

	YTTERBIUM PULSED FIBER LASER SPECIFICATION MODEL YLP-HP-1-30x240-500-500	Spec: Revision: Page:	E27604 01 1 of 3
---	---	-----------------------------	------------------------

1 Optical characteristics

No	Characteristic	Conditions	Symbol	Min.	Typ.	Max.	Unit
1	Mode of operation			pulsed			
2	Polarization state			random			
3	Average output power	PRR>PRRnom	P _{nom}		500		W
4	Output power adjustment range			10		100	%
5	Central emission wavelength		λ	1055	1064	1075	nm
6	Emission bandwidth				4	10	nm
7	Laser ON stabilization time	ACON mode 90% –105% of P _{nom}			50	100	μs
8	Laser switching OFF time	100% → 10% of P _{nom}			5	10	μs

2 Operation modes table

N	Mode	Pulse duration at maximum energy			Maximum pulse energy	Min. pulse repetition rate	Nominal PRR (PRRnom)	Max. pulse repetition rate
		Min.	Typ.	Max.				
		ns			mJ	kHz	kHz	kHz
1	T1	27	30	33	0.25	200	2000	2000
2	T2	54	60	66	0.5	100	1000	2000
3	T3	108	120	132	1	50	500	2000
4	T4	200	240	280	1	50	500	1000

3 Optical output / Output Isolator

No	Characteristic	Conditions	Min	Typ	Max	Unit
9	Output beam diameter	86% power	6		10	mm
10	Beam quality	M ²	1.2		2	
11	Output fiber length			3		m
12	Reflected light pass		window in the housing			
13	Isolator dimensions		see drawing			
14	Isolator operating temperature range		+15		+35	°C
15	Isolator protection window		installed			

Issued by:	Issue Date:
S. Maryashin	23.10.2012

CONFIDENTIAL: This document and any data disclosed therein is the property of IPG Photonics Corporation and its affiliates, and constitute and contain proprietary information. Neither receipt nor possession of this document confers or transfers any right to duplicate, use, or disclose any information contained herein except as expressly authorized in writing by IPG Photonics Corporation.

	YTTERBIUM PULSED FIBER LASER SPECIFICATION MODEL YLP-HP-1-30x240-500-500	Spec: Revision: Page:	E27604 01 2 of 3
---	---	-----------------------------	------------------------

4 Electrical characteristics

No	Characteristic	Conditions	Min.	Typ.	Max.	Unit
16	Laser modulation input: HIGH (+16...+24V) LOW (0...+10V) disconnected (floating)			emission (Laser ON) power leakage (Laser OFF) power leakage (Laser OFF)		
17	Control interface			RS-232C		
18	Power supply voltage		220		240	VAC
19	Power consumption				2400	W

5 General characteristics

No	Characteristic	Symbol	Min.	Typ.	Max.	Unit
20	Environment			non-condensed including laser internal parts		
21	Operating temperature range (environment)		+10		+50	°C
22	Operating temperature range (internal water cooled modules)		+18	+24	+26	°C
23	Cooling water temperature			+19		°C
24	Storage temperature		-20		+60	°C
25	Humidity		10		95	%
26	Device dimensions (WxHxD)			483x266x665		mm
27	Housing type			19" rack mountable 6U height		
28	Cooling method			regular water		
29	Water flow		5			liter/min
30	Chiller cooling capacity				1900	W
31	Maximum pressure in water cooling system				3.5	bars

6 Delivery options

- 5V laser modulation signal

7 Certification

Test data shipped with each laser

- Nominal output average power, W
- Pulse repetition rate, kHz
- Operating wavelength, nm
- Pulse duration, ns
- Beam diameter (86% power), mm
- Laser switching ON/OFF time, μ s

8 Isolator external layout

