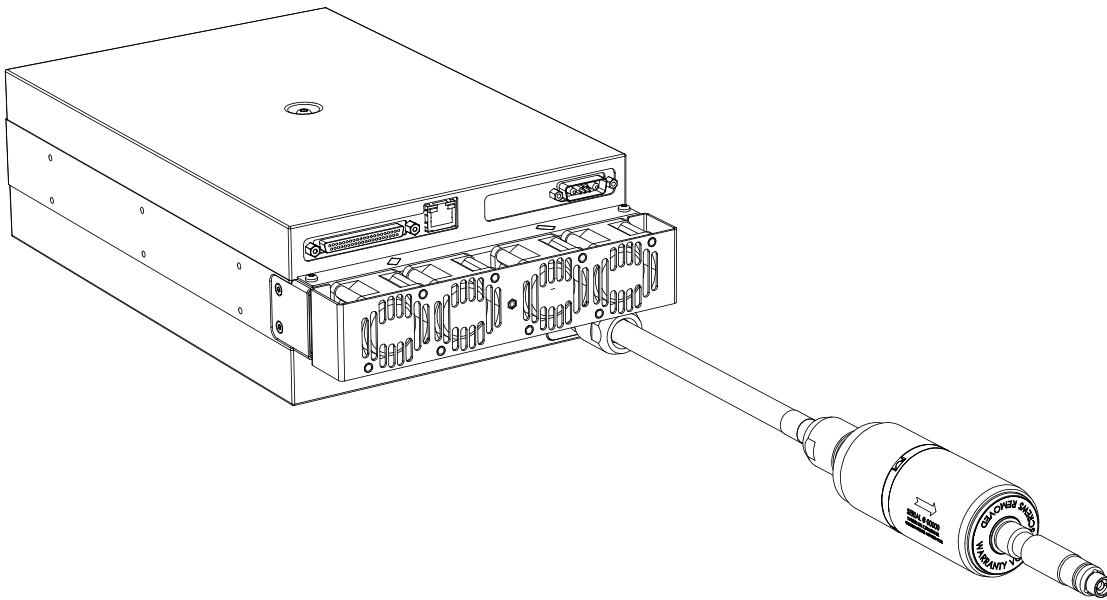


G4 Pulsed Fibre Laser Specification

Applicable Part numbers

Part number	Options
SP-020P-A-EP-Z-A-N	2m optical cable, no pilot laser
SP-020P-A-EP-Z-A-Y	2m optical cable, with pilot laser
SP-020P-A-EP-Z-B-N	3m optical cable, no pilot laser
SP-020P-A-EP-Z-B-Y	3m optical cable, with pilot laser



System Integration Details

parameter	unit	range
Laser Module type		A1
Laser Module Dimensions	mm	347 x 201 x 95
Beam delivery type		ILLK
Control interface version		V8
Power Supply Voltage	V DC	24 ± 2
Logic Power Supply Requirement	W	50
Laser Diode Power Supply Requirement	W	200
Operating temperature range	C	0 to +45
Storage temperature range	C	-10 to +60

Related Documents

Document number	Description
SM-S00227	OEM Safety and System Integration Manual: Module Types A1 and A2
SM-S00360	V8 Control Interface Manual
SM-S00220	G4 Accessories Datasheet

Laser Characteristics

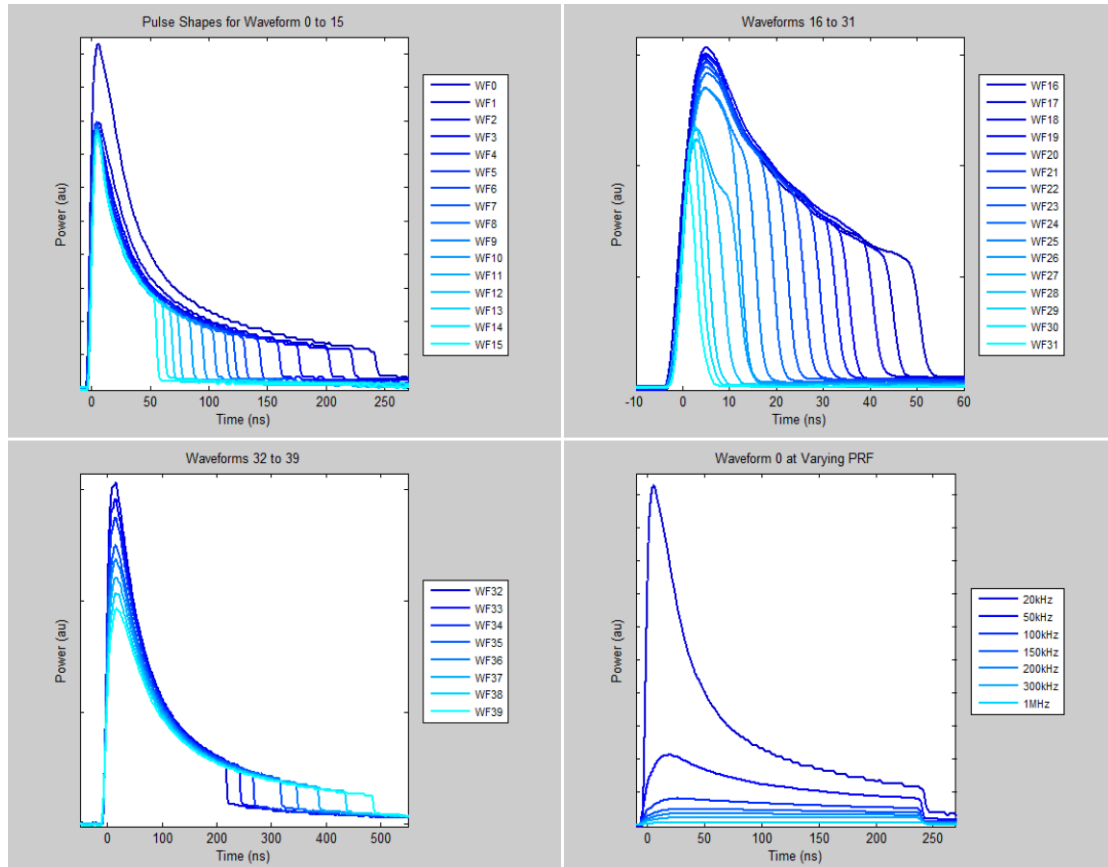
All parameters specified at wfm 0, rated power, over operating temperature range unless otherwise stated.


parameter	unit	range
Average Output Power	W	> 20
Output Power Stability	% p-p	< 5
Maximum Pulse Energy	mJ	> 1.0
Maximum Peak Power	kW	> 10
Pulse Width Range (see pulse waveform table)	ns	3 – 500
Pulse-to-Pulse Energy Stability (at stable temperature)	% rms	< 3
CW Mode		Yes
Central Emission Wavelength	nm	1059 – 1065
Emission Bandwidth	nm	< 10
Fraction of power within $\lambda_0 \pm 20$ nm	%	> 80
M^2		1.0 – 1.6
Full-angle divergence	mrad	80 – 120
Circularity	%	> 90
Beam pointing error	mrad	< 10
Beam offset	mm	< 0.1
Astigmatism	$1/z_R$	< 0.3
Degree of polarization	%	< 20

Pulse Waveform Table

wfm	PRF0 (kHz)	PRFmax (kHz)	Max. pulse energy, Emax (mJ)	Typ. FWHM pulse width at Emax (ns)	Pulse width at 10% (ns)	Typ. peak power at Emax (kW)
0	20	1000	1.0	40	241	14
1	25	1000	0.80	35	221	14
2	27	1000	0.74	33	202	14
3	29	1000	0.70	31	177	14
4	30	1000	0.67	29	161	14
5	32	1000	0.63	28	144	14
6	34	1000	0.60	27	131	14
7	36	1000	0.56	25	118	14
8	37	1000	0.54	26	113	14
9	39	1000	0.52	26	103	14
10	41	1000	0.49	26	100	14
11	43	1000	0.47	27	90	14
12	45	1000	0.44	26	80	14
13	48	1000	0.42	27	65	13
14	51	1000	0.39	27	58	13
15	54	1000	0.37	27	60	13
16	57	1000	0.35	27	55	14
17	61	1000	0.33	27	50	13
18	65	1000	0.31	15	45	13
19	70	1000	0.29	27	40	14
20	76	1000	0.26	15	36	13
21	83	1000	0.24	28	33	13
22	90	1000	0.22	25	30	13
23	100	1000	0.20	22	26	13
24	115	1000	0.19	19	23	12
25	140	1000	0.16	16	20	12
26	170	1000	0.13	12	16	11
27	215	1000	0.09	12	13	10
28	290	1000	0.07	9	10	10

29	395	1000	0.05	5	7	11
30	500	1000	0.04	4	5	11
31	715	1000	0.03	3	3	11
32	20	900	1.00	62	220	13
33	20	900	1.00	66	245	12
34	20	800	1.00	70	270	12
35	20	600	1.00	78	320	10
36	20	600	1.00	81	350	10
37	20	600	1.00	85	390	9
38	20	500	1.00	90	440	8
39	20	500	1.00	95	490	8



	<p>INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION CLASS 4 LASER PRODUCT</p> <p>Wavelength 1040 – 1200nm Pulsed output - Max average power <120W Max pulse energy <2.0mJ Repetition freq. 1-1000kHz Pulse duration 1ns – 500ns CW Output power < 120W IEC/EN 60825-1:2007</p>	<p>Wavelength 630 – 670nm Output power < 5mW CW</p> <p>VISIBLE LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3R LASER PRODUCT</p> <p>IEC/EN 60825-1:2007</p>	<p>COMPONENT FOR INCORPORATION</p> <p>This product is intended as a component for incorporation into a laser product, and as such requires additional features for Laser Safety and to comply with IEC/EN60825-1 and 21CFR1040.10</p>
	<p>© 2014 SPI Lasers UK Ltd. Commercial In Confidence</p>		