

# High Power Femtosecond Ytterbium Fiber Laser Unit

## LAS-YFL-FS-HP-U

### Features

- \* Average power up to 20W
- \* All-fiber design, industrial reliability
- \* High peak power up to 1MW
- \* Maintenance free
- \* Polarization-maintaining
- \* RS-232/USB interface for local supervision.

### Applications

- \* Material processing
- \* Semiconductor inspection
- \* Harmonic generation
- \* OPO pumping
- \* Pump-probe

### Description

**GIP Technology** High Power Femtosecond Ytterbium Fiber Laser Unit (LAS-YFL-FS-HP-U) is the 1 $\mu$ m band femtosecond fiber laser source, delivering high peak power (up to 1 MW) in standalone size for material processing, semiconductor inspection, and supercontinuum generation applications.

All-fiber design and splicing technology make the laser more compact compared to traditional



rod or disc DPSS lasers. The peak intensity of a laser pulse with a duration of only a few picoseconds is so high that nonlinear/multi-photon absorption occurs, resulting in a very precise "cold" process with little thermal effect.

In addition, these units also provide a user-friendly status monitoring via an LCD display, LED indicators, and various communication interfaces (RS232/USB).



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### Specifications

Optical Information		Unit	Description			
Saturated output power*1	Max.	Watt	2	5	10	20
Mode of operation			Pulsed			
Center wavelength*2		nm	1030 or 1064			
Pulse repetition rate*3		MHz	30 ~ 80			
Pulse duration*4			200	350	400	
Pulse power	Max.	kW	5	15	25	120
Beam quality	Max.	M <sup>2</sup>	1.2	1.4		
Polarization			Linear			
Polarization extinction ratio	Min.	dB	20		17	
Termination			Collimated beam			
Electrical Information						
Operating voltage		Volt	100 ~ 240VAC, 50/60Hz			
Control mode			ACC or APC			
Control interface			RS-232/USB			
Pulse timing			External trigger, TTL			
Environmental Information						
Operating ambient temperature		°C	15 ~ 35			
Storage temperature		°C	0 ~ 60			
Relative humidity (non-condense)		%	5 ~ 85 (operating)			
Cooling			Air cooling or Water cooling			
Mechanical Information						
Control Unit Dimensions (W x L x H)		mm	19" 3U			
Optical Head Dimensions (W x L x H)		mm	350 x 220 x 150		470 x 350 x 180	

\*1. Higher average power on request.

\*2. Other wavelength on request

\*3. Fixed repetition rate operation on request.

\*4. A Gaussian pulse shape is used to determine the pulse width from the autocorrelation trace.