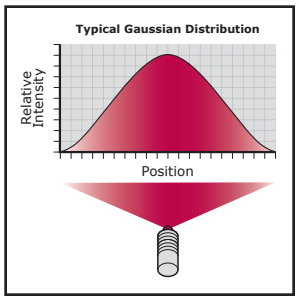
NEMA4X
High Performance Diode Laser Module

- Pointing Accuracy <2mrad
- Pointing Stability <10μrad/ °C
- NEMA4X Environmental Rating
- M12 X 1 Threaded Mounting Sleeve
- 5 or 24VDC Power Options
- Modulation and External Power Control Options
- Fully Customizable

Gaussian Line Intensity Profile



New Stainless Steel housing coupled with our high performance architecture allows for this fully customizable NEMA4X diode laser module.

Contact us today to discuss your unique OEM application.

Diode Laser Concepts, Inc.
4731 Industry Drive - Central Point, OR 97502 USA
Tel: **541-773-5321** - Fax: **541-773-1705**
Web: **www.diodelaserconcepts.com**

EXTERNAL HOUSING SPECIFICATIONS

Housing Dimensions	Ø12.0mm, Length: 40mm
Housing Material	Stainless Steel 316 or Equivalent; Electrically Isolated
Exit Aperture Protection	Sapphire Window
Customization	Dimensions

ELECTRICAL SPECIFICATIONS

Operating Voltage	5VDC or 24VDC ± 1%
Load Current	10mA – 150mA (Laser and Input Voltage Dependent)
Load Current vs. Temperature	0.7mA/ºC Nominal
Continuous Wave (Standard Driver)	CW to 1kHz, Full Depth Modulation
TTL Modulation (Optional Driver)	CW to 1MHz, Full Depth Modulation
Electronic Protection	Reverse Polarity, Over Voltage, Surge Protection
Interconnect	IP68/NEMA4X Cable, 24 X 3 With Polyurethane Jacket
Customization	Operating Voltage, Interconnect, Modulation

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-10ºC to 50ºC
Storage Temperature	-40ºC to 85ºC
Static Contact Discharge Immunity	>10kV
Dust/Water Resistant	NEMA4X
Customization	Operating Temperature

OPTICAL SPECIFICATIONS

Wavelength Range	635-830nm
Wavelength Stability	0.25nm/ºC Nominal
Optical Power Range	1-50mW, Single Mode
Power Output Stability at 25ºC	<1%
Power Output vs. Temperature	<0.5%/ºC Nominal
Exit Beam Size	5.0mmX1.2mm, 6.1mmX1.2mm
Beam Divergence	<0.7mrad Nominal, Varies with Optical Configuration
Standard Line Fan Angles	10º, 30º, 45º, 60º, 90º
Line Thickness	1mm@1Meter Nominal
Line Thickness Divergence	<0.5mrad Nominal, Varies with Optical Configuration
Line Intensity Profile	Gaussian (Top Hat Profile Available Upon Request)
Lens Material	Glass
Customization	Wavelength, Power Output, Spot Size, Fan Angle, Line Thickness, Line Intensity Profile

POINTING SPECIFICATIONS

Accuracy	<2mrad
Stability vs. Temperature	<10µrad/ºC
Customization	Accuracy

RELIABILITY/REGULATORY SPECIFICATIONS

Laser Lifetime	>30,000 hrs at 25ºC
Certification/ Regulatory	CE/ CDRH/RoHS
Warranty	2 Years

NOTE: Custom products may/may not conform to these specifications.

Version 06/06 Revision A

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REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
1	Originate Document- General NEMA 4X Laser Module	2/14/2006	Zack Swartz

MECHANICAL SPECIFCATIONS

Laser Material:	InGaAlP
Housing Material:	316 Stainless Steel or Equivalent
Exit Aperture Protection:	Sapphire Window
Lens Material:	Glass

OPTICAL SPECIFCATIONS

Wavelength (25°C):	Various within the range of 630nm - 830nm
Wavelength Stability	0.25nm / °C (Nominal)
Output Power (Exit Aperture):	0.97mW, 4.9mW, 20mW (Nominal)*
Output Power Stability (25°C):	<1% Fluctuation over 60 Minutes
Output Power vs. Temperature:	<0.5% / °C (Nominal)
Polarization Ratio:	100:1
Fan Angle:	45°, 70°, 90° (Nominal)
Line Thickness :	1mm nominal (Measured at Face)
Line Intensity Profile:	Gaussian
Emissions Indicator:	Green LED

BEAM POINTING SPECIFCATIONS

Accuracy:	<2mrad
Stability vs. Temperature:	<10µrad / °C

ELECTRICAL SPECIFCATIONS

Operating Voltage Options:	5VDC Regulated +/- 1% 24VDC Regulated + / - 1%
Load Current –Typical at 25°C:	Varies with Output Power and Wavelength
Load Current –Max. at 25°C:	Varies with Output Power and Wavelength
Continuous Wave:	CW to 1kHz Full Depth Modulation Turn on Time <0.1s
TTL Modulation (5VDC Version Only):	CW to 1MHz Full Depth Modulation 0.0 - 0.8V Logic Low (Output Off) 2.7 – 5.0V Logic High (Output On)
Case:	Electrically Isolated
Electronic Protection:	Reverse Polarity Protection Over Voltage Protection Surge Protection
Interconnect:	Polyurethane Jacket (PUR); Blue (+), Black (-), Brown (N/C or TTL)

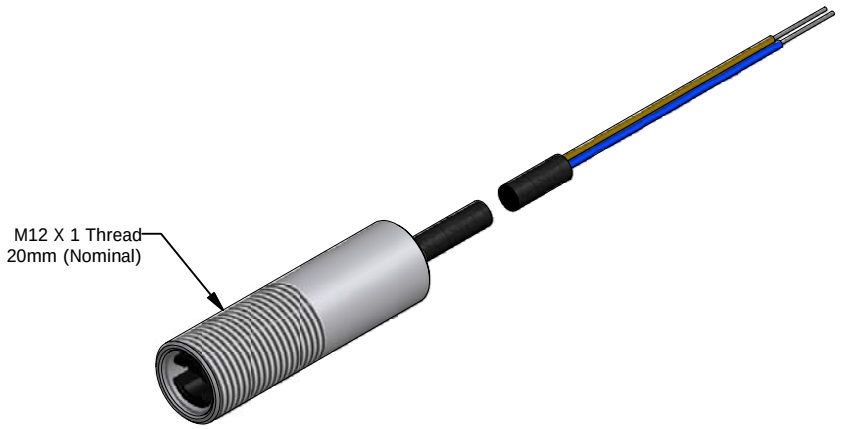
ENVIRONMENTAL SPECIFCATIONS

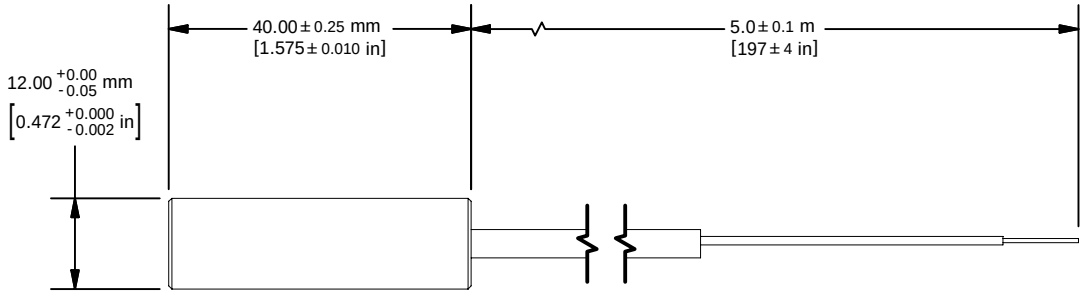
Operating Temperature:	-10 to 50°C (60°C, 70°, 80°C) *
Storage Temperature:	-40°C to 85°C
Dust/Water Resistance:	NEMA 4X

RELIABILITY/REGULATORY SPECIFCATIONS

Certifications:	CE, CDRH Class Dependant Upon Output Power and Wavelength
RoHS compliance:	Beginning July 2006
Warranty:	2 Years

*Indicates Customization Available





APPROVALS	DATE	
Drawn By: Zack S.	02/14/06	DIODE LASER CONCEPTS, INC. 4731 Industry Drive Central Point, Oregon 97502 USA
Approved By: Mike R.	02/14/06	Part Number: Part numbers issued according to configuration
Customer Approval:		Description: General specifications for high performance NEMA 4X modules.