

High Power Probes

MLP-Extreme

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MLP-EXTREME is a new laser probe suited for high power lasers measurements up to 40kW, without any need for water cooling.

Its portable and compact design makes it ideal for servicing and maintenance of high power fiber and solid state lasers. It comes with a target for precise beam positioning.

- Designed for Extreme high power Lasers
- Compact and portable
- **No need for Water Cooling**
- Laser beam pointing for precise beam positioning
- Power Range: 500W – 10 / 20 / 40 KW
- 10W resolution
- Depending on the desired power range, laser pulse must be set to 100ms, 200 ms or 500 ms
- To be used with [MLP-Plus2](#) laser power and energy meter, or with direct **USB** or **RS-232** connectivity



How to order

a) with meter (if you already have an MLP-Plus2 meter it can be used together with the Extreme probes)

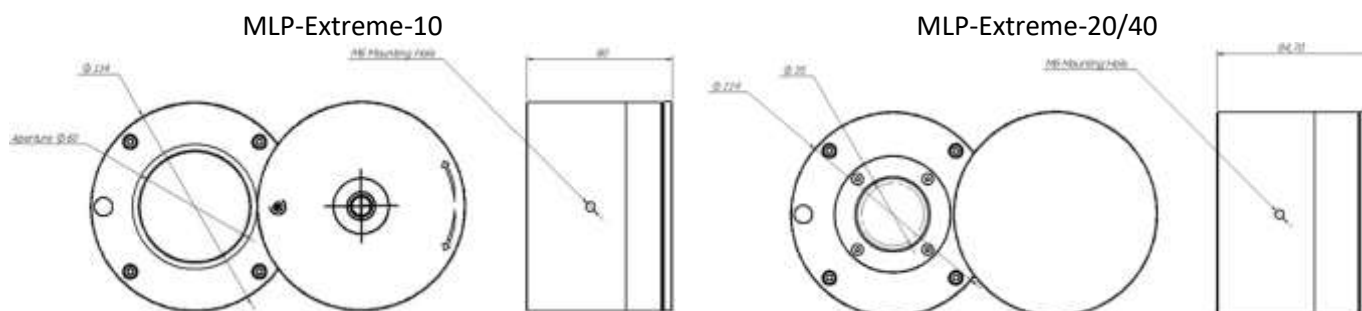
Art.	Power range	Useful Aperture	Spectral Range	Cooling	Size
MLP-Extreme-10	200 W - 10 KW	60 mm	200-1100 nm	Convection	φ 115 mm x 80 mm
MLP-Extreme-20	500 W - 20 KW	35 mm	1050-1090 nm	Convection	φ 115 mm x 85 mm
MLP-Extreme-40	500 W - 40 KW	35 mm	1050-1090 nm	Convection	φ 115 mm x 85 mm
MLP-Plus2	Laser power and energy meter				

b) with USB or RS232 connectivity (same specs)

USB	RS-232
MLP-Extreme-10-U	MLP-Extreme-10-R
MLP-Extreme-20-U	MLP-Extreme-20-R
MLP-Extreme-40-U	MLP-Extreme-40-R



	MLP-EXTREME-10	MLP-EXTREME-20	MLP-EXTREME-40
Power Mode (1)			
Requested pulse duration (1)	100 / 200 / 500 ms	200, 500 ms	100, 200, 500 ms
Max. Average Power	10 kW / 6 kW / 4 kW (a)	20 kW (a)	40 kW (a)
Min. Power	800 W / 400 W / 200 W (b)	500 W (b)	500 W (b)
Power Resolution	10 W		
Noise Equivalent Power (NEP)	10 W (c)		
Response Time	4-10 sec		
Power Calibration Uncertainty (1)	± 5%		
Power Linearity (2)	± 2%		
Repeatability	± 1%		
Absorber Specs			
Aperture	ø 60 mm	ø 35 mm	
Type	SHC	C	
Absorber Spectral Range	0.2 – 11 µm	1050 nm - 1090 nm	
Calibration Spectral Range	200-1100 nm, 10.6 µm	1070 nm	
Max Power Density (3)	1 kW/cm ² @ 4 kW (c)	15 kW / cm2 @ 20 kW (d)	15 kW / cm2 @ 20 kW (d) 12 kW / cm2 @ 40 kW (e)
Max Energy Density (3)	500 J / cm ² (c)	3000 J / cm2 (d)	
General Characteristics			
Cooling	Convection		
Weight	2.3 kg	2.55 kg	
Dimension	Ø 115 mm x 80 mm	ø 115 mm x 85 mm	
Cable length - connector	5 m – DB15		
Notes			
(1) Laser pulse duration must be controlled with high precision: shorter or longer duration will directly affect measurement uncertainty. Recommended Laser rise time < 200 µs.	(a). for 100/200/500 ms pulse duration	(a) pulse duration 200ms (8kW with 500ms).	(a) pulse duration 100 ms (20 kW with 200 ms) (8 kW with 500 ms).
(2) Detector centrally irradiated, 50% of useful surface.	(b). for 100/200/500 ms pulse duration	(b) pulse duration 500ms (1kW with 200ms).	(b) pulse duration 500 ms (1 kW with 200 ms) (2 kW with 500 ms).
(3) Damage thresholds also depend on power level	(c). for pulse duration 500 ms	(c) pulse duration 500ms (25W with 200ms).	(c) pulse duration 500 ms (25 W with 200 ms) (50W with 500 ms).
		(d) 200ms pulse duration.	(d) 200 ms pulse duration.
			(e) 100 ms pulse duration.



See also:

[Medida de potencia y energía láser](#)
[Instrumentación fotónica](#)
[Protección láser](#)

[Laser power & energy measurement](#)
[Photonic T&M](#)
[Laser safety](#)

