

DATASHEET**Diode Lasers****FIBER-COUPLED TAILORED MINI-BARS**

Through the optimization of semiconductor chip structures and optical parameters, Coherent T-Bar architecture delivers high beam quality and high power using standard micro-optics, all assembled with automated processes. The tailored bar-based products are available at 6xx nm, 793 nm, and 9xx nm, with power levels from 40 W up to 2 kW.

OPTIONAL ACCESSORIES

- Wavelength stabilization

FEATURES

- Conduction-cooled diode laser bars inside
- Single wavelength
- High coupling efficiency
- Scalable output power
- Back reflection filter

DATASHEET

Parameter	MDL638FCTBAR40IS58.6SMA400
Package	Fiber-Coupled Tailored Mini-Bars
OPTICAL PARAMETERS ¹	
Center Wavelength Range ³ (nm)	638
Center Wavelength Tolerance ³ (nm)	±2
Output Power ² (W)	40
Operating Condition	CW
Spectral Width (FWHM) (nm)	≤2
Slope Efficiency (W/A)	≥5
FIBER PARAMETERS	
Fiber Connector	SMA
Fiber Core Diameter (μm)	400
Numerical Aperture (NA)	0.22
ELECTRICAL PARAMETERS ¹	
Power Conversion Efficiency (%)	≥20
Threshold Current (I _{TH}) (A)	≤4
Operating Current (I _{OP}) (A)	≤14
Operating Voltage (V _{OP}) (V)	≤17
THERMAL PARAMETERS	
Operating Temperature Range ^{2,3,4} (°C)	+20 to +25
Coolant Flow Rate ⁵ (l/h)	≥180
Coolant Temperature ⁵ (°C)	+20 to +25
Purity	Tap Water
MECHANICAL PARAMETERS	
Size (mm ³) [W x D x H]	See Drawing
Weight (Without Water Manifold) (kg)	~1.2
Part Number	1404039

Notes:

1. Data at 20°C cooling water temperature.

2. Reduced lifetime if used above nominal operating conditions.

3. Others available upon request.

4. A non-condensing environment is required for storage and operation below the ambient dew point.

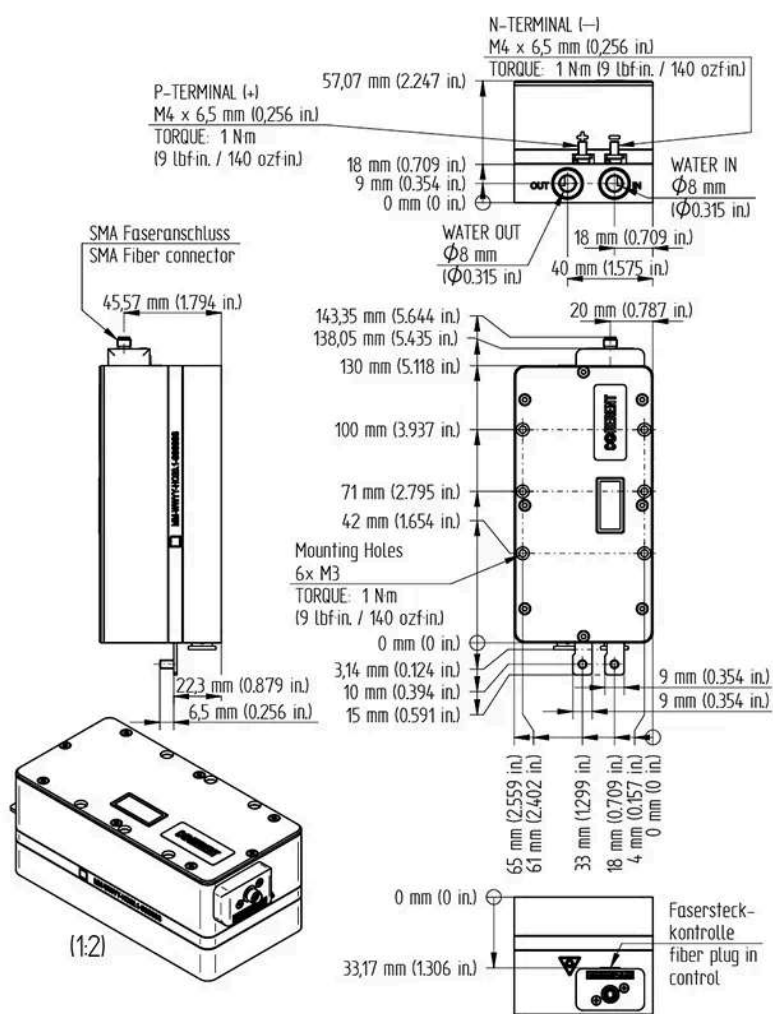
5. It is essential for the module to work correctly that the cooling water temperature and flow rate are monitored as an interlock for interrupting the laser current immediately if a value exceeds or falls below the given parameter.



Coherent, Inc.
5100 Patrick Henry Drive, Santa Clara, CA 95054
p. (800) 527-3786 | (408) 764-4983
f. (408) 764-4646

tech.sales@coherent.com www.coherent.com

DATASHEET



COHERENT

Coherent, Inc.

5100 Patrick Henry Drive, Santa Clara, CA 95054
p. (800) 527-3786 | (408) 764-4983
f. (408) 764-4646

tech.sales@coherent.com www.coherent.com