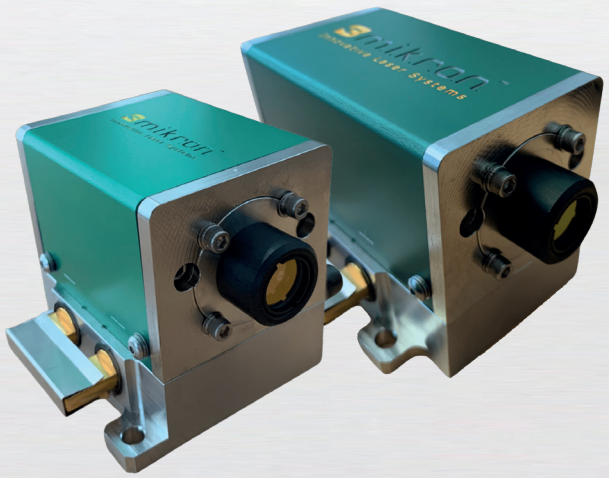
High Power
2 µm DPSSL Modules

2m.i.k.r.o.n™
Innovative Laser Systems

- Compact monolithic laser systems
- Highly efficient diode pumping
- Fiber-coupled versions available
- No high-voltage required
- Reduced waste heat
- Maintenance free
- Process variability



Specifications

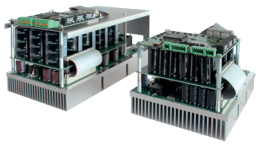
	DPM-25 (Tm:YAG) free / fiber [1]	DPM-50 (Tm:YAG) free / fiber [1]	DPM-100 (Tm:YAG) free / fiber [1]
Optical Parameters			
· Wavelength	2020 nm	2020 nm	2020 nm
· Average Output Power (max)	25 / 20 W	50 / 40 W	100 / 80 W
· Pulse Energy (max)	(0.2 - 1.6 [2]) / (0.16 - 1,28 [2]) J	(0.5 - 4 [2]) / (0.4 - 3.2 [2]) J	(1 - 8 [2]) / (0.8 - 6.4 [2]) J
· Pulse Repetition Rate (max)	500 Hz	500 Hz	500 Hz
· Pulse Duration	(100 - 500) (20 000 [2]) µs	(100 - 500) (20 000 [2]) µs	(100 - 500) (20 000 [2]) µs
· Average Current (max)	7.5 A	7.5 A	7.5 A
· Mode of Operation	Pulsed	Pulsed	Pulsed
· Efficiency (optical-optical)	> 15 %	> 20 %	> 20 %
· Beam Shape (focus)	Top Hat like	Top Hat like	Top Hat like
· Free Beam Quality	M^2 < 20	M^2 < 30	M^2 < 40
· Free Beam Diameter	1.6 mm	1.6 mm	1.6 mm
· Free Divergence (half angle)	< 20 mrad	< 30 mrad	< 40 mrad
· Fiber Diameter	~ 250 µm (NA ‹ 0.2)	~ 250 µm (NA ‹ 0.2)	~ 450 µm (NA ‹ 0.2)
Cooling Requirements			
· Coolant	Distilled Water with Algaecide and Corrosion Inhibitor	Distilled Water with Algaecide and Corrosion Inhibitor	Distilled Water with Algaecide and Corrosion Inhibitor
· Coolant Temperature	25 °C	25 °C	25 °C
· Coolant Flow Rate	≥ 4 lpm	≥ 5 lpm	≥ 6 lpm
· Coolant Pressure	(2 - 5) bar	(3 - 5) bar	(3 - 5) bar
· Required Cooling Power	≥ 350 W @ 25 °C Environment Temperature	≥ 500 W @ 25 °C Environment Temperature	≥ 750 W @ 25 °C Environment Temperature
Electrical Parameters			
· Diode Forward Voltage	< 40 V	< 75 V	< 130 V
· Diode Forward Current (max)	150 A Pulsed	150 A Pulsed	150 A Pulsed
· Average Power Consumption	< 500 W	< 750 W	< 1000 W
Mechanical Dimensions			
· Dimension (L x W x H)	(59 x 78 x 59) mm^3 [3]	(90 x 78 x 59) mm^3 [3]	(90 x 78 x 59) mm^3 [3]
· Weight	1 kg	1 kg	1 kg
· Emission Height	38.1 mm	38.1 mm	38.1 mm

[1] Fiber as specified by Pantec
[2] With Pantec Ultrapulse Mode (on request only)
[3] Dimensions for bare modules

Laser Diode Drivers

The LDD series are economic QCW laser diode driver modules designed to provide high current pulses to drive 2m.i.k.r.o.n.™ laser modules in various applications. The drivers deliver output currents up to 300 A and pulse widths variable from 50 µs up to 20 ms operation [3]. Up to 1000 W average output power is available with the supplied heatsink. Several safety features are integrated to protect both, laser module and laser driver.

	DPM-25 (Tm:YAG)	DPM-50/100 (Tm:YAG)
Laser Diode Driver [3]	LDD-38200	LDD-140300
· Output Current	up to 200 A	up to 300 A
· Rise Time (10 - 90)%	< 20 µs	< 20 µs
· Mechanical Dimensions (W x D x H)	(200 x 150 x 130) mm^3	(265 x 150 x 210) mm^3
· Additional Features	Safety circuit and communication interface	Safety circuit and communication interface



[3] With Pantec Ultrapulse Mode (on request only)

Test and Evaluate

The 2m.i.k.r.o.n.™ evalution kits are ready-to-use and straightforward laboratory systems for first feasibility studies in research environment. The evaluation kits are available with different kinds of laser sources (see front page), shortens the development time, enables flexibility and a fast demonstration of feasibility. The test systems are delivered with your requested laser source, a laser control system and a cooling system for laboratory use only.

Please contact us for more information on rental or purchase conditions: info@pantec-biosolutions.com

2m.i.k.r.o.n.™ Applications

Medical	Industrial
· Aesthetics / Dermatology	· Material processing (drilling, cutting, melting, welding, evaporation)
· Dentistry	· Analytics
· ENT	· Security
· Lithotripsy	· Defense
· Minimally-Invasive Surgery	
· Orthopedics	
· etc.	

More Services

Customized laser sources
Optical and mechanical design
Contract development and manufacturing
Medical device consulting (IP research, Medical CE, ...)

Pantec Biosolutions AG
Industriering 21 · 9491 Ruggell · Liechtenstein
Tel: +423 377 13 33 · Fax: +423 377 13 34
info@pantec-biosolutions.com www.pantec-biosolutions.com

301658A-03-DTS DPM 2um