

MNx Ultra-Compact Microchip Series

Key features

- ▶ Ultra-compact package
- ▶ 1535nm, 1064nm and 532nm
- ▶ Ultra-short pulses down to 650ps
- ▶ Multi-kW peak power
- ▶ Excellent beam quality – TEM00, $M^2 < 1.1$
- ▶ Efficient, air-cooled



The MNx series are our most compact microchip lasers and cover the mid-IR to visible part of the spectrum. They integrate the pump diode, the micro-cavity and even the second harmonic generation crystal in a package less than 7cm long.

The 1064nm engine produces sub-nanosecond pulses with several kW peak power, achieving over 50% second harmonic generation efficiency at 532nm. The 1535nm micro-laser displays similar performances with a few nanoseconds pulse duration.

Applications

- ▶ Super-continuum generation
- ▶ Marking
- ▶ Raman spectrometry
- ▶ Ranging

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Technical specifications:

	MNE-06E-100	MNP-08E-100	MNG-03E-100
Wavelength	1535nm	1064nm	532nm
Repetition Rate	>2kHz	>5kHz	>5kHz
Constant Pulse width range (FWHM) ⁽¹⁾	<3.5ns	<1ns	<0.75ns
Output power⁽²⁾	>12mW	>40mW	>15mW
Output energy	>6μJ	>8μJ	>3μJ
Peak Power	>1.5kW	>8kW	>4kW
Short term (1min) power stability ⁽³⁾	<±1%	<±1%	<±1%
Long term (6 hrs) power stability⁽³⁾	<±5%	<±3%	<±3%
Beam profile	Gaussian TEM00	Gaussian TEM00	Gaussian TEM00
Full angle divergence			
Horizontal@1/e²	23±3.4 mrad	12±2 mrad	10±2 mrad
Vertical@1/e²	23±3.6 mrad	14±2 mrad	9±2 mrad
M²⁽⁴⁾	<1.3	<1.3	<1.3
Beam ellipticity⁽⁵⁾	<1.2	<1.3	<1.3
Polarization	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB
Package dimensions	100x22x32mm	68x41x29mm	68x41x29mm
Package weight	250g	250g	250g
Options (table p3)	-	M	-

Notes

- (1)** Measured with 1Ghz photodiode and 1GHz/10GS/s oscilloscope.
- (2)** Measurement performed with an OPHIR thermal power sensor (OPHIR 3A-FS-SH).
- (3)** For temperature variation < ± 3°C and < 3°C/hour, stability is measured with calorimeter - detector band [DC, 2Hz]
- (4)** Mean average value $M = \sqrt{XY}$, X and Y being respectively the major and minor axis of the ellipse
- (5)** Beam ellipticity is calculated as the ratio of the main axis far field divergence

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Complementary information & options:

Environment Parameters

Operating Temperature Range	0-50°C
Maximum Laser Head Baseplate Temperature	<50°C
Maximum Power Consumption	<40W
Laser Head Thermal Dissipation	<10W
Storage Temperature	0-50°C
Shock of 11ms according to IEC 68-2-27, non operating	25g
Vibration 5Hz to 500Hz sinusoidal according to IEC 68-2-6	2g

Certification

Laser classification according to IEC 60825-1:2007	3R for MNE-06E 3B MNP-08E and MNG-03E
CDRH	Yes, if used with a -DR1 controller
ROHs	Yes

Options

Multimode fibering (M)	Contact factory for availability
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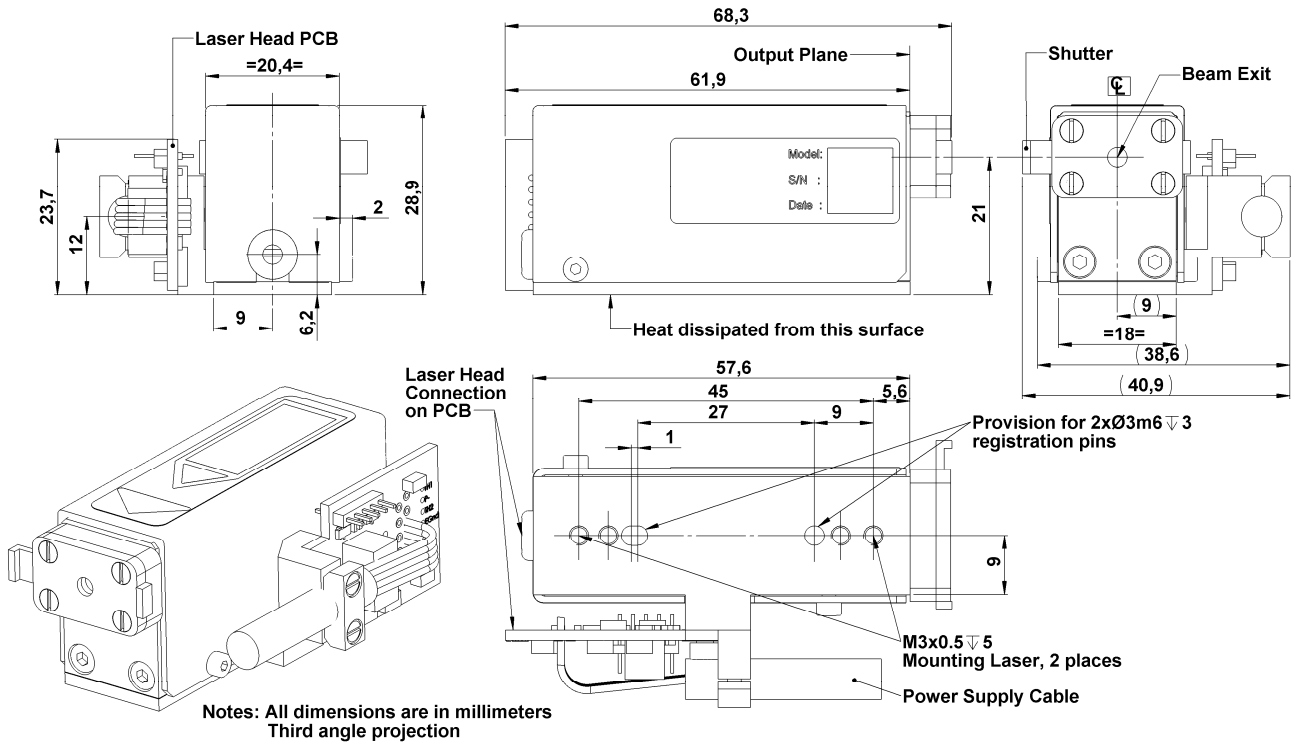
Available Controller Types

Model	Type	Input Power	CDRH
MLC-03A-DR1	Desktop	100-240 V AC	Yes
MLC-03A-MR1	Module	12 V DC	No
MLC-03A-BR1	Board	12 V DC	No

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CDRH Laser Head Mechanical Drawings : MNP-08E-100, MNG-03E-100



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CDRH Laser Head Mechanical Drawings : MNE-06E-100

NOTES: All dimensions are in millimeters
Third Angle Projection

