Controllers for Passively Q-switched Lasers - Standard Microchip Lasers -

Desktop MLC-03A-DR1 or MLC-05A-DR1
for CDRH certified lasers
and 100-240V AC

Module MLC-03A-MR1 or MLC-05A-MR1
for OEM lasers using 12V DC

Board MLC-03A-BR1 or MLC-05A-BR1
for OEM lasers using 12V DC

KEY FEATURES

- **3 different packages**
  - Desktop for laboratory applications
  - Module or Board for OEM integration
- **Dual bipolar thermal PID regulation**
- **Laser diode temperature and voltage protection**
- **RS232 control for operation and diagnosis**
- **Real-time control (TTL)**
- **Interlock management for laser safety**
- **Auto-adaptation to the laser head**
- **CDRH and CE compliance**

TECHNICAL SPECIFICATIONS

		MLC-03A-DR1 & MLC-05A-DR1	MLC-03A-MR1 & MLC-05A-MR1	MLC-03A-BR1 & MLC-05A-BR1
Main Specifications	Input voltage	AC 100 to 240V	DC 12V	
	Max Current	0.5A@230V	3.4A@12V(1)	
	Input voltage fluctuation	5%		
	Mains frequency	60 Hz / 50 Hz	N/A	
	Power supply input	IEC60320 Main socket with earth connection	MOLEX mini Fit Jr. Series 5569 header, please use MOLEX series 5557 receptacle for connecting +12V	
	Mains input fuse	Temporized T1Amp	3.5A	
	Maximum power consumption (W)	52	41	
	Efficiency	-	>70%	>75%
	Primary to secondary electric isolation	1500 V AC input to case / 400 V AC input to output	N/A	
	Laser diode secondary fuse	3.5A	N/A	
Output specifications	Laser diode current	0.1 to 3.0A for MLC-03A-xR1 0.2 to 5.0A for MLC-05A-xR1		
	Thermoelectric cooler current capability	0 to ±2A(1)		
	Thermoelectric cooler voltage capability	+9V cooling -9V heating		
	Temperature stability	<0.06°C		
	TEC electric response time	<0.1s		
	Laser diode temperature safety limits	Set-up point ±3°C (typical)		
Mechanical specifications	Weight	1.2kg	0.3kg	0.1kg
	Dimensions (mm)	145x120x70	130x98x28	105x95x14.5
EMC standards	Emission	EN 55011		-
	Immunity	IEC 61000-6-2		-
Safety Electrical & radiation		IEC 61010-1		-
Maximum Heat dissipation		<15W(1)	<6W(1)	
Control		RS232 control serial communication(3) Utility digital control connector		

NOTES

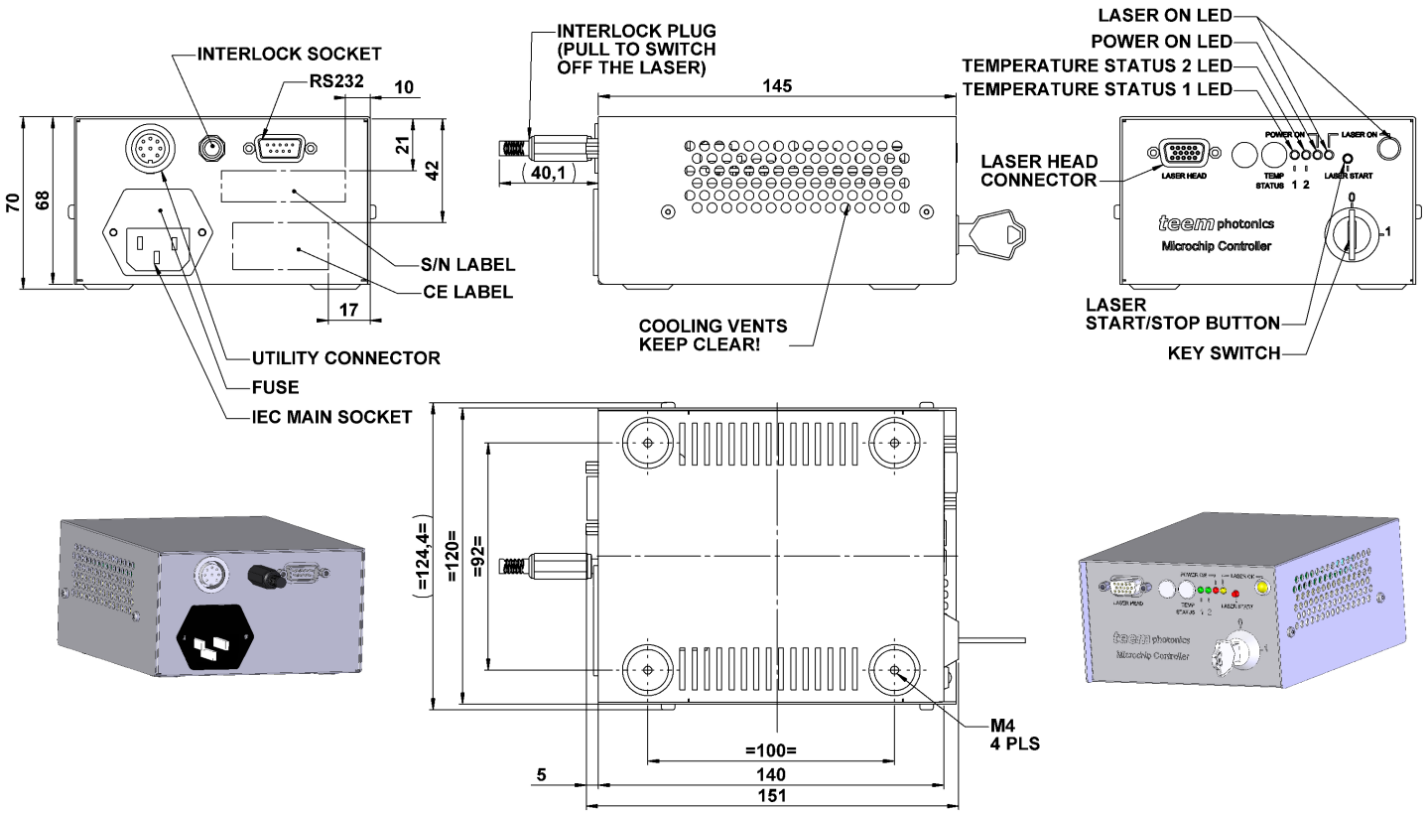
(1) Current and Power consumption with current limits set to IDiode=2.5A, ITEC=2A
(2) Measured on a 3.5 Ohms TEC cooler
(3) The RS232 protocol is an ASCII protocol
(4) CDRH certification is valid for CDRH TEEM PHOTONICS certified laser up to Class 4

COMPLEMENTARY INFORMATION & OPTIONS

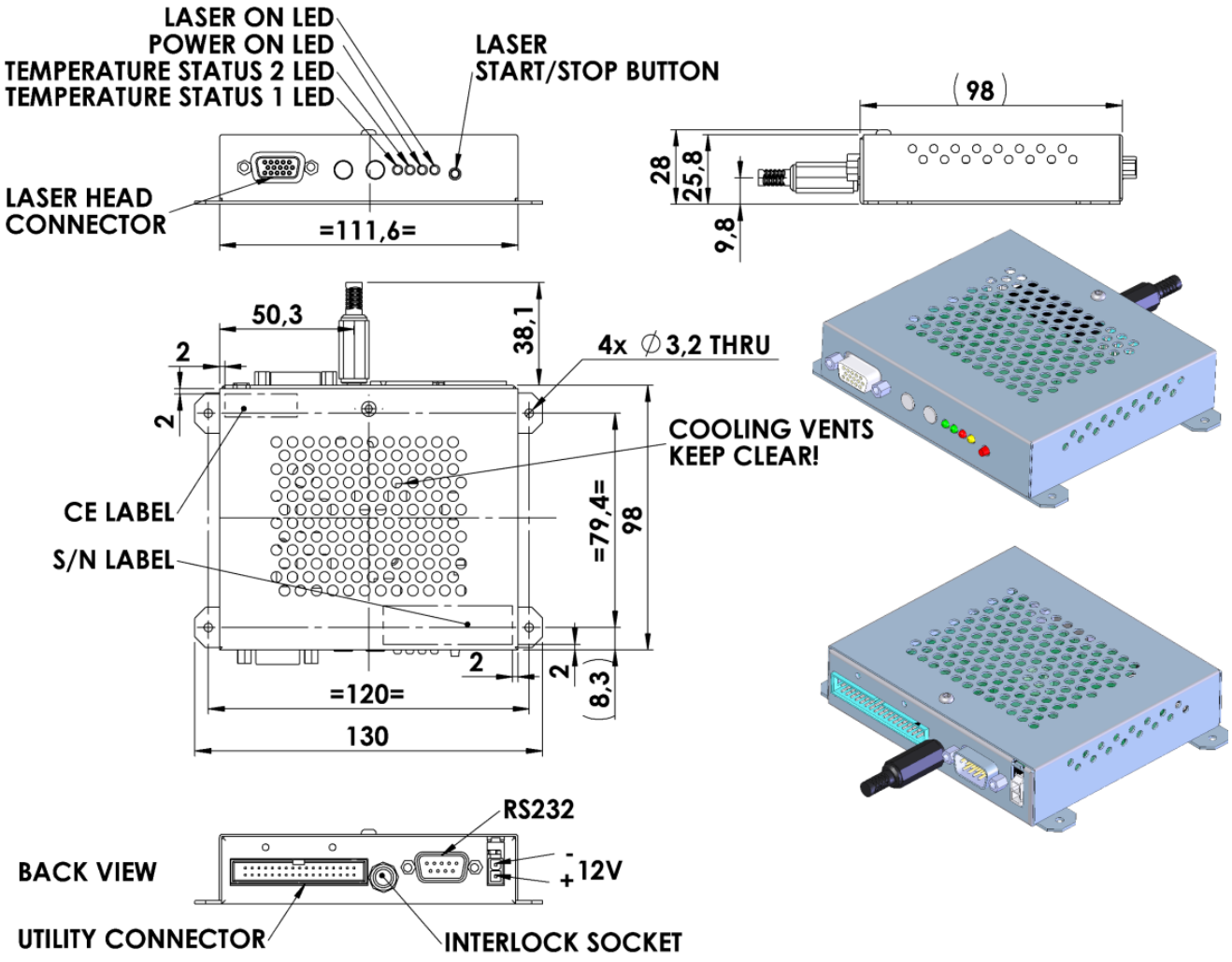
Environment Parameters	
Operating temperature	-10°C to +50°C non condensing
Maximum relative Humidity <40°C	80%
Maximum relative Humidity >40°C	60%
Pollution degree (according to IEC 61010)	2
Storage temperature	-40°C to +85°C non condensing
Shock of 11ms according to IEC 68-2-27 (non operating)	25g
Vibration 5Hz to 500Hz sinusoidal according to IEC 68-2-6	2g

Certifications				
Model	**Type**	**RoHS**	**CE**	**CDRH**
MLC-03A-DR1	Desktop	Yes	Yes	Yes
MLC-03A-MR1	Module	Yes	Yes	No
MLC-03A-BR1	Board	Yes	No, OEM only	No

DESKTOP CONTROLLER MECHANICAL DRAWINGS: MLC-03A-DR1 & MLC-05A-DR1



MODULE CONTROLLER MECHANICAL DRAWINGS: MLC-03A-MR1 & MLC-05A-MR1



BOARD CONTROLLER MECHANICAL DRAWINGS: MLC-03A-BR1 & MLC-05A-BR1