

## KVANT laser module specifications

**FAC diode module**

Model Nr.	RGB-6kF-AI *	RGB-10kF	RGB-18kF
Optical power (mW)	6000	11000	18000
Center wavelength (nm)	455nm (2.5W) 525nm (2W) 638nm (1.5W)	455nm (5W-8W) 525nm (3W) 638nm (3W)	455nm (8.5W) 525nm (5.5W) 638nm (4W)
Center wavelength tolerance (nm)	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5 x 7	6 x 7	7 x 7
Beam divergence (half angle, horizontal./vertical, mrad)	0.6 x 0.6 (blue) 0.6 x 0.6 (green) 0.8 x 0.8 (red)	0.6 x 0.6 (blue) 0.5 x 0.5 (green) 0.5 x 0.6 (red)	0.6 x 0.6 (blue) 0.5 x 0.5 (green) 0.5 x 0.6 (red)
Linear polarization	Y	N (Y)	N (Y)
Modulation freq.(kHz)	100	100	100
Peak power consumption	24V / 1.5A 24V / 5.5A	24V / 15 A	24V / 15 A
Dimensions (LxWxH,mm)	82x72x27(31)	92x182x62	92x182x62
External driver part dimensions (LxWxH,mm)			
Picture			

**FAC green diode module**

Model Nr.	GLM-7kF	GLM-14kF (GLM-14kF-SP)	GLM-17kF (GLM-17kF-SP)
Optical power (mW)	7 000	14 000	17 000
Center wavelength (nm)	525	525	525
Center wavelength tolerance (nm)	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5 x 5	6 x 6	7 x 6
Beam divergence (half angle, horizontal./vertical, mrad)	0.6 x 0.6	SP: 0.4 x 0.3 Atom: 0.5x0.5	SP: 0.4 x 0.3 Atom: 0.5x0.5
Linear polarization	Y	N	N
Modulation freq.(kHz)	100	100	100
Peak power consumption	TEC circuit LD circuit	24V / 5A 28V / 2A (ext.) 48V / 1.5A (RGB)	24V / 9A 28V / 4A (ext.) 48V / 2.5A (RGB)
Dimensions (LxWxH,mm)	92x116x62	92x182x62	92x182x62
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34
Picture			

**FAC blue-green diode module**

Model Nr.	BG-18kF2	BG-25kF	BG-32kF
Optical power (mW)	8W (green) 10W (blue)	10W (green) 15W (blue)	12W (green) 20W (blue)
Center wavelength (nm)	525 (green) 455 (blue)	525 (green) 455 (blue)	525 (green) 455 (blue)
Center wavelength tolerance (nm)	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5 x 7	6 x 7	7 x 7
Beam divergence (half angle, horizontal./vertical, mrad)	0.5 x 0.5 (green) 0.6 x 0.6 (blue)	0.4 x 0.3 (green) 0.6 x 0.6 (blue)	0.4 x 0.3 (green) 0.6 x 0.6 (blue)
Linear polarization	N	N	N
Modulation freq.(kHz)	100	100	100
Peak power consumption	TEC circuit LD circuit	24V / 9A 36V / 2A (G) 12V / 3.5A (B)	24V / 9A 35.5V / 2A (G) 21.5V / 3.5A (B)
Dimensions (LxWxH,mm)	92x182x62	92x182x62	92x182x62
External driver part dimensions (LxWxH,mm)			
Picture			

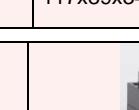
**FAC blue diode module**

Model Nr.	BLM-13kF	BLM-20kF	BLM-30kF	BLM-50kF
Optical power (mW)	13 000	20 000 / 25 000	30 000	50 000
Center wavelength (nm)	455	455	455	455
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5 x 7	6 x 7	7 x 7	6 x 7
Beam divergence (half angle, horizontal./vertical, mrad)	0.6 x 0.6	0.6 x 0.6	0.6 x 0.6	0.6 x 0.6
Linear polarization	Y	Y	Y	N
Modulation freq.(kHz)	100	100	100	100
Peak power consumption	TEC circuit LD circuit	24V / 5A 24V / 3.5A	24V / 5A 26.5V / 3.5A	24V / 9A
Dimensions (LxWxH,mm)	92x116x62	92x116x62	92x116x62	92x182x62
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34	117x89x34
Picture				

**FAC red diode modul**

Model Nr.	RLM-6kF	RLM-7.5kF	RLM-9kF	RLM-12kF
Optical power (mW)	6000	7500	9000	12000
Center wavelength (nm)	638	638	638	638
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5 x 7	6 x 7	7 x 7	9 x 7
Beam divergence (half angle, horizontal./vertical, mrad)	0.5x0.5	0.5x0.5	0.5x0.5	0.5x0.5
Linear polarization	N	N	N	N
Modulation freq.(kHz)	100	100	100	100
Peak power consumption	TEC circuit LD circuit	24V / 9A 25V / 1.3A	24V / 9A 24V / 2.5A (ext) 30.5V/1.3A (RGB)	24V / 13.5A 19.5V/2.5A
Dimensions (LxWxH,mm)	92x182x62	92x182x62	92x182x62	110x232x62
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34	117x89x34
Picture				

**RED series**

Model Nr.	RLM-350L	RLM-700L	RLM-1000L	RLM-2000L	RLM-2700L	RLM-3000L	RLM-4000L	RLM-5000L	RLM-6000L	RLM-7000L
Optical power (mW)	350	700	1000	2000	2700	3000	4000	5000	6000	7000
Center wavelength (nm)	637	637	637	637	637	637	637	637	637	637
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	3x3	2.5x3.5	3.5x3.5	3.5x3.5	4x3.5 (4.5x4)	5x3.5	4x5	5x5	5.5x5 6x5 (BB) 6x6 (SP30)	6x5
Beam divergence (half angle, mrad)	0.2	0.5	0.5	0.5	0.5 (0.35)	0.5	0.5	0.5 (0.35)	0.5 (0.45x0.3)	0.5
Linear polarization	N	Y	Y	N	N	N	N	N	N	N
M² (horizontal/vertical)	2/2	5/7	5/7	7/7	8/7	9/7	8/10	10/10	11/10	11/10
Modulation freq. (kHz)	100	100	100	100	100	100	100	100	100	100
Peak power consumption	TEC circuit LD circuit	24V/1.5A 24V/0.5A	24V/1.5A 24V/0.5A	24V/1.5A 24V/0.5A	24V/3A 24V/1A	24V/3A 24V/1A	24V/6A 24V/1A	24V/6A 24V/1.5A	24V/6A 24V/2A	24V/6A 24V/2.5A
Dimensions (LxWxH,mm)	132x78x51	132x78x51	132x78x51	128x102x57	128x102x57	173x80x77	173x80x77	173x80x77	208x92x76	208x92x76
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34
Picture / Skelet type				<img alt="S						

## LASER MODULE SPECIFICATIONS

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### BLUE series

Model Nr.	BLM-3000B	BLM-4000B	BLM-6000B	BLM-9000B	BLM-12kB
Optical power (mW)	3000	4000	6000	9000	12 W
Center wavelength (nm)	450	450	450	450	450
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5
Beam diameter with 95% of power (mm) (horizontal*vertical)	3x3	6x4	6x4	6x6	6x6
Beam divergence (95% of power, horizontal*vertical, mm)	0.7 / 0.3	0.7 / 0.2	0.7 / 0.2	0.7 / 0.3	0.7 / 0.3
Linear polarization	N	N	N	N	N
M <sup>2</sup> (horizontal/vertical)	8 / 3	17 / 3	17 / 3	17 / 8	17 / 8
Modulation freq. (kHz)	100	100	100	100	100
Peak power consumption	24V/3A	24V/3A	24V/4A	24V/9A	24V/9A
LD circuit	24V/1A	24V/1.5A	24V/2A	24V/3.5A	24V/3.5A
Dimensions (LxWxH,mm)	132x78x51	132x78x51	132x78x51	182x92x62	182x92x62
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34



### BLUE combo

Model Nr.	BLM-11kLD
Optical power (mW)	11.5 W
Center wavelength (nm)	445 (>6W) 462 (>5W)
Center wavelength tolerance (nm)	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	6.1x5.5
Beam divergence (half angle, horizontal/vertical, mrad)	0.4 / 0.3
Linear polarization	N
M <sup>2</sup> (horizontal/vertical)	8 / 6
Modulation freq. (kHz)	100
Peak power consumption	24V/9A
LD circuit	24V/3.5A
Dimensions (LxWxH,mm)	182x92x62
External driver part dimensions (LxWxH,mm)	117x89x34



### BLUE-GREEN

Model Nr.	BG-8500DM	BG-8500DM-BB
Optical power (mW)	4500 (blue) 4000 (green)	4500 (blue) 4000 (green)
Center wavelength (nm)	450 525	450 525
Center wavelength tolerance (nm)	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5x4.5 (blue) 4.95x3.5 (green)	5x5 (blue) 5x5 (green)
Beam divergence (half angle, horizontal/vertical, mrad)	0.7 / 0.2 (blue) 0.6 / 0.2 (green)	0.7 / 0.2 (blue) 0.6 / 0.2 (green)
Linear polarization	N	N
M <sup>2</sup> (horizontal/vertical)		
Modulation freq. (kHz)	100	100
Peak power consumption	24V/6A	24V/6A
LD circuit	24V/3A	24V/3A
Dimensions (LxWxH,mm)	128x80x57	128x80x57
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34



### GREEN

Model Nr.	GLM-2500N	GLM-4000N	GLM-5500N	GLM-8000N	GLM-11kN
Optical power (mW)	2500	4000	5500	8000	11000
Center wavelength (nm)	525	525	525	525	525
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	3.5 x 3.5	5 x 4.5	5 x 4.5	6 x 5.5	6 x 5.5
Beam divergence (half angle, mrad)	0.5 / 0.2	0.6 / 0.2	0.6 / 0.2	0.5 / 0.3	0.5 / 0.3
Linear polarization	N	N	N	N	N
M <sup>2</sup> (horizontal/vertical)	6 / 3	11 / 4	11 / 4	12 / 5	12 / 5
Modulation freq. (kHz)	100	100	100	100	100
Peak power consumption	24V/3A	24V/3A	24V/4A	24V/9A	24V/9A
LD circuit	24V/1.5A	24V/2A	24V/2.5A	24V/4A	24V/6A
Dimensions (LxWxH,mm)	132x78x51	132x78x51	132x78x51	182x92x62	182x92x62
External driver part dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34



### RGB diode module

Model Nr.	RGB-2000DM	RGB-3000DM	RGB-3400DM
Optical power (mW)	2000	3000	3400
Center wavelength (nm)	450nm (1.2W) 525nm (700mW) 637nm (400mW)	450nm (1.5W) 525nm (1300mW) 637nm (750mW)	450nm (1.5W) 525nm (1300mW) 637nm (1100mW)
Center wavelength tolerance (nm)	± 5	± 5	± 5
Beam diameter (95% of power, horizontal*vertical, mm)	5.2x4.5(blue) 5.2x4.5 (green) 3.5x3.5 (red)	4.5x4.5 (blue) 4.0x3.5 (green) 3.5x3.5 (red)	4.5x4.5 (blue) 4.0x3.5 (green) 3.5x4.5 (red)
Beam divergence (half angle, horizontal/vertical, mrad)	0.4 / 0.2 (blue) 0.35 / 0.2 (green) 0.2 (red)	0.4 / 0.2 (blue) 0.4 / 0.2 (green) 0.2 (red)	0.4 / 0.2 (blue) 0.4 / 0.2 (green) 0.4 / 0.3 (red)
Linear polarization	N	N	Y
Modulation freq.(kHz)	100	100	100
Peak power consumption	24V / 3A	24V / 3A	24V / 3A
Dimensions (LxWxH,mm)	72x60x35	110x60x35	122x60x35
External driver part dimensions (LxWxH,mm)	100x68x33	100x68x33	100x68x33





## LASER MODULE SPECIFICATIONS

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### Scientific series (single laser diode)

Model Nr.	375LM-70	375LM-200	375LM-400	375LM-800	395LM-120	395LM-300	405LM-200	405LM-300	405LM-500	405LM-1k	405LM-1.2k	405LM-2.5k	415LM-120	420LM-120	425LM-1.5k	435LM-5k	445LM-100	445LM-500	445LM-1.5k
Optical power* (mW)	70	200	400	800	120	300	200	300	500	1000	1200	2500	120	120	1500	5000	100	500	1500
Center wavelength (nm)	375	375	375	375	395	395	405	405	405	405	405	405	415	420	425	435	445	445	445
Center wavelength toler. (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam mode structure	TEM00	Multimode	Multimode	Multimode	TEM00	Multimode	TEM00	TEM00	Multimode	Multimode	Multimode	Multimode	TEM00	TEM00	Multimode	Multimode	TEM00	TEM00	Multimode
Beam diameter* (1/e <sup>2</sup> , mm)	4	3x3	3 x 3	3 x 3	4	4	4	4	~ 4 x 4	3.5 x 4	4 x 4	3.5 x 3.5	4	4	3 x 4	3 x 4	4	4	4 x 4
Beam diverg. (half angle,mrad)	0.15	0.6x0.15	0.9x0.15	TBD	0.2	0.2	0.2	0.2	0.4 x 0.2	0.8x0.2	0.8x0.2	TBD	0.2	0.2	TBD	TBD	0.2	0.2	0.5 x 0.2
Linear polarization	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
M <sup>2</sup>	~ 1.2	8 / 1.2	TBD	TBD	~ 1.2	~ 1.2	~ 1.2	~ 1.2	TBD	TBD	TBD	TBD	~ 1.2	~ 1.2	TBD	TBD	~ 1.2	TBD	TBD
Max. modulation freq.(kHz)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
OEM driver** peak power cons..	24V / 2A	24V / 2A	24V / 2A	24V / 2A	24V / 2A	24V / 2A	24V / 2A	24V / 2A	24V / 2.5A	24V / 2.5A	24V / 2.5A	24V / 2.5A	24V / 2A	24V / 2A	24V / 2.5A	24V / 2.5A	24V / 2A	24V / 2.5A	24V / 2.5A
Head dimensions (LxWxH,mm)	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x45	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46

Model Nr.	445LM-3.5k	445LM-5k	458LM-500	458LM-5k	462LM-1.4k	462LM-5k	473LM-100	473LM-300	473LM-1k	488LM-60	488LM-200	488LM-300	488LM-2k	505LM-80	515LM-30	520LM-120	520LM-300	525LM-1.4k
Optical power* (mW)	3500	5000	500	5000	1400	5000	100	300	1000	60	200	300	2000	80	30	120	300	1400
Center wavelength (nm)	445	442	458	458	462	462	473	473	473	488	488	488	505	515	520	520	525	525
Center wavelength toler. (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam mode structure	Multimode	Multimode	TEM00	Multimode	Multimode	Multimode	TEM00	TEM00	Multimode	TEM00	TEM00	TEM00	Multimode	TEM00	TEM00	Multimode	Multimode	Multimode
Beam diameter* (1/e <sup>2</sup> , mm)	3 x 4	3 x 4	4	4 x 4	4 x 4	4 x 4	4	4	4 x 4	4	4	4	4 x 4	4	4	4 x 4	4	3.5 x 4
Beam diverg. (half angle,mrad)	1.4 x 0.2	1.6 x 0.2	0.2	1.3 x 0.2	0.5 x 0.2	1.3 x 0.2	0.2	0.2	0.5 x 0.2	0.2	0.2	0.2	1 x 0.2	0.2	0.2	0.1	0.3 x 0.2	0.6 x 0.2
Linear polarization	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
M <sup>2</sup>	TBD	TBD	~ 1.2	TBD	TBD	TBD	~ 1.2	~ 1.2	TBD	~ 1.2	~ 1.2	~ 1.2	13 / 1.5	~ 1.2	~ 1.2	~ 1.2	TBD	TBD
Max. modulation freq.(kHz)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
OEM driver** peak power cons..	24V / 2.5A	24V / 2A	24V / 2.5A	24V / 2A	24V / 2A	24V / 2.5A	24V / 2A	24V / 2A	24V / 2.5A	24V / 2.5A	24V / 2.5A	24V / 2.5A						
Head dimensions (LxWxH,mm)	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46	92x61x46						

Model Nr.	532LM-1.3k	637LM-180	638LM-600	638LM-1k	638LM-1.2k	638LM-1.5k	660LM-200	660LM-1.2k	675LM-200	675LM-1.2k	690LM-200	690LM-1.2k	785LM-400	808LM-2k	830LM-2k	852LM-600	915LM-300	940LM-700
Optical power* (mW)	1300	180	600	1000	1200	1500	200	1200	200	1200	200	1200	400	2000	2000	600	300	700
Center wavelength (nm)	532	637	638	638	638	638	660	660	675	675	690	690	785	808	830	852	915	940
Center wavelength toler. (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam mode structure	Multimode	TEM00	Multimode	Multimode	Multimode	Multimode	TEM00	Multimode	TEM00	Multimode	TEM00	Multimode	Multimode	Multimode	Multimode	Multimode	Multimode	Multimode
Beam diameter* (1/e <sup>2</sup> , mm)	2.5 x 4	4	5 x 5	5 x 5	5 x 5	5 x 5	4	5 x 5	4	3 x 5	4	3 x 5	3 x 5	3.5 x 5	4 x 5	4 x 5	4 x 5	4 x 5
Beam diverg. (half angle,mrad)	0.6 x 0.2	0.2	1 x 0.2	1.2 x 0.2	2.3 x 0.2	2.8 x 0.2	0.2	3 x 0.2	0.2	2.8 x 0.2	0.2	2.8 x 0.2	TBD	5 x 0.2	3 x 0.2	3 x 0.2	3 x 0.2	TBD
Linear polarization	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
M <sup>2</sup>	TBD	~ 1.2	TBD	TBD	TBD	TBD	~ 1.2	TBD	~ 1.2	TBD	~ 1.2	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Max. modulation freq.(kHz)	100	100	100	100	100</td													

## BLP, DPSS and OPSL laser specifications

**KVANT solid state laser modules**

Model Nr.	YLM-50	OLM-180	RLM-400	304LM-20	320LM-20
Optical power (mW)	50	>180	>400	5-20	>20
Center wavelength (nm)	561	607	639	304	320
Center wavelength tolerance (nm)	± 2	± 1	± 1	± 1	± 1
Beam diameter (95% of power, horizontal*vertical, mm)	~3	3.2	2.8	Currently under development	1
Beam divergence (half angle, mrad)	~0.2	0.16	0.17		0.3
Linear polarization	Y	Y	Y		Y
M <sup>2</sup>	1.2	<1.1	<1.1		<4
Modulation freq.(kHz)	10	CW	CW	-	CW
Peak power consumption	24V / 2.5A	24V / 2.5A	24V / 2.5A	24V / 2.5A	24V / 2.5A
Dimensions (LxWxH,mm)	120x59x40	120x59x40	120x59x40	125x60x44	125x60x44
Driver dimensions (LxWxH,mm)	117x89x34	117x89x34	117x89x34	117x89x34	117x89x34
Picture					

**COHERENT**

Series	Blue	Cyan II	Cyan I	Green II	Green I	Yellow	Yellow	Orange II	Orange I	Red
Optical power (mW)	1000, 2000*	1000, 2000*, 4000	3000, 5000	3000, 5000	3000*, 5000*, 8000, 10000	2000	2000, 3000, 5000, 6000	2000*, 3000	1250	1000, 1500, 2000, 2500, 5000
Center wavelength (nm)	460	480	488	514	532	561	577	590	607	639
Center wavelength tolerance (nm)	± 3	± 3	± 3	± 3	± 3	± 3	± 3	± 3	± 3	± 1
Spectral width (nm)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Beam size (FWHM, mm)	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 1
Beam divergence (full angle, mrad)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Linear polarization	100:1	100:1	100:1	100:1	100:1	100:1	100:1	100:1	100:1	100:1
M <sup>2</sup> (horizontal/vertical)	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	1.5 / 1.5
Modulation freq.(kHz)	50	50	50	50	50	50	50	50	50	50
Diode power consumption	2.2V / 32A	2.2V / 32A	2.2V / 40A	2.2V / 40A	2.2V / 40A	2.2V / 40A	2.2V / 32A	2.2V / 32A	2.2V / 40A	2.2V / 40A
Dimensions of head only (LxWxH,mm)	134x44 x65	134x44 x65	134x44 x65	134x44 x65	134x44 x65	134x44 x65	134x44 x65	134x44 x65	134x44 x65	256x49 x71

Picture (head only)			
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\* Single transversal mode