PRODUCT SPECIFICATIONS
KRONOS LASER
Rev. 01
18-10-2017

1550nm pulsed fiber laser module
KRONOS_C10205

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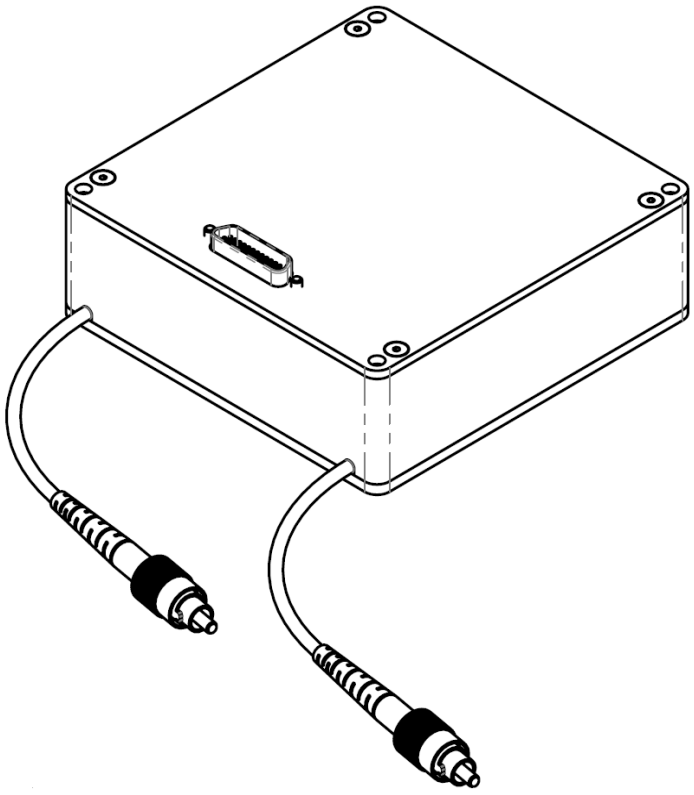

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Specifications subject to change without notice
Made in Canada

pss revision	Date	Change description	Author
Rev 00	24-04-2017	initial revision	JM
Rev 01	18-10-2017	PRF range extended to 100KHz-1000KHz change description table added Electro magnetic compatibilty (EMC) spec updated: Kronos is now fully tested against EN 61326-1 Power supply voltage range spec updated to 9-14V Warm-up time spec added: 5min max New jackposts to secure dB25 connector Warm-up time spec added: 5min max Electrical trigger to optical pulse delay specification updated to 120ns+/-2ns	JM

1.0 Optical and Operation Specifications

Item	Specifications	Min.	Typ.	Max.	Unit	Notes
1.00	Laser peak wavelength (PWL)	1547.00	1550.00	1553.00	nm	
1.01	Integrated power within PWL+/-15nm	90			%	
1.02	Pulse width, full width at half maximum	3.00	4.00	5.00	ns	
1.03	Pulse rise time (20-80%)			1.00	ns	
1.04	Pulse repetition frequency (PRF)	100		1000	kHz	User selectable
1.05	Maximum average power	1500			mW	
1.06	Maximum average power-software cap			1600	mW	software safety limit
1.07	Maximum average power-hardware cap [1]	1600		1800	mW	hardware safety limit
1.08	Variation of average power over temperature range			20	%	
1.09	Polarization	Random				
1.10	Beam quality (M^2)			1.1		by design, SM fiber
1.10	Average power monitor error	-5.0		5.0	%	
1.11	Steady state electrical power consumption			TBD	W	
1.12	Electrical trigger to optical pulse delay	118.0	120.0	122.0	ns	Main output

2.0 Environemental specifications

Item	Specifications	Min.	Typ.	Max.	Unit	Notes
2.1	Nominal operating temperature (T_N)		+22		°C	Case temperature
2.2	Operating temperature range	-40		+50	°C	Case temperature
2.3	Storage temperature range	-40		+85	°C	Case temperature
2.4	Relative humidity			90	%	Non condensing
2.5	Warm up time			TBD	s	
2.6	Turn off delay			5	ms	Using the RESET signal
2.7	Heat sink method	conduction via bottom surface				
2.8	NOTE : the module is not hermetic and must be operated in a clean, dry environment					

3.0 Electrical specifications

Item	Specifications	Type	Notes
3.1	Firmware	2.3 - 1.0 - 9.2	see manual for explanation
3.2	Communication protocole	UART with LVDS levels	ANSI/TIA/EIA-644-A LVDS standard
3.3	Connector	Female 25-pin micro-D	**Connector part number:** 380-025-213L001 **Suggested mate part number:** 380-025-113L001
3.4	Power supply	9-14VDC	
3.5	Max Power consumption transient regime	TBD	
3.6	Electro magnetic compatibilty (EMC)	EN 61326-1	Not tested
3.7	dB-25 pin assigment	Please refer to the user manual	
3.8	External trig option	slave mode	command : EXT 1

4.0 Main delivery fiber and fiber termination

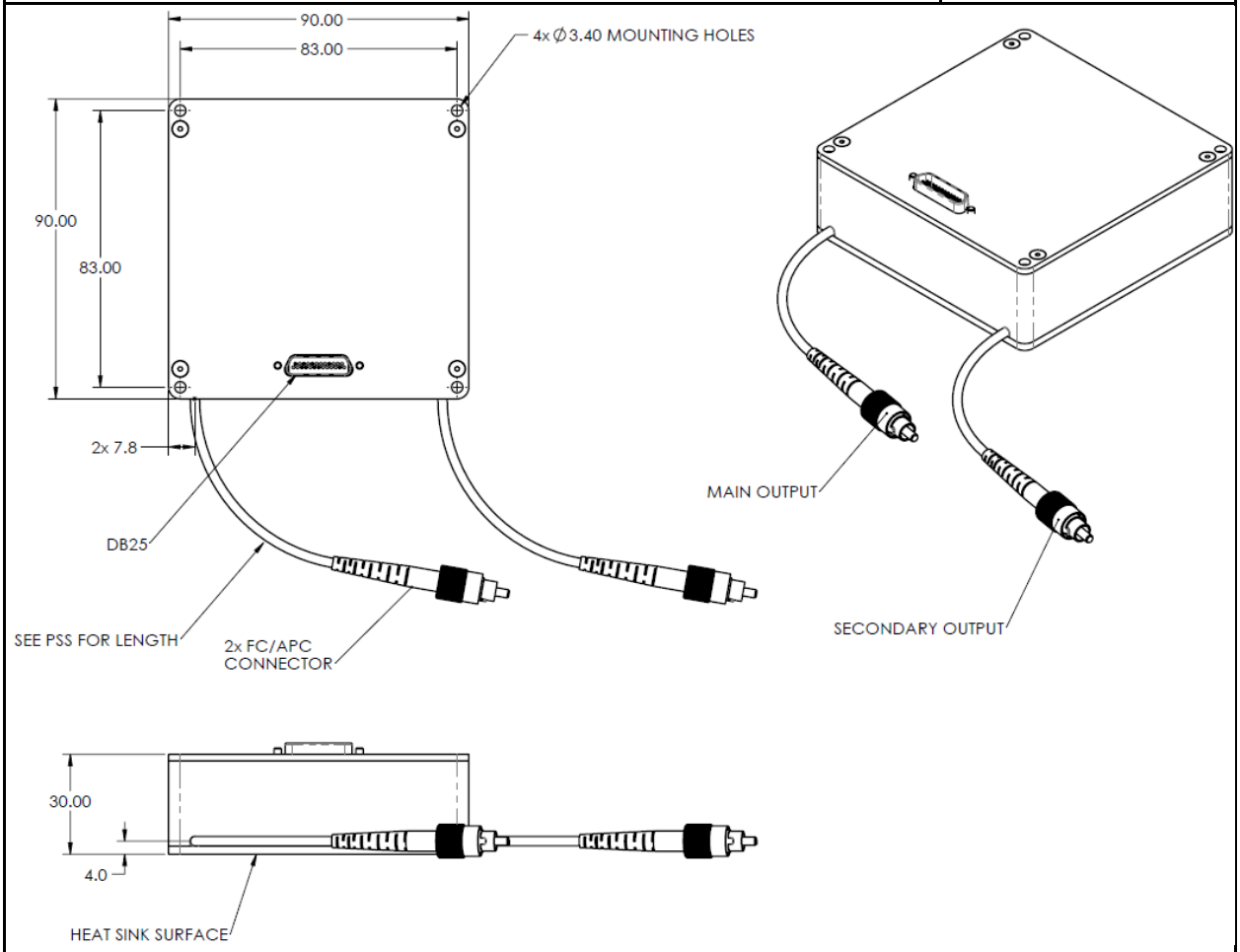
Item	Specifications	Min.	Typ.	Max.	Unit	Notes
4.1	Delivery fiber type	SMF28e+				
4.2	Delivery fiber jacket	3mm OD armored cable				
4.3	Delivery fiber bend radius	30			mm	
4.4	Delivery cable length	25	27	29	cm	
4.5	Output connector	FC/APC				

5.0 Secondary optical output delivery fiber and fiber termination

Item	Specifications	Min.	Typ.	Max.	Unit	Notes
5.1	Delivery fiber type	SMF28e+				
5.2	Delivery fiber jacket	3mm OD armored cable				
5.3	Delivery fiber bend radius	30			mm	
5.4	Delivery cable length	25	27	29	cm	
5.5	Output connector	FC/APC				

6.0 Mechanical specifications and drawings

Item	Specifications		Unit	Notes
6.1	Module's dimensions	90x90x30	mm	see drawing
6.2	Module weight (without mounting plate)	450	g	typical
6.3	Mechanical Drawing			Dimensions in mm



7.0 Product Data Report (PDR) - supplied with every unit

Item	Data
7.1	Average power, pulse parameters, power consumption, optical spectrum, power monitor error

8.0 Safety and specific precautions

Item	Note
8.1	This laser module is a laser component that does not include all safety features as required by IEC-60825-1:2007-03 2nd 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.
8.2	For your safety, never open the protective housing (case). Warranty is void if case is opened.
8.3	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 thermistor. the use of a thermally conductive material between the heat sink and the modules bottom surface such as a graphite sheet is recommended. optimizing the heat transfer to the heat sink will result in optimal power consumption
8.4	To avoid irreversible damage and loss of power, fiber terminaisons (connectors, collimators...) must remain perfectly clean and scratch free.