	<b>SPECIFICATION</b> <b>YTTERBIUM PULSED FIBER LASER</b> <b>YLPN-1mJ MOPA series</b>	Spec: Revision: Page:	E27409 03 1 of 4
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This document specifies the following laser models, 2m delivery fiber length:

Model	Nominal average output power, W		
	Min	Typ	Max
YLPN-1-1x350-20	19	20	21
YLPN-1-1x350-30	28	30	32

### 1. Optical characteristics

N	Characteristic	Test condition	Symbol	Min	Typ	Max	Unit
1	Mode of operation			Pulsed			
2	Polarization			Random			
3	Central emission wavelength		$\lambda$	1055	1064	1070	nm
4	Emission bandwidth	FWHM	$\Delta\lambda$		5	10	nm
5	Output power adjustment range			10		100	%
6	Long-term average power instability	$P_{out} = P_{nom}$				5	%
7	Pulse repetition rate range	See below		2		4000	kHz
8	Laser switching ON/OFF time	BS1 mode			2	3	$\mu s$
9	Red guide laser power (optional)	$\lambda=660nm$		0.2	0.5	1	mW

### 2. Adjustable pulse duration (APD) modes table


N	APD mode index	APD mode description	Pulse duration @50%, ns	Pulse duration @10%, ns	Nominal pulse energy, $\mu J$	Pulse repetition rate, kHz		
						Nominal		Max
						20W	30W	All
10	0	1.5 ns	1.5	2.2	15	1300	2000	4000
11	1	2.5 ns	2.5	3.5	25	800	1200	4000
12	2	4 ns	4	5	40	500	750	4000
13	3	8 ns	8	9	80	250	380	3000
14	4	16 ns	16	17	160	125	190	3000
15	5	30 ns	30	31	230	87	130	1500
16	6	50 ns	40	50	333	60	90	1500
17	7	120 ns	40	120	588	34	51	500
18	8	200 ns	70	200	1000	20	30	500
19	9	350 ns	30	350	1000	20	30	200

### 3. Electrical Characteristics

N	Characteristic	Min	Typ	Max	Unit
20	Control interface	type E			
21	Supply voltage	23	24	25	VDC
22	Current consumption • YLPN-1-1x350-20 • YLPN-1-1x350-30			5 6	A

Issued by:	Issue Date:
I. Krinov	13.08.2020

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#### 4. Optical Output (isolated)

N	Characteristic	Min	Typ	Max	Unit
23	Protection cable type	metal shielded /PVC coated			
24	Delivery cable diameter	6		7	mm
25	Beam quality M <sup>2</sup>			2.0	
26	Output fiber cable length	1.9	2	2.1	m
27	Output beam diameter	6		9	mm
28	Output beam ellipticity		10	20	%
29	Output beam offset			1	mm
30	Output beam misalignment			5	mrad
31	Output beam divergence adjustment	minimum of divergence			

#### 5. General Characteristics

N	Characteristic	Min	Typ	Max	Unit
32	Environment temperature range • 50% emission time • 100% emission time	0 0		+42 +36	°C
33	Storage temperature	-10		+60	°C
34	Cooling method	3 built-in fans			
35	Warm-up time • to start of operation • to full stabilization			0.2 10	min
36	Humidity (non-condensed environment)	10		95	%
37	Laser module dimensions	215x95x286 mm			


#### 6. Delivery configuration and options

- Bitstream 1 (BS1) mode including high contrast (HC)
- Extended pulse repetition rate (PRR) mode
- RS-232C control and monitoring interface
- Optional guide laser (red aiming diode)
- Optional output beam diameter alteration
- Optional USB Remote control, laboratory grade (including PC software)

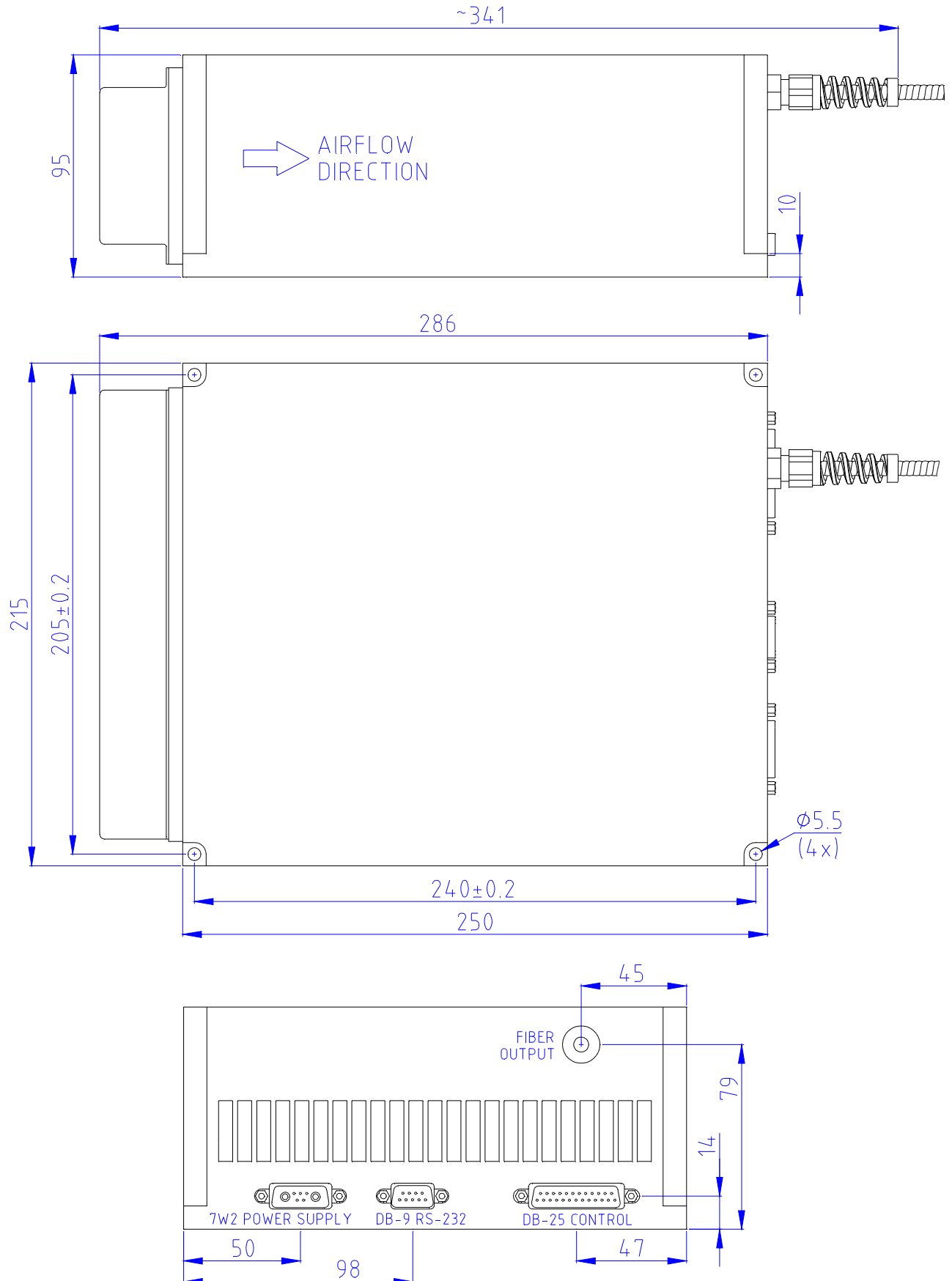
#### 7. Certification

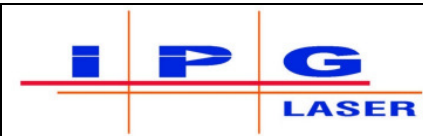
Test data shipped with each laser:

- Nominal output average power, W
- Operating wavelength, nm
- Pulse durations (all APD modes at nominal pulse energy and PRR), ns
- Beam diameter (86% power), mm
- Laser ON/OFF delays (nominal output power),  $\mu$ s
- Nominal current consumption, A

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## 8. Laser module dimensions





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9. Isolated output head dimensions

