



## YLPN Adjustable Pulse Duration

Ytterbium Nanosecond Pulse Fiber Lasers

**NEW PRODUCT** 





### **Applications**

- Microcutting
- ▶ Scribing
- ▶ Trimming
- ▶ Hole drilling
- - ▶ Coating removal

▶ Ablation and cleaning

- ▶ Precision marking
- ▶ Texturing



#### **Features**

- ► Adjustable Pulse Duration from 1 to 350 ns
- ▶ Pulse Energy up to 1 mJ
- ► Average Power up to 100 W ► Full Flexibility in Operation
- ➤ Pulse Repetition Rates 2-10000 kHz
- ► Fast Modulation Response
  - Full Flexibility in Operation Parameters

IPG Photonics offers YLPN Ytterbium Nanosecond Pulse Fiber Lasers with adjustable pulse waveforms in the range of 1 to 350 ns. The output powers range up to 100 W with pulse energies up to 1 mJ. Pulse repetition rates range from 2 kHz to 10 MHz. The laser power can be adjusted in a wide range of pulse repetition rates independent of the pulse energy. An output isolator ensures high output power stability and allows to process highly reflective materials.

These compact air-cooled, maintenance-free modules are designed for OEM applications. The robust all-fiber design packaged into a rugged case allows operation in harsh industrial environments. The all-fiber format allows for the adjustment of peak power and/or pulse repetition rate without affecting any of the output beam parameters. These fiber lasers are much more efficient and compact than conventional solid state pulsed lasers.

Fine processing of thin foils and coating as well as treatment of surfaces can be optimized using wide range of operating parameters. They are ideal for applications in micromachining, scribing, hole drilling, ablation, resistor trimming, photovoltaics, texturing and marking.



# YLPN Adjustable Pulse Duration

### Ytterbium Nanosecond Pulse Fiber Lasers

Optical Characteristics	1×350-20	1×350-30	1×350-50	1×350-100	20×120-100	
Wavelength, nm			1064			
Mode of Operation			Pulsed			
Average Power, W	20	30	50	1	00	
Output Power Adjustment Range, %			10-100			
Pulse Energy, mJ	Up to 1 mJ					
Pulse Duration, ns	-	1.5; 2.5; 4; 8; 16; 30	0; 50; 120; 200; 35	50	20; 30; 60; 120	
Repetition Rate, kHz		2-4000		2-10000	10-1000	
Beam Quality, M <sup>2</sup>			<2			

General Characteristics	1×350-20	1×350-30	1×350-50	1×350-100	20×120-100	
Control Unit Dimensions, mm		215 × 286 × 95	215 × 2	215 × 260 × 140		
Optical Head Dimensions, mm	Ø × Length: 46 × 247					
Cooling			Air			
Supply Voltage, VDC			24			
Typical Power Consumption, W	<85	<105	<160	<310	<330	

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MAX. AVERAGE OUTPUT POWER: 200 W
MAX. PEAK OUTPUT POWER: 40 kW
PULSE DURATION: 1-800 ns
PULSE REPETITION RATE: 2-10,000 kHz
WAVELENGTH RANGE: 900-1200 nm

DANGER - INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION CLASS 4 LASER PRODUCT