserhead dimensions may vary





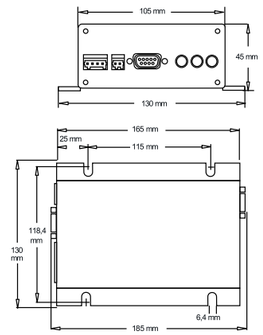
LDM □□□□.□□□.DC180
Wavelength in nm Power in mW

xxx MHz | xxx MHz | SM | MM | RS 232 | 85-245V AC

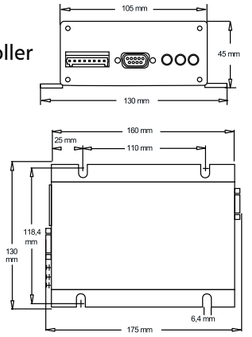
DC180 - DualChannel Modulated Lasers with >180MHz 4-Level Modulation

	Blue- /Greenphoton® DC180	Redphoton® DC180
Wavelengths & Powers (other wavelengths and powers on request)	**Single-Mode (SM):** 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW 515nm / 25mW, 50mW, 80mW **Multi-Mode (MM):** 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3)	**Single-Mode (SM):** 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW **Multi-Mode (MM):** 638nm / 250mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)
Modulation speed	2 x Analogue: 1MHz 2 x Digital: >180MHz	
Modulation input signals	Analogue: 0...5V -> 0 ... 100% Digital: 0...1V / 50 Ohm with prog. trigger-level	
Rise and fall time	<1ns	
Extinction ratio	>250:1	
Supply voltage	85-245VAC, 50/60Hz	
Features	Safety interlock RS-232 Interface	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.MON - high-speed light monitoring	

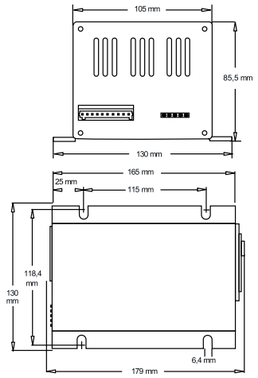
Deepstar Controller



DC180 Controller



DC180 PSU



LDM □□□□.□□□. PS350
Wavelength in nm Power in mW

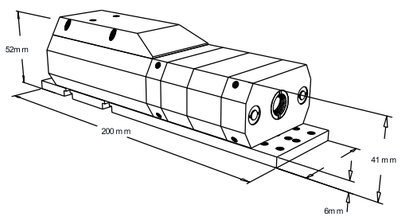
xxx MHz | xxx MHz | SM | MM | RS 232 | 85-245V AC

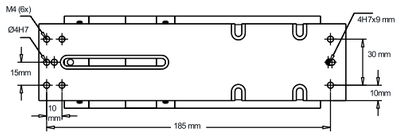
PS350 - PulseShaping High Speed Modulated Diode Lasers with Programmable Pulse-Shaping

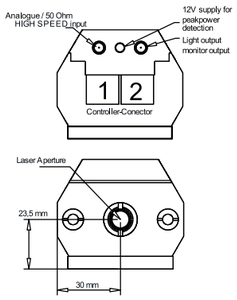
	Blue- /Greenphoton® PS350	Redphoton® PS350
Wavelengths & Powers (other wavelengths and powers on request)	**Single-Mode (SM):** 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW **Multi-Mode (MM):** 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3)	**Single-Mode (SM):** 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW **Multi-Mode (MM):** 638nm / 250mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)

Modulation speed	Analogue: peak power control with 1.5Hz bandwith Digital: >350MHz
Modulation input signals	Analogue: 0...4V -> 0 ... 100% peak power Digital: 0...1V / 50 Ohm with prog. trigger-level
Rise and fall time	<1ns
Extinction ratio	>250:1
Pulse shaping parameter	Programmable burst height 0 ... 100% of peak power Programmable burst height 5.5ns - 500ns
Supply voltage	85 - 245VAC, 50/60Hz
Features	Safety interlock RS-232 Interface
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.MON - high-speed light monitoring

PS350 / A350 Laser head







Note: Laserhead dimensions may vary

LDM □□□□.□□□. A350
Wavelength in nm Power in mW

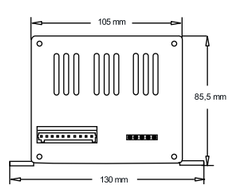
xxx MHz | xxx MHz | SM | MM | RS 232 | 85-245V AC

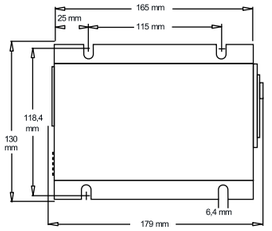
A350 - High Speed analogue modulated laser diode modules with up to 350MHz@-3dB

	Blue- /Greenphoton® A350	Redphoton® A350
Wavelengths & Powers (other wavelengths and powers on request)	**Single-Mode (SM):** 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW 515nm / 25mW, 50mW, 80mW **Multi-Mode (MM):** 375nm / 200mW (M^2 = 7...8) 405nm / 400mW (M^2 = 5...6) 445nm / 500mW (M^2 = 2...3)	**Single-Mode (SM):** 635nm / 5mW 637nm / 150mW 639nm / 40mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW **Multi-Mode (MM):** 638nm / 250mW (others on request)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	>100:1 vertical	>100:1 vertical
Power stability	<0.5% / h	<0.5% / h
Noise 0Hz-100MHz	<0.5% peak<>peak (CW)	<0.5% peak<>peak (CW)

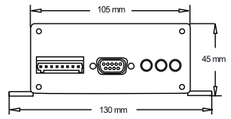
Modulation speed	Analogue: up to 350MHz @ -3dB Digital: >350MHz
Modulation input signals	Analogue: 0...1V / 50 Ohm Digital: 0...1V / 50 Ohm with prog. trigger-level peak power control: 0 ... 4V -> 0 ... 100% with 1.5Hz bandwith
Rise and fall time	Analogue: <2ns Digital: <1ns
Extinction ratio	>250:1
Supply voltage	85-245VAC, 50/60Hz
Features	Safety interlock RS-232 Interface
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.MON - high-speed light monitoring

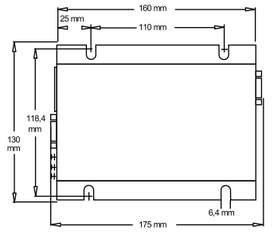
PS350 / A350 PSU





PS350 / A350 Controller





LDM Series
Highpower Multiline

LDM □□□□D . □□□□ . □□□□□

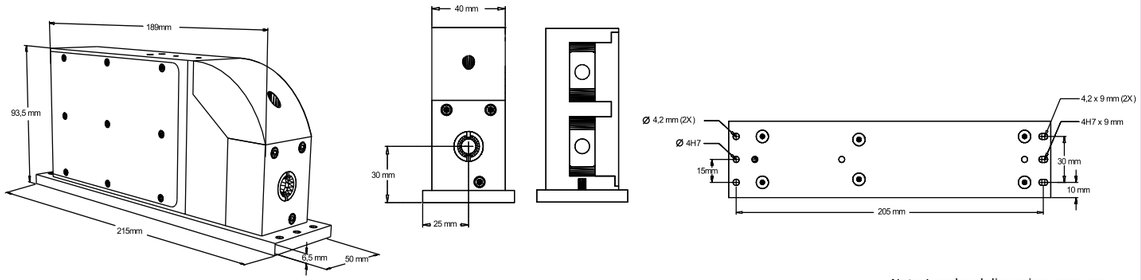
Wavelength in nm | Power in mW | Laser model

Dual Diode - High power laser diode module integrating two laser diodes for double output power

Available laser models: CWA, CWA.L, 150 / 500, TA Deepstar®, DC180, PS350, A350

	Blue- /Greenphoton® Dual Diode	Redphoton® Dual Diode
Wavelengths & Powers (other wavelengths and powers on request)	**Single-Mode (SM):** 375nm / 140mW 395nm / 240mW 405nm / 600mW 415nm / 240mW 425nm / 240mW 445nm / 200mW 457nm / 200mW 460nm / 200mW 473nm / 200mW 488nm / 300mW, 400mW 515nm / 100mW, 160mW **Multi-Mode (MM):** 375nm / 400mW (M^2 < 6) 405nm / 1200mW (M^2 < 6) 445nm / 1000mW (M^2 < 3) 445nm / 2400mW (M^2 < 6)	**Single-Mode (SM):** 635nm / 10mW 637nm / 300mW 643nm / 300mW 647nm / 300mW 658nm / 250mW 670nm / 30mW 685nm / 70mW 785nm / 240mW 808nm / 400mW 830nm / 400mW 852nm / 300mW 980nm / 300mW 1016nm / 200mW 1060nm / 200mW **Multi-Mode (MM):** 638nm / 500mW
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)	<1.1:1 (SM)
Polarisation	cross-polarised 100:100	cross-polarised 100:100
Features	Safety interlock RS-232 Interface	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.24VPSU - worldwide power supply unit	

Dual Diode Laser head



Note: Laserhead dimensions may vary

LDM □□□□/□□□□.□□□□.□□□□□
Wavelength 1 / 2 in nm — Common power in mW — Laser model

Dual Wavelength - Laser diode modules with two wavelengths in a co-linear laser beam

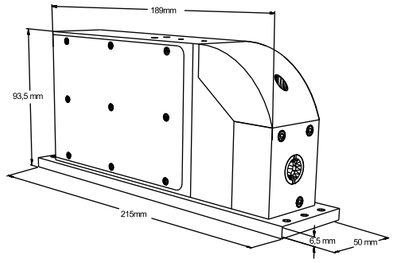
Available laser models: CWA, CWA.L, 150 / 500, TA Deepstar®, DC180, PS350, A350 (two different models possible)

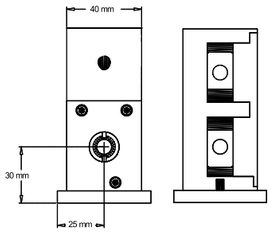
The systems can be equipped with any two diodes

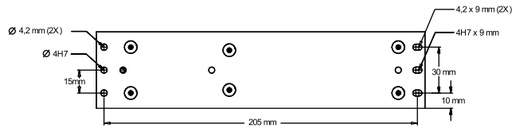
Dual Wavelength

Wavelengths & Powers (other wavelengths and powers on request)	Single-Mode (SM): 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW 635nm / 5mW 637nm / 150mW 639nm / 40mW 639nm / 100mW 643nm / 150mW 647nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW Multi-Mode: 375nm / 200mW (M^2 <6) 405nm / 400mW (M^2 <6) 445nm / 500mW (M^2 <3) 638nm / 250mW (M^2 <6)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)
Polarisation	>100:1 vertical
Features	Safety interlock RS-232 Interface
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.24VPSU - worldwide power supply unit

Dual Wavelength Laser head







Note: Laserhead dimensions may vary

LDM □□□□/□□□□/□□□□.□□□□.□□□□□
Wavelength 1 / 2 / 3 in nm — Common power in mW — Laser model

Triple Wavelength - Laser diode modules with three wavelengths in a co-linear laser beam

Available laser models: CWA, CWA.L, 150 / 500, TA Deepstar®, DC180, PS350, A350 (two different models possible)

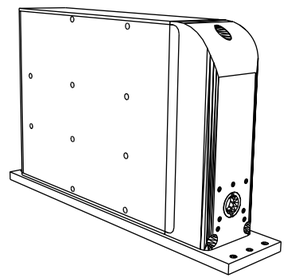
The systems can be equipped with any three diodes

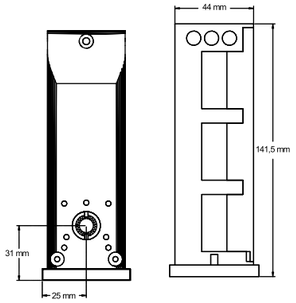
For further multi-wavelength solutions see our laser light engines SOLE and LightHUB on page 30

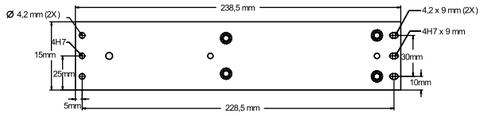
Triple Wavelength

Wavelengths & Powers (other wavelengths and powers on request)	Single-Mode (SM): 375nm / 20mW, 70mW 395nm / 120mW 405nm / 55mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20mW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW 100mW, 150mW 515nm / 25mW, 50mW, 80mW 635nm / 5mW 637nm / 150mW 639nm / 40mW 639nm / 100mW 643nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW Multi-Mode: 375nm / 200mW (M^2 <6) 405nm / 400mW (M^2 <6) 445nm / 500mW (M^2 <3) 638nm / 250mW (M^2 <6)
Beam diameter (other diameters on request)	1.25mm ($1/e^2$) +/- 0.25mm (MM beam diameter may vary)
Beam quality M^2	<1.2 (SM) <6 (MM)
Astigmatism (corrected)	<0.2*ZR
Beam ellipticity	<1.1:1 (SM)
Polarisation	>100:1 vertical
Features	Safety interlock RS-232 Interface
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.24VPSU - worldwide power supply unit

Triple Wavelength Laser head







The PhoxX® Series and the LuxX® Series - Compact High Performance Diode Lasers

The PhoxX® and the LuxX® diode lasers offer high-performance at a compact design. Especially developed for applications like flow cytometry, DNA screening and confocal microscopy in bioinstrumentation as well as industrial applications like printing / CtP, microlithography, reprographics or machine vision, the two laser series integrate all functionalities needed for today´s and future machine designs. With a broad variety of wavelengths and single-mode emission up to 250mW with high beam quality and fast digital and analogue modulation the lasers fulfill even highest demands. Easy integration into existing or future designs is assured by versatile input signal types. The USB2.0 and the RS-232 interface allow deep integration of the lasers into the application process.

Wavelength range:	375 - 830nm
Optical output power:	up to 300mW

Key Facts:

- Small and compact design
- 21 different wavelengths between 375nm and 830nm
- Single-mode optical output powers up to 300mW
- High stability CW operation with ultra low noise
- Corrected astigmatism for perfect focusability and high fibre coupling efficiency
- Fast analogue and/or digital modulation
- Fast electronic shutter function (laser enable) with full ON/OFF extinction ratio
- Flexible, customer configurable input signaling
- AAC - Automatic Aging Compensation function
- Industry standard footprint

PhoxX □□□.□□□
Wavelength in nm Power in mW

xxx MHz | xxx MHz | SM | AAC | CDRH | USB | RS 232 | 5V DC

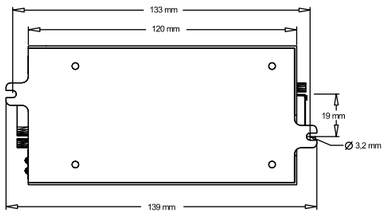
The Omicron PhoxX® Laser Series
High-Performance Diode Lasers with fast modulation

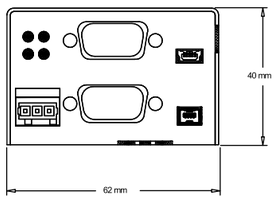
PhoxX®

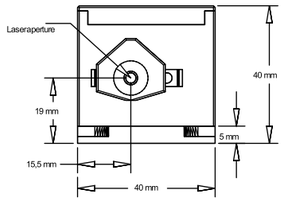
Model	PhoxX® 375 - 20 / 70	PhoxX® 395	PhoxX® 405 - 60 / 120 / 300	PhoxX® 415	PhoxX® 425	PhoxX® 445 - 50 / 100	PhoxX® 457	PhoxX® 460	PhoxX® 473 - 20 / 80 / 100	PhoxX® 488 - 20 / 60 / 80 / 100 / 150 / 200	PhoxX® 515 - 25 / 50 / 80	PhoxX® 638 - 40 / 100 / 150	PhoxX® 642	PhoxX® 647	PhoxX® 660	PhoxX® 685	PhoxX® 705	PhoxX® 730	PhoxX® 785	PhoxX® 808	PhoxX® 830
Wavelength (+/- 5nm)	375nm	395nm	405nm	415nm	425nm	445nm	457nm	460nm	473nm	488nm	515nm	638nm	642nm	647nm	660nm	685nm	705nm	730nm	785nm	808nm	830nm
Optical output power	20mW 70mW	120mW	60mW 120mW 300mW	120mW	120mW	50mW 100mW	100mW	100mW	20mW 80mW 100mW	20mW 60mW 80mW 100mW 150mW 200mW	25mW 50mW 80mW	40mW 100mW 150mW	140mW	140mW	130mW	50mW	40mW	40mW	120mW	140mW	140mW
Typical beam diameter (1/e2)	1.0...1.5mm (1/e²), (depends on wavelength) - 0.7mm (1/e²) +/- 0.1mm with option XX.DSO																				
Beam quality M2	< 1.2																				
Beam ellipticity	< 1.2:1																				
Beam pointing stability (µ rad/°C)	< 5																				
Polarisation ratio	> 100:1 vertical																				
Warm up time	< 3 minutes																				
Operation modes																					
Mode 1	CW Operation																				
Mode 2	Analogue Modulation																				
Mode 3	Digital Modulation																				
Mode 4	Mixed Analogue & Digital Modulation																				
Digital modulation																					
Modulation bandwidth	> 180MHz																				
Signal type	TTL (200 Ohm) / 0...IV (50 Ohm) / LV-PECL / PECL / LVDS (user-configurable)																				
Analogue modulation																					
Modulation bandwidth	> 3MHz																				
Signal type	0...IV (50 Ohm) / 0...5V (1.2k Ohm) (user-configurable)																				
Laser enable input																					
Modulation bandwidth	> 250kHz (complete ON/OFF)																				
Signal type	TTL (2 kOhm)																				
RMS noise characteristics																					
20Hz ... 10MHz	< 0.2%																				
10MHz ... 500MHz	< 0.2%																				
Long-term power stability (8h)	(< 0.5% in CW operation mode)																				
Electrical properties																					
Laser operating voltage	5.00 VDC +/- 0.50V																				
Computer interface																					
Type	RS-232 and USB2.0																				
Mechanical properties																					
Dimensions laser head	100 x 40 x 40 mm (l x w x h)																				
Dimensions laser controller	120 x 62 x 40 mm (l x w x h)																				

For „Options“ see page 45

PhoxX Controller







Note: Laserhead dimensions may vary

LuxX □□□.□□□
Wavelength in nm Power in mW

xxx MHz | SM | AAC | CDRH | USB | RS 232 | 5V DC | APC

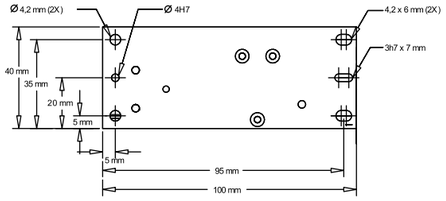
The Omicron LuxX® Laser Series
Compact CW Diode Lasers

LuxX®

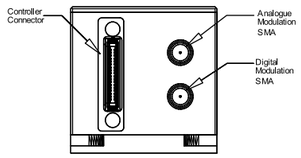
Model	LuxX® 375 - 20/70	LuxX® 395	LuxX® 405 - 60 / 120 / 300	LuxX® 415	LuxX® 425	LuxX® 445 - 50/100	LuxX® 457	LuxX® 460	LuxX® 473 - 20 / 80 / 100	LuxX® 488 - 20 / 60 / 80 / 100 / 150 / 200	LuxX® 515 - 25 / 50 / 80	LuxX® 638 - 40 / 100 / 150	LuxX® 642	LuxX® 647	LuxX® 660	LuxX® 685	LuxX® 705	LuxX® 730	LuxX® 785	LuxX® 808	LuxX® 830
Wavelength (+/- 5nm)	375nm	395nm	405nm	415nm	425nm	445nm	457nm	460nm	473nm	488nm	515nm	638nm	642nm	647nm	660nm	685nm	705nm	730nm	785nm	808nm	830nm
Optical output power	20mW 70mW	120mW	60mW 120mW 300mW	120mW	120mW	50mW 100mW	100mW	100mW	20mW 80mW 100mW	20mW 60mW 80mW 100mW 150mW 200mW	25mW 50mW 80mW	40mW 100mW 150mW	140mW	140mW	130mW	50mW	40mW	40mW	120mW	140mW	140mW
Typical beam diameter (1/e2)	1.0...1.5mm (1/e²), (depends on wavelength) - 0.7mm (1/e²) +/- 0.1mm with option XX.DSO																				
Beam quality M2	< 1.2																				
Beam ellipticity	< 1.2:1																				
Beam pointing stability (µ rad/°C)	< 5																				
Polarisation ratio	> 100:1 vertical																				
Warm up time	< 3 minutes																				
Operation modes																					
Mode 1	CW Operation - constant current (ACC)																				
Mode 2	CW Operation - constant power (APC)																				
Mode 3	Analogue Modulation (digital modulation with option LUXX.D2A)																				
Analogue modulation																					
Modulation bandwidth	> 1.5MHz																				
Signal type	0...5V (1.2kOhm)																				
Laser enable input																					
Modulation bandwidth	> 150kHz (complete ON/OFF)																				
Signal type	TTL (2 kOhm)																				
RMS noise characteristics																					
20Hz ... 10MHz	< 0.2%																				
10MHz ... 500MHz	< 0.2%																				
Long-term power stability (8h)	< 0.5%																				
Electrical properties																					
Laser operating voltage	5.00 VDC +/- 0.50V																				
Computer interface																					
Type	RS-232 and USB2.0																				
Mechanical properties																					
Dimensions laser head	100 x 40 x 40 mm (l x w x h)																				

For „Options“ see page 45

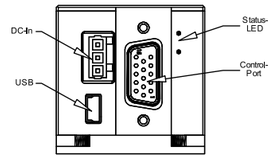
PhoxX / LuxX Laser head



PhoxX®



LuxX®



The Omicron BrixX® Laser Series

The BrixX® diode laser series offers the possibility of integration and operation of different industry standard laser diode packages like 5.6mm or 9mm TO-can, C/B-mount and Butterfly and provides free-space or fibre pigtailed light delivery. A broad variety of wavelengths and single-mode or multi-mode output powers up to 2.5 Watt can be integrated into the BrixX® platform. The versatility of the BrixX® covers a wide range of applications like RAMAN spectroscopy, machine vision, metrology and many more. The USB2.0 and the RS-232 interface allow deep integration of the lasers into the application´s process.

Applications:

- Machine Vision
- RAMAN Spectroscopy
- Test and Measurement

Key Facts:

- Laser diodes with up to 2.5 ampere diode current can be integrated
- Many different wavelengths between 532nm and 1650nm are available
- Single-Mode optical output powers up to 500mW
- Multi-Mode optical output powers up to 2.5 Watt
- High-Stability CW operation (ACC and APC mode)
- Fast analogue and digital modulation
- Electronic shutter function (laser inhibit) with >500kHz full ON/OFF capability
- Integrated power monitoring
- Automatic Aging Compensation (AAC) function
- USB2.0 and RS-232 interface
- Fibre output or free space emission (depends on model)

BrixX □□□□.□□□

Wavelength in nm | Power in mW

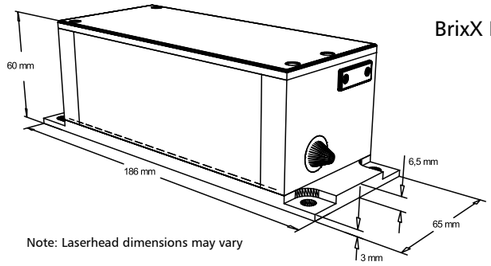
xxx MHz | xxx MHz | SM | MM | AAC | CDRH | USB | RS 232 | 12-24V DC | APC

The Omicron BrixX® Laser Series

BrixX®

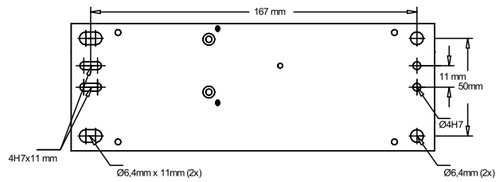
Model	BrixX® 532-50/35	BrixX® 635-100	BrixX® 760-10	BrixX® 763-10	BrixX® 773-20	BrixX® 780-20	BrixX® 785-40	BrixX® 785-350	BrixX® 795-40	BrixX® 852-50	BrixX® 855-50	BrixX® 975-450	BrixX® 976-500	BrixX® 1060-40	BrixX® 1063-40	BrixX® 1064-300	BrixX® 1064-400	BrixX® 1064-500	BrixX® 1083-30
Wavelength (+/- 5nm)	532nm	635nm	760nm	763nm	773nm	780nm	785nm	785nm	795nm	852nm	855nm	975nm	976nm	1060nm	1063nm	1064nm	1064nm	1064nm	1083nm
Optical output power	35mW 50mW	100mW	10mW	10mW	20mW	20mW	40mW	350mW	40mW	50mW	50mW	450mW	500mW	40mW	40mW	300mW	400mW	500mW	30mW
SM/MM	SM	MM	SM PM	SM PM	SM PM	SM PM	SM PM	SM	SM PM	SM PM	SM PM	SM PM	SM PM	SM PM	SM PM	SM PM	SM PM	SM	SM PM
Output	free space	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	free space	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	FC/APC	free space	FC/APC
Polarisation	>100:1 vertical for single-mode (SM or SM PM) models unpolarised for multi-mode (MM) models																		
Long term power stability	<1% / 8h																		
RMS Noise 20Hz...10MHz 10MHz...500MHz	<0.5% (CW) <0.5% (CW)																		
Operation Modes																			
Mode 1	CW operation (ACC - Automatic Constant Current)																		
Mode 2	CW operation (APC - Automatic Power Control)																		
Mode 3	Analogue modulation																		
Mode 4	Digital modulation																		
Mode 5	Analogue + Digital modulation																		
Analogue modulation																			
Modulation bandwidth	>1.5MHz																		
Input signal type	0...5V / 1,2kOhm or 0...1V / 50 Ohm (user selectable via software)																		
Digital modulation																			
Modulation bandwidth	>1.5MHz																		
Input signal type	TTL (2kOhm)																		
Laser enable input (electronic shutter)																			
Modulation bandwidth	>500kHz (full ON/OFF)																		
Input signal type	TTL (2kOhm)																		
Rise- and falltime	Analogue: < 250ns Digital: < 250ns Laser Enable: < 500ns																		
Extinction ratio	Analogue: >1000 :1 Digital: >250 :1 Laser Enable: infinite (full ON/OFF)																		
Supply voltage	12 ... 24 VDC nominal (11 ... 25VDC max.)																		
Control interface	RS-232 and USB 2.0																		
Dimensions laser head	186 x 65 x 60 mm (l x w x h)																		
Options & Accessories	BRIXX.PSU - world wide power supply unit for BrixX® series lasers XX.CDRH - remote control box with key switch and emission LED for CDRH compliant operation																		

Further models available soon



Note: Laserhead dimensions may vary

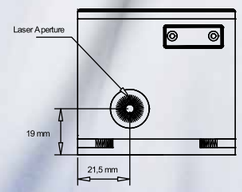
BrixX Laser head

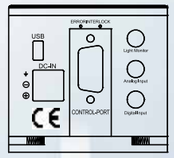


Picosecond Pulsed Diode Lasers

NEW

UV - VIS – IR
Pulse length down to <100ps
Up to 100 MHz repetition rate
CW and pulsed operation





Laser Light Engines and Laser Combiners

Compact Laser Light Engines and Laser Combiners with up to 6 wavelengths

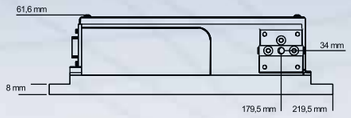
The SOLE® laser light engines and LightHUB® compact beam combiners represent a new era of Omicron products. Especially designed to meet today´s needs in biotech and microscopic applications, they combine up to 6 wavelengths of diode and DPSS lasers. The SOLE® light engines are compact laser sources with up to six lasers, coupled in up to two single mode fibres. The SOLE® systems offer fast analogue and digital modulation for each laser line and fast switching between the individual wavelengths. The USB 2.0 interface and the Windows™ based laser control software eases the laser control and alignment and allows comfortable control of laser power, wavelength selection, operating mode and many more. The LightHUB® compact beam combiners are able to steadily combine the laser beams of up to six diode or DPSS lasers into a co-linear beam, which can be used in free-space or fibre coupled applications. Where the SOLE® laser light engines mainly address end-users, the LightHUB® compact beam combiners are very attractive for OEM integration. For both products, the customer can choose from over 26 different wavelengths in the range of 375 to 830nm. Various power levels of up to 300mW per laser line are available.

Make your choice…

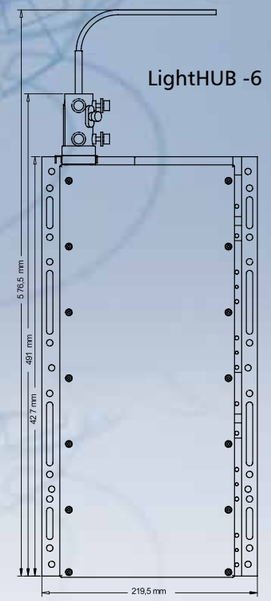
LightHUB®

Key Facts:

- Up to 6 wavelengths beam-combined and efficiently fibre coupled in one compact housing
- Over 26 different wavelengths available - single-mode, polarization maintaining fibre coupling with customizable fibre outputs
- Conductively cooled
- Modulation options available
- Windows™ based laser control software included.
- OEM versions available



LightHUB -6

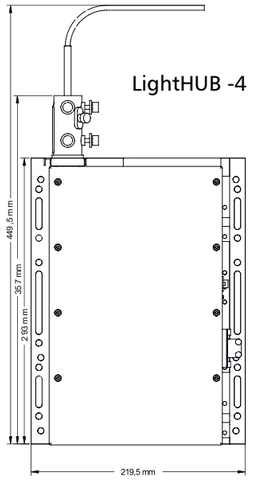


Note: Laserhead dimensions may vary

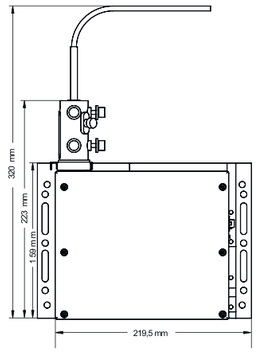
Compact Laser Combiners

Available models:	LightHUB®-2 - combines up to 2 laser lines LightHUB®-4 - combines up to 4 laser lines LightHUB®-6 - combines up to 6 laser lines	
Wavelengths and powers (internal laser power):	375nm / 20mW, 70mW 395nm / 120mW 405nm / 60mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20WmW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW, 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW, 100mW 515nm / 150mW * 532nm / 25mW, 50mW, 100mW, 150mW * 540nm / 25mW, 50mW * 561nm / 25mW, 50mW, 75mW, 100mW, 150mW * 568nm / 50mW, 75mW, 100mW, 150mW * 594nm / 25mW, 50mW, 100mW * 638nm / 40mW, 100mW, 150mW 642nm / 140mW 647nm / 140mW 660nm / 130mW 685nm / 50mW 705nm / 40mW 730nm / 40mW 785nm / 120mW 808nm / 140mW *DPSS Laser 830nm / 140mW	
Fibre coupling:	Type	Single-mode, (PM) or multi-mode fibres
	Fibre output:	FC/APC, FC/PC, FCP8 or SMA and collimated outputs diameter on customer´s demand
Free emission:	Beam diameter:	0.7mm I/e^2 (others available on request)
Control interfaces of the laser sources:	Type:	USB2.0 / RS-232 (depends on laser model)
Laser control software:	Windows™ based laser control software	
Supply voltage:	5VDC / 12VDC / 24VDC (depending on laser type)	
Mechanical size:	LightHUB®-2: L x W x H: 159mm x 220mm x 64mm (without fibre coupler) LightHUB®-4: L x W x H: 293mm x 220mm x 64mm (without fibre coupler) LightHUB®-6: L x W x H: 427mm x 220mm x 64mm (without fibre coupler)	

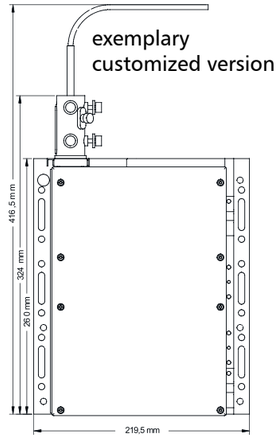
LightHUB -4



LightHUB -2



exemplary customized version



SOLE® Compact Laser Light Engines

Available models:	SOLE®-3 - Channel light engine with up to 3 wavelengths SOLE®-6 - Channel light engine with up to 6 wavelengths		
Wavelengths and powers (internal laser power):	375nm / 20mW, 70mW 395nm / 120mW 405nm / 60mW, 120mW, 300mW 415nm / 120mW 425nm / 120mW 445nm / 50mW, 100mW 457nm / 100mW 460nm / 100mW 473nm / 20WmW, 80mW, 100mW 488nm / 20mW, 60mW, 80mW, 100mW, 150mW, 200mW 515nm / 25mW, 50mW, 80mW, 100mW 515nm / 150mW * 532nm / 25mW, 50mW, 100mW, 150mW * 540nm / 25mW, 50mW * 561nm / 25mW, 50mW, 75mW, 100mW, 150mW * 568nm / 50mW, 75mW, 100mW, 150mW * 594nm / 25mW, 50mW, 100mW * 638nm / 40mW, 100mW, 150mW 642nm / 140mW 647nm / 140mW 660nm / 130mW 685nm / 50mW 705nm / 40mW 730nm / 40mW 785nm / 120mW 808nm / 140mW 830nm / 140mW		
*DPSS Lasers			
Fibre coupling:	Type:	Single-mode, polarization maintaining or multi-mode fibres	
	Fibre output:	FC/APC, FC/PC, FCP8, SMA and collimated outputs diameter on customers demand	
	No. of fibre outputs:	1 or 2	
	Diode lasers:	digital modulation:	> 180MHz
		analogue modulation:	> 3MHz
		electronic shutter:	> 300kHz
	DPSS lasers	digital modulation:	> 2,5MHz
		analogue modulation:	> 2,5MHz
		electronic shutter:	> 300kHz
	Extinction ratio:	digital modulation:	> 500:1
		analogue modulation:	> 1000:1
		electronic shutter:	> 50dB
	Input signals:	digital modulation:	TTL
		analogue modulation:	0...10V
		electronic shutter:	TTL
Control interfaces of the laser sources:	Type:	USB2.0 / RS-232	
Laser control software:	Windows™ based laser control software		
Supply voltage:	Mains: 90 ...245VAC, 50/60Hz		
Mechanical size:	SOLE®-3	19" rack type housing with 2 height units L x W x H: 480mm x 484mm x 88mm (without fibre coupler)	
	SOLE®-6	19" rack type housing with 3 height units L x W x H: 610mm x 484mm x 132mm (without fibre coupler)	

Key Facts:

- Up to 6 wavelengths beam-combined in one compact housing
- Over 26 different wavelengths available
- Direct modulation and fast switching between wavelengths
- Single-mode, polarization maintaining fibre coupling with customized fibre outputs
- Vibration isolated
- USB 2.0 control interface
- Windows™ based laser control software included
- OEM versions available

The FKL and FKLA Series

The FKL and FKLA Series - Single-Mode and Multi-Mode DPSS Lasers at 532nm

The FKL/FKLA series DPSS lasers offer superior performance and high lifetimes in 24/7 applications like quality inspection, bioinstrumentation, laser annealing and many others. Single-mode optical output powers up to 150mW and multi-mode output powers up to 8 Watt with high stability and low noise CW operation are available. The FKL series single-mode lasers are based on the well established LDM series laser head design and the CWA.L intelligent laser controller. The FKLA series high power multi-mode lasers are actively Peltier/air cooled and offer a very good wall-plug efficiency. Both the FKL and FKLA series lasers can be controlled via their industry standard RS-232 interface.

Wavelength range:	532nm
Optical output power:	FKL Series: up to 150mW FKLA Series: up to 8 Watt

FKL532 □□□□.CWA.L
Power in mW

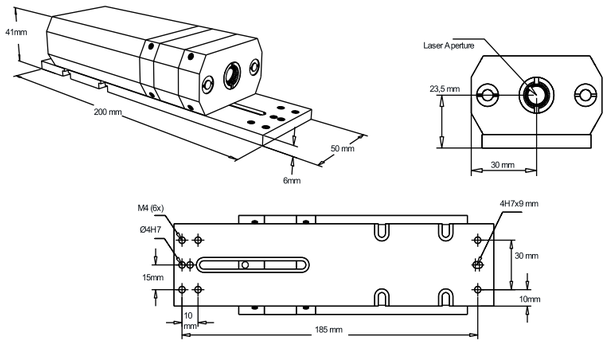
CW SLM RS 232 24V DC

Greenphoton® FKL Series - Green DPSS Lasers
532 nm Single-Mode DPSS Laser up to 150 mW

Greenphoton® FKL

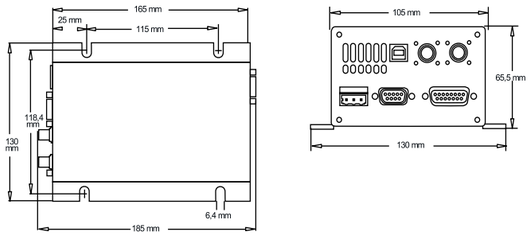
Wavelengths & Powers (other wavelengths and powers on request)	532nm / 25mW 532nm / 50mW 532nm / 100mW 532nm / 150mW
Beam diameter	0.7mm (1/e²) +/- 0.2mm
Beam quality M²	<1.3
Beam ellipticity	<1.1:1 (SM)
Polarisation	>100:1
Power stability	<2.5% / h
Noise 0Hz-100MHz	<2.5% peak<>peak
Supply voltage	24VDC / 2 Amp.
Features	with CWA.L Controller: Safety interlock RS-232 Interface Remote connector
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.24VPSU - worldwide power supply unit

Greenphoton FKL Series Laser head



Note: Laserhead dimensions may vary

Controller



FKLA □□□□ e
Power in mW

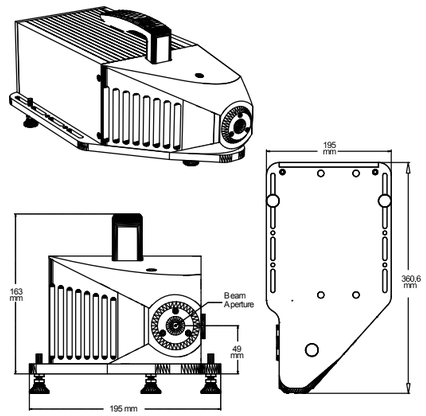
CW xxx MHz xxx MHz MM RS 232 85-245V AC

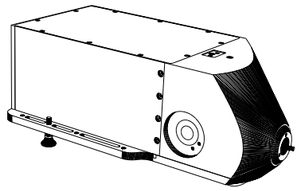
Greenphoton® FKLA Series - Green
High Power DPSS Lasers up to >8 watt

Greenphoton® FKLA 3000/5000/8000

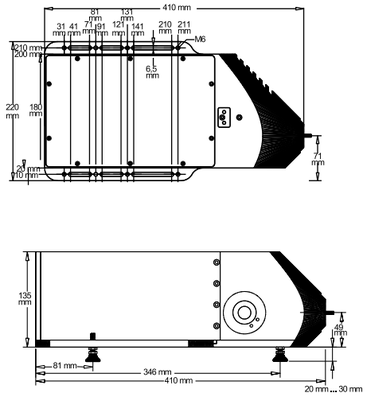
Wavelengths & Powers (other wavelengths and powers on request)	532nm / >3000mW 532nm / >5000mW 532nm / >8000mW
Beam diameter	2mm (1/e²) +/- 25%
Beam quality M²	<10 (multi mode) (M²~6 typical)
Beam ellipticity	<1.5:1
Polarisation	>100:1 vertical
Power stability	<5% / h
Noise 0Hz-100MHz	<5% peak<>peak
Modulation speed	Analogue: 10Hz Digital: 25kHz
Cooling	Peltier / Air
Supply voltage	85-245VAC, 50/60Hz
Features	Safety interlock RS-232 Interface Remote connector
Options	LDM.COL - collimator objective LDM.FASY.XXX - fibre coupling unit

FKLA 5000 Laser head

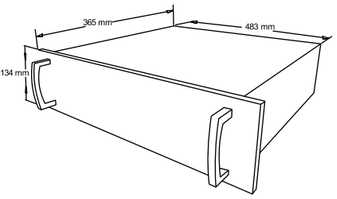




FKLA 8000 Laser head



FKLA PSU



The LEDMOD Series

The LEDMOD Series - High Power Fibre Coupled LED Modules

The temperature-stabilized, high-power LED modules of the LEDMOD series are intended for users in the industry, research and science sector. Applications in biotech, medical technology, microscopy, photocatalysis and fluorescence excitation are only some of the applications in which these laboratory light sources are employed. The modules are available in many wavelengths, from deep UV (255nm) to the infrared range (950nm). The optional, highly efficient fibre coupling, the integrated interface RS-232, the Windows™ compatible software for programming and control, and the diverse operating modes, make these modules flexible, compact and extremely long-lived sources of light, which up to now could not be realized with classical methods. The possibility of external analogue and digital modulation, the programmability of an internal frequency PWM with variable duty-cycle and the controllability over the serial interface, enable adaptation of the source of light to nearly every application. The high optical output powers (particularly in the UV range at 365nm, 385nm and 405nm) represent a long-lived alternative to UV discharge lamps. LEDMOD LED modules, with emission in the blue, green, yellow, red and infrared range, as well as a white light source, represent a genuine, wavelength-stable alternative source of light for halogen lamps. Reproducible results of measurement are thus guaranteed!

Wavelength range:	255 - 950nm
Optical output power:	up to 300mW

Key Facts:

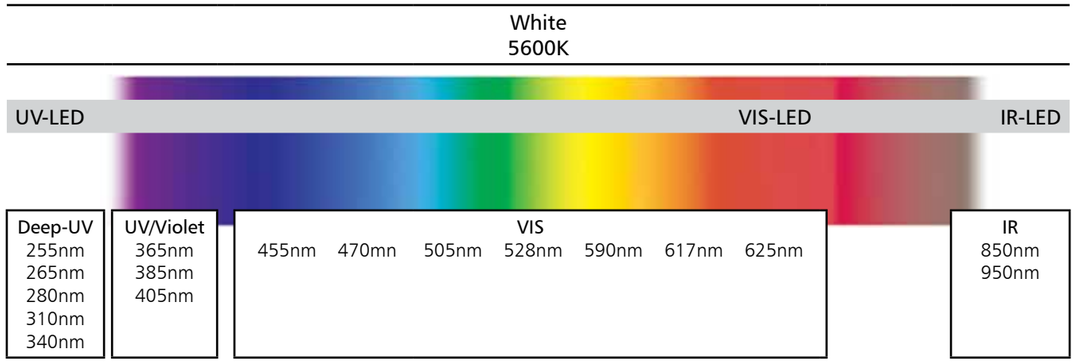
- Small and compact design
- Wavelengths between 255nm and 950nm available
- Optical output powers up to 300mW
- High efficiency fibre coupling into High NA fibers
- Analogue and digital modulation up to 500kHz
- Precise TEC-cooling
- Programmable PWM function generator
- OEM and laboratory style available
- Control bus - control of multiple LEDMOD modules
- RS-232 interface

LEDMOD □□□.□□□.□□□

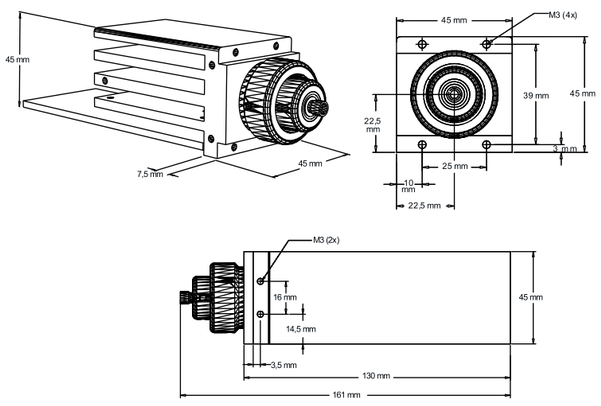
Wavelength in nm | Power in mW | Model OEM or LAB

CW | xxx MHz | xxx MHz | RS 232 | 12V DC

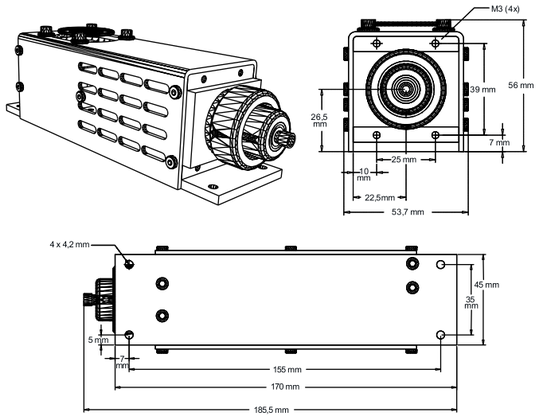
LEDMOD OEM Series / LEDMOD LAB Series - TEC-cooled high power LED modules from 255nm to 950nm with optional fibre coupling for OEM or laboratory use.



LEDMOD OEM



LEDMOD LAB



LEDMOD OEM / LAB

Wavelengths & Powers (other wavelengths and powers on request)	Deep-UV: 255nm / 150µW * 265nm / 400µW * 280nm / 600µW * 310nm / 500µW * 340nm / 350µW * UV / Violett: 365nm / 250mW 385nm / 300mW 405nm / 250mW VIS: 455nm / 300mW 470nm / 300mW 505nm / 50mW 528nm / 100mW 590nm / 100mW 617nm / 300mW 625nm / 200mW IR: 850nm / 170mW 950nm / 150mW White: 5600K / 200mW
Free emission angle	1.25mm (1/e²) +/- 0.25mm (MM beam diameter may vary)
Temperature control	<1.2 (SM) <6 (MM)
External modulation capabilities	<0.2*ZR
Internal modulation capabilities	<1.1:1 (SM)
Power setting resolution	>100:1 vertical
Computer interface	Safety interlock RS-232 Interface
Operation modes	1.) external analogue control (0...5V) for output power and additional external TTL signal for ON/OFF modulation 2.) internal power control with external TTL for ON/OFF modulation 3.) internal power control CW (continues wave) operation (no external signals necessary) 4.) internal power control + programmable frequency and duty-cycle for ON/OFF modulation (no external signals necessary) 5.) external power control (0...5V) for output power + programmable frequency and duty-cycle for ON/OFF modulation
Control interface	15-pin Sub-D connector
Dimensions (without fibre-coupling unit)	51x49x150mm (HxBxL).
Weight	350g
Supply voltage	9VDC-15VDC
Power consumption	27W max. <1W in standby
Environmental temperature	0°C-45°C
Certifications	CE, UL/CSA on request
Special features	* Modular mechanical and electronic principle * Control-bus architecture for control of multiple LED units * Interlock function * Over-TEMP protection * Remote-control
Options	* High-efficiency fibre coupling into high-NA POF and fused-silica fibres (e.g. 2mm / 70%, 1mm / 35%) * Collimating and focussing objectives * Beam shaping (diffractive and refractive)

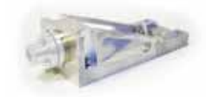
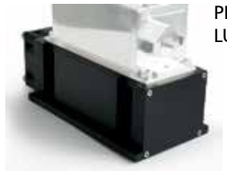
* Deep-UV models are not available with fiber coupling option.

Options for Omicron Light Sources - Omicron light sources can be equipped with a wide variety of options and accessories. Especially the modular principle of the LDM series offers the possibility of easy customization.
Make your choice…

Options for LDM and FKL Series Lasers

	Order code	Description
	LDM.COL	Collimation objective for customized beam diameters between 0.5mm and 15mm (1/e²). Can be directly attached to the LDM or FKL laser head or used separately.
	LDM.FOC	Focussing objective on customer´s demand. Can be directly attached to the LDM or FKL laser head or used separately. Ask for a simulation.
	LDM.FASY	FC/PC fibre coupling unit for LDM and FKL series lasers. Compatible with all FC/PC connectorized fibres. Note: This module extends the length of the laser head´s body by 30mm.
	LDM.FASY.APC	FC/APC fibre coupling unit for LDM and FKL series lasers. Compatible with all FC/APC connectorized fibres. Note: This module extends the length of the laser head´s body by 30mm.
	LDM.FASY.SMA	SMA fibre coupling unit for LDM and FKL series lasers. Compatible with all SMA connectorized fibres. Note: This module extends the length of the laser head´s body by 40mm.
	LDM.AAC	Automatic Aging Compensation module for LDM series lasers. Since all Omicron lasers are driven in constant current /constant temperature principle, a long term power drop, due to aging, can appear. With this option the LDM series lasers can perform an automatic aging compensation of the laser diode by simply sending a calibrate command via the RS-232 interface of the laser. Note: This module extends the length of the laser head´s body by 24mm.
	LDM.MON	High speed monitoring (light pick-off) option for modulated LDM series lasers. This module offers light monitoring and peak power detection with up to 200MHz bandwidth. Note: This module extends the length of the laser head´s body by 24mm.
	LDM.SHUTTER	Mechanical shutter for LDM and FKL series lasers. Note: This module extends the length of the laser head´s body by 12mm.
	LDM.CDRH	CDRH kit for laboratory use of LDM and FKL series lasers. A small remote control box with key switch, interlock connector and status LEDs that controls LDM and FKL lasers according to the rules of CDRH. The kit does also contain a mechanical shutter. (LDM.SHUTTER) Note: This module extends the length of the laser head´s body by 12mm.
	LDM.24VPSU	World wide power supply unit for all LDM and FKL series lasers with 24VDC supply voltage. Input: 85-245VAC, 50/60 Hz. Output: 24VDC, 2 ampere. Compatible laser models: CWA.L, CWA.L.WS, CWA.L.US, 150/500 and TA Deepstar®.

Options for PhoxX® and the LuxX® Series Lasers

	Order code	Description
	XX.DSO	Collimation objective for reduced beam diameter of 0.7mm (1/e²) +/- 0.1mm. Can be directly attached to the PhoxX® / LuxX® laser head.
	XX.FASYADAP	Fibre coupler adapter bracket for PhoxX® and LuxX® lasers. Omicron LDM fibre coupling units like LDM.FASY.xxx or other brands of fibre coupling units can be mounted to the XX.FASYADAP option. The unit can be mounted on optical tables or breadboards with inch or metric grid.
	LUXX. BOC	Break-Out cable for LuxX® diode lasers which offers direct connection for RS-232, analogue modulation (via BNC) and Laser-Enable (via BNC)
	XX.Fxxx	Clean-Up filter option for LuxX® and PhoxX® lasers. Bandpass filter to avoid luminescent light besides the main laser emission. xxx = laser wavelength
	LUXX.D2A	Digital modulation input adapter for LuxX® diode lasers converts the analogue modulation input of the LuxX® laser into a digital TTL input of >1.5MHz digital modulation bandwidth
	XX.CDRH	CDRH kit for laboratory use of PhoxX® / LuxX® series lasers. A small remote control box with key switch, interlock connector and status LEDs that controls the PhoxX® / LuxX® lasers according to the rules of CDRH.
	PHOXX.HEATSINK LUXX.HEATSINK	Standard laser head heat sink for all PhoxX® /LuxX® series lasers. Can be used as a passive or active heat sink using the internal 5VDC fan.
	XX.PSU	World wide power supply unit for all PhoxX® /LuxX® series lasers. Input: 90-240VAC, 50/60 Hz. Output: 5VDC, 6 ampere.

LightHUB® Options

	Order code	Description
	LH.AOM	Optional AO-modulator for DPSS lasers. The AO-modulator installs inside the LightHUB® Compact Laser Combiner and modulates the light of an integrated DPSS laser with up to 2.5MHz digital and 2.5MHz analogue modulation speed. The AOM driver is external to the LightHUB® housing.
	LH.AOM.INST	Housing for AOM drivers of LH.AOM option. Provides cooling and power supply for up to 2 AOM drivers of LH.AOM.

Options for FKLA Series DPSS Lasers

	Order code	Description
	FKLA.FASY.SMA	SMA fibre coupling unit for FKLA series lasers. Compatible with all SMA connectorized fibres. Note: This module extends the length of the laser head´s body by 45mm.

Options for LEDMOD Series High Power Fiber Coupled LED Modules

	Order code	Description
	LEDMOD.FASY.OEM	SMA fibre coupling unit for LEDMOD series LED modules. Compatible with high-NA (0.37-0.55NA) large core SMA connectorized fibres. The fibre coupler comes with a 1 meter long, 2mm core (0.5NA) POF fibre with SMA-905 connectors.
	LEDMOD.HOUSING	Metal housing with fan for laboratory use of LEDMOD OEM LED modules.
	LEDMOD.PSU	World wide power supply unit for all LEDMOD series OEM LED modules. Input: 90-240VAC, 50/60 Hz. Output: 12VDC, 3 ampere.

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