

PRODUCT SPECIFICATIONS

Optical Laser Engine




OLE_D 2000W

Rev. 01

1080nm fiber laser engine

Product code selector - Available options

O L E _ _ D 2 _ _ _ _

-  Power and pump input ports options. See section 1.0
-  Termination options. See section 5.0
-  Cooling plate option. See section 2.0

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Specifications subject to change without notice

October 24, 2017

Made in Canada

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ISO 9001:2008



2.0 Environmental specifications

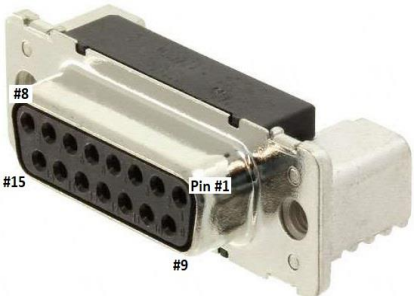
Item	Specifications	Min.	Typ.	Max.	Unit	Notes							
2.1	Nominal operating temperature (T_N)		+20		°C	Case temperature							
2.2	Operating temperature range	+15		+25	°C	Case temperature							
2.3	Storage temperature	-40		+75	°C	Case temperature							
2.4	Relative humidity			80	%	Non condensing							
2.5	Cooling Method	conduction via bottom surface											
2.6	Case temperature monitoring	Via installed thermistors				See electrical pinout, Calibration recommended							
2.7	Cooling plate	Included	O	L	E	—	D	2	—	—	1	—	—
		Not included	O	L	E	—	D	2	—	—	0	—	—

See 6.4 for cooling plate mechanical drawing

3.0 Red tracker / Visible pilot

Item	Specifications	Min.	Typ.	Max.	Unit	Notes
3.1	Red tracker beam output power	200		1000	uW	Operated by control electronics

4.0 Electrical specifications

Item	Specifications	Description	Notes		
4.1	Communication interface	DB-15 connector	See drawing		
Communication interface Pin assignment					
	PIN	Name	Direction	Type	Description
4.2	1	Pout	OUT	Analog 0 to 5V	Output Power Monitor
	9	GND	-		
	2	Pback	OUT	Analog 0 to 5V	Back Reflection Power Monitor
	10	GND	-		
	3	Temperature	OUT	Analog 0 to 5V	Temperature monitor
	11	Alarm	OUT	Logic 0 or 5V	Alarm signal. Active low
	4	Pilot enable	IN	Logic 0 or 5V	Enable red laser pilot
	12	TDB (+)	OUT	Differential	RS485-Tx+
	5	TDA (-)	OUT	Differential	RS485-Tx-
	13	RDA (-)	IN	Differential	RS485-Rx-
	6	RDB (+)	IN	Differential	RS485-Rx+
	14	GND	-		
	7	V+	-		Power supply 5V
	15	Intrlck A	-		QHB Interlock A (if option)
	8	Intrlck B	-		QHB Interlock B (if option)
4.3	Pin Numbering				

5.0 Delivery fiber and termination options

Item	Specifications	Min.	Typ.	Max.	Unit	Notes
5.1	Default delivery fiber type	25/400 NA=0.06/0.46				
5.2	Delivery fiber jacket	Armored cable				
5.3	Delivery fiber bend radius			80	mm	

Option : Bare Fiber Output							
5.4	OLE	_	_	D	2	0 1 _ _ _ C	Delivery fiber: 25/400 NA=0.06/0.46
	Beam quality						1.5 M ²
	Delivery fiber length						3 3.5 m
	Note						Do NOT operate without proper high power termination (QBH cable, for example)

¹ Tested using a 25/400um QBH Cable

Option : QBH Cable Output	
5.5	Description: Water cooled beam delivery cable

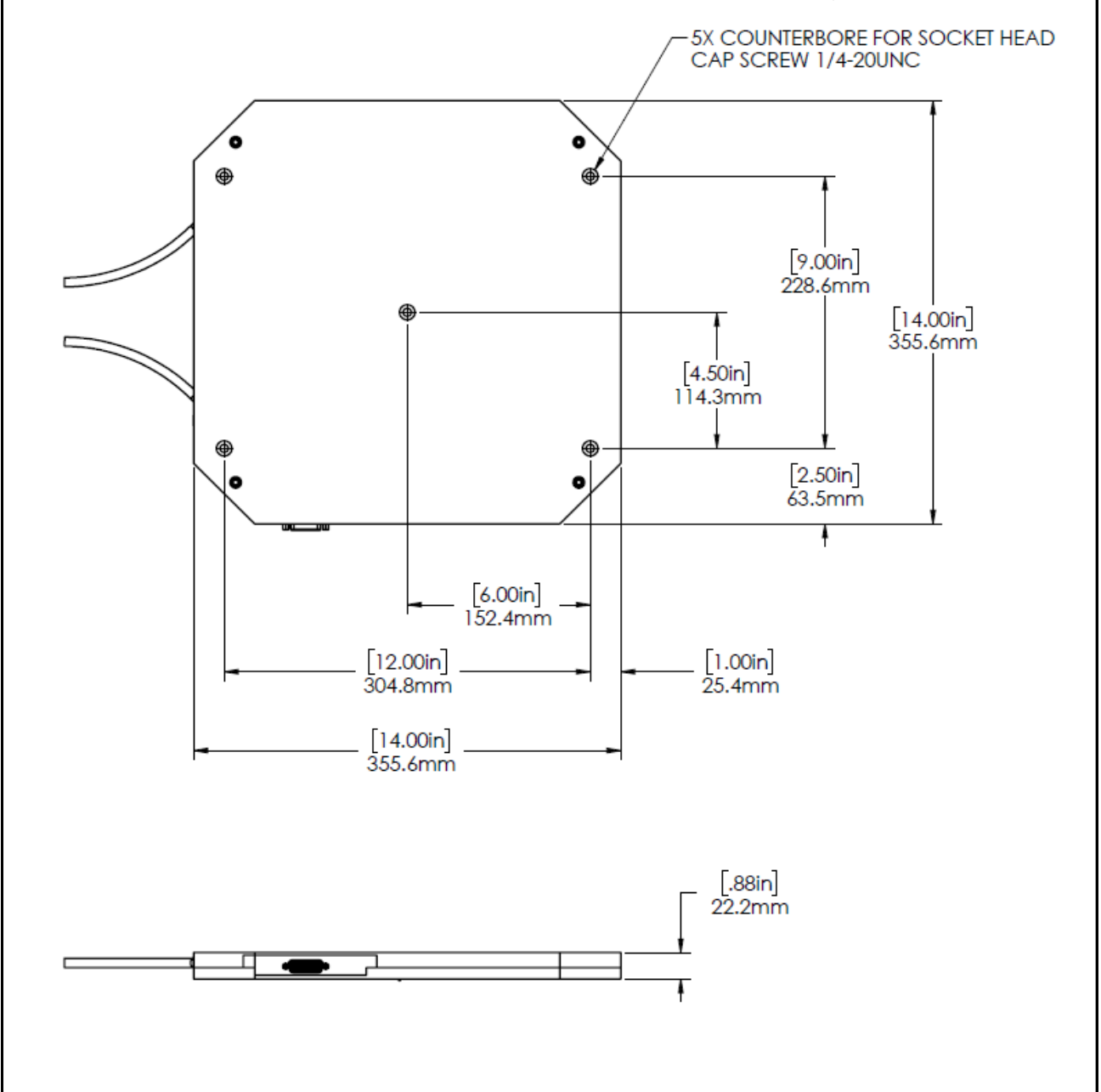
5.6	OLE	_	_	D	_	3 _ _ _ E	Delivery fiber: 25/400 um NA=0.06/0.46
	Beam quality						1.5 M ²
	Delivery fiber length						4.5 5 5.5 m Case to termination

5.7	OLE	_	_	D	_	4 _ _ _ G	Delivery fiber: 50/360 um NA=0.22/0.46
	Beam quality						1.3 BPP Typical value
	Delivery fiber length (default value)						15 m Customizable

5.8	OLE	_	_	D	_	5 _ _ _ G	Delivery fiber: 100/360 um NA=0.22/0.46
	Beam quality						2.5 BPP Typical value
	Delivery fiber length (default value)						15 m Customizable

QBH Cable Supplier							
5.8	OLE	_	_	D	2	_ A _ _ _	Optoskand Ab, Sweden
	OLE	_	_	D	2	_ B _ _ _	Optizone Technology Limited, China
	OLE	_	_	D	2	_ C _ _ _	Aistana Inc., USA

6.0 Mechanical specifications and drawings

Item	Specifications	Unit	Notes
6.1	Module's dimensions	356 x 356 x 22	mm see drawing
6.2	<p>Mechanical Drawing - With bare fiber output</p>  <p>The drawing shows a top view of a square module with rounded corners and a side view. Dimensions are provided in inches and millimeters. Key dimensions include: overall width and height of 14.00 in (355.6 mm); mounting hole spacing of 12.00 in (304.8 mm) and 6.00 in (152.4 mm); a 5X counterbore for socket head cap screws with a diameter of 2.50 in (63.5 mm) and a depth of 0.88 in (22.2 mm); and a distance of 9.00 in (228.6 mm) from the top edge to the center of the counterbore.</p>		Dimensions in mm

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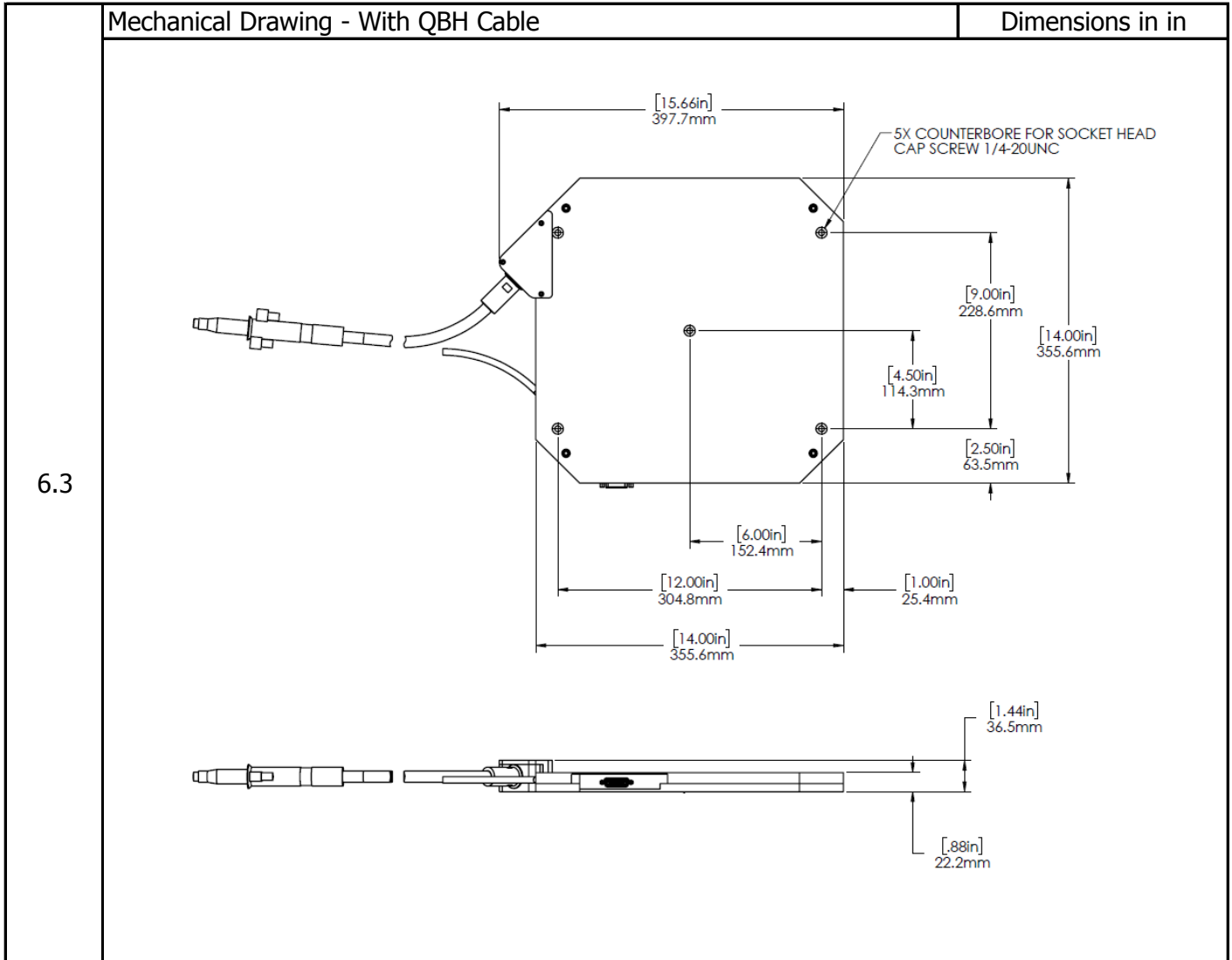
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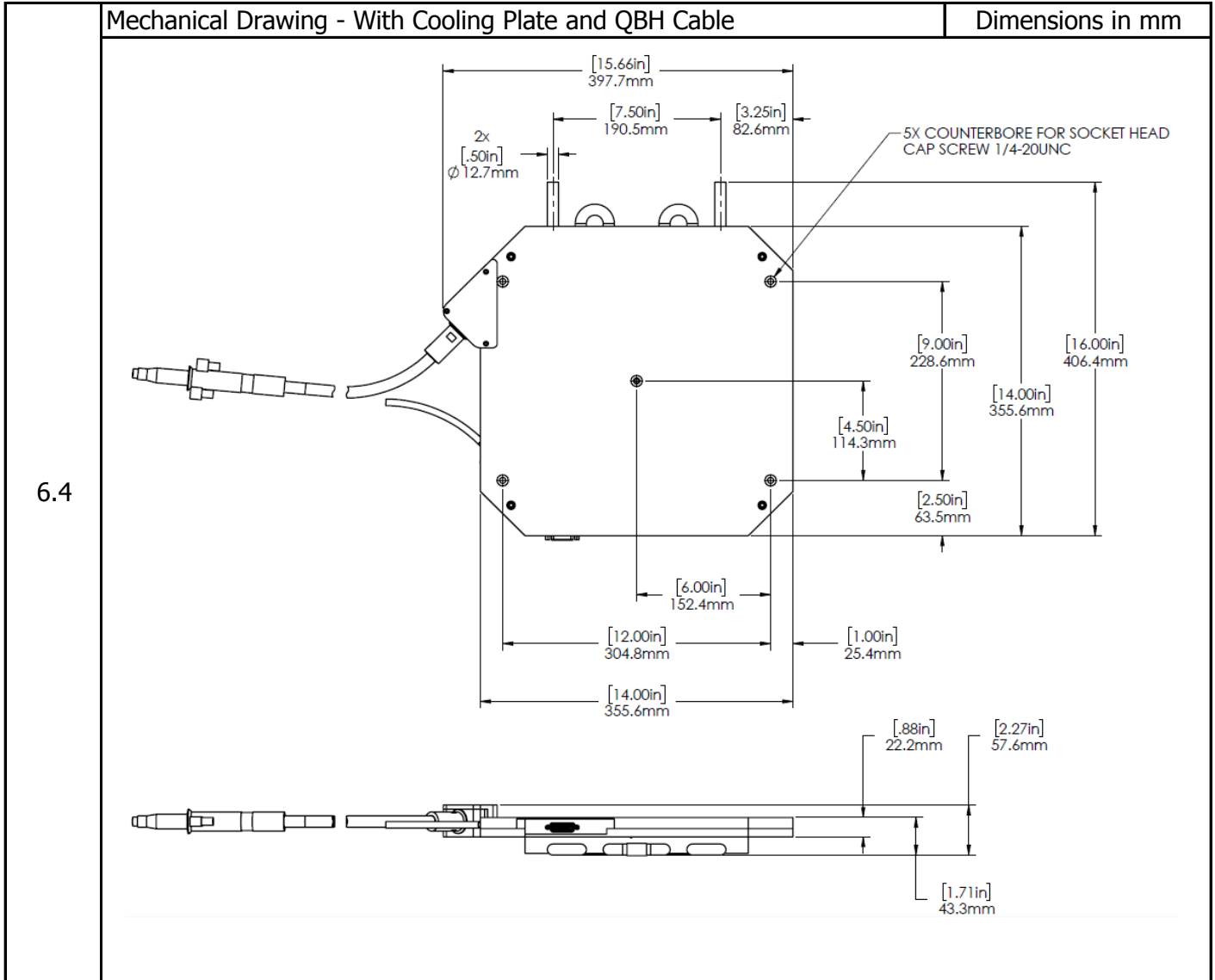
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7.0 Product Data Report - supplied with every unit

Item	Data		
7.1	Optical-Optical Efficiency		
7.2	Beam quality	M ²	For Bare fiber or 25/400 um QBH output options
		BPP	For 50/360 um or 100/360 um QBH output options

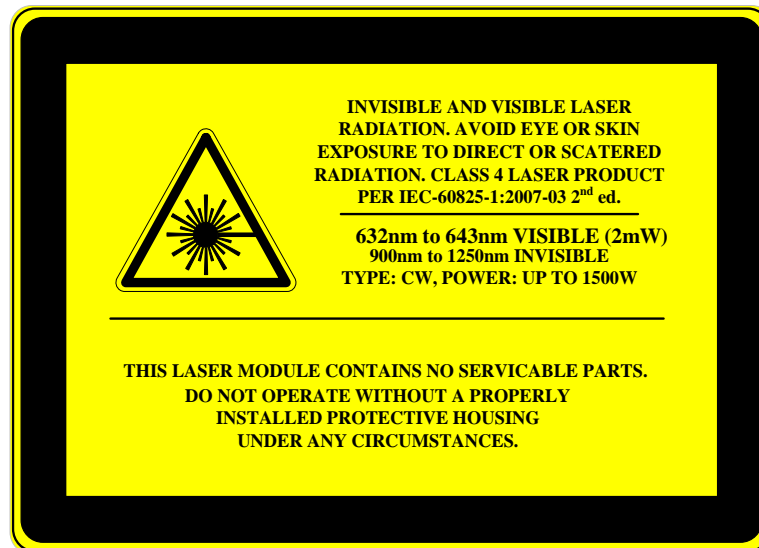
8.0 Additional features

Item	Note
8.1	The Laser Engine is protected against backreflected signal during operation. Do not operate without proper high power termination (QBH cable, for example)
8.2	The output beam of multiple Laser Engines can be combined. Laser beam combiners are currently being developed by ITF, contact us for more details.
8.3	Pump diodes electrical drivers not included.

Note: See Operation Instructions documents for more details and features

9.0 Safety and specific precautions

Item	Note
9.1	This laser engine is a laser component that does not include all safety features as required by IEC-60825-1:2007-03 2 nd edition sections 4.3 to 4.12 for laser systems, as defined by section 3.48. The end product manufacturer has the responsibility to provide the necessary features to meet compliance level as required by relevant national regulations.
9.2	For your safety, never open the protective housing (case). Warranty is void if case is opened.
9.3	The module's case temperature must be maintained within the range specified in the environmental specifications section at all times. Its entire bottom surface MUST be appropriately heat sinked and its case temperature can be monitored using the built-in thermistors. A room temperature, power off, calibration is recommended. See OLE Application Note for more details.
9.4	To avoid irreversible damage and loss of power, fiber terminaisons (connectors, collimators...) must remain perfectly clean and scratch free.
9.5	The laser engine module case is not ESD or EMI sensitive.



Rev.#	Date	Ref. (#DC)	Change Description	Approved by
00	11-10-2017	n/a	Document created	JR
01	24-10-2017	n/a	Update mechanical drawings Corrected electrical pinout Added red tracker power values	JR