

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

## Key features

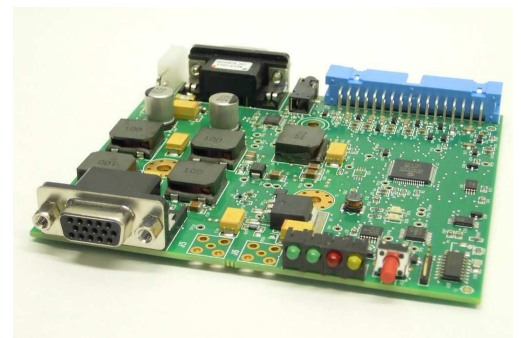
- ▶ **3 different packages**
  - **Desktop for laboratory applications**
  - **Module and Board for OEM integration**
- ▶ **Dual bipolar thermal PID regulation**
- ▶ **Laser diode temperature and voltage protection**
- ▶ **RS232 control for operation and diagnosis**
- ▶ **Real-time control (TTL)**
-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



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



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



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

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**Technical specifications:**

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

**Notes**

(1)	Current and Power consumption with current limits set to I <sub>Diode</sub> =2.5A, I <sub>TEC</sub> =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

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**Complementary information & options:**

**Environment Parameters**

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

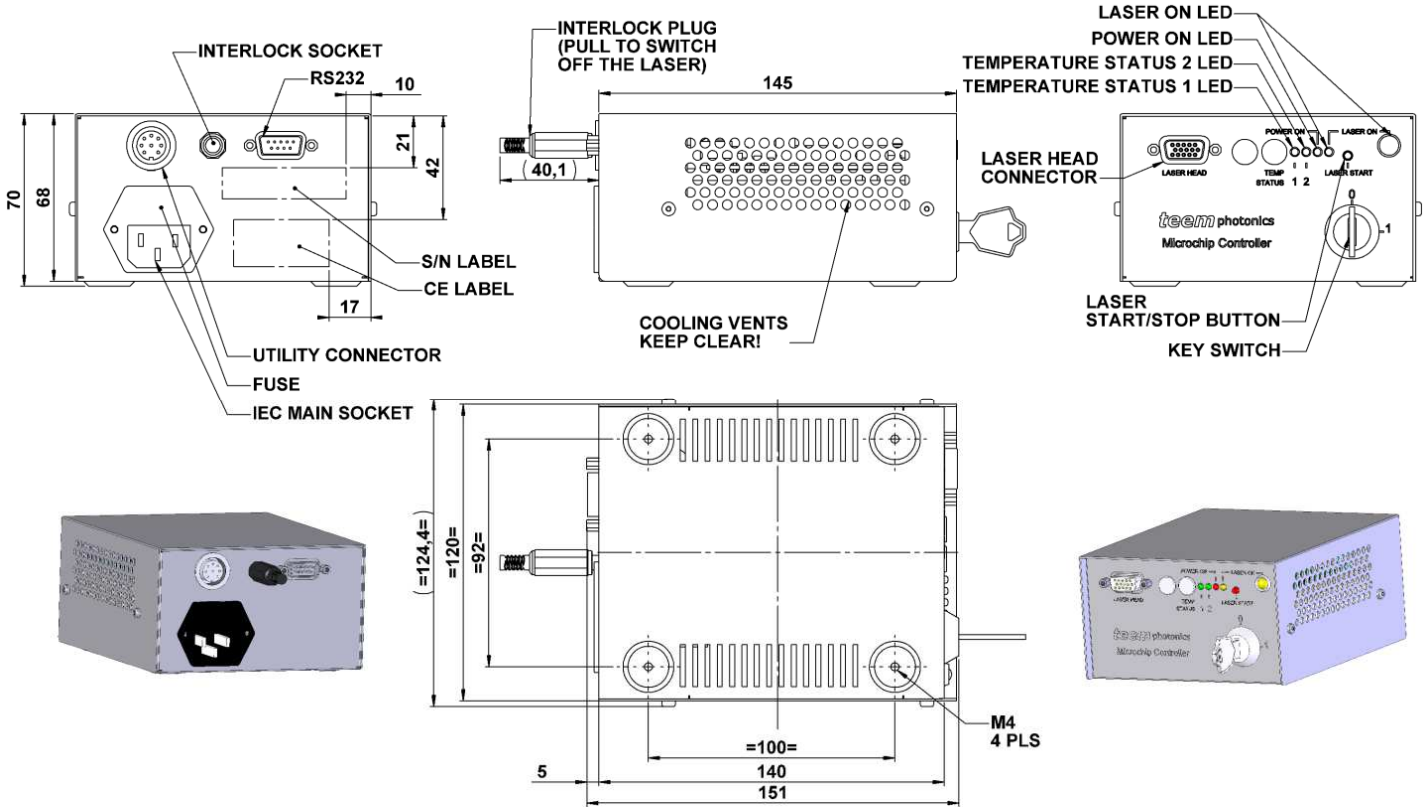
**Certifications**

<b>Model</b>	<b>Type</b>	<b>RoHS</b>	<b>CE</b>	<b>CDRH</b>
MLC-03A-DR1	Desktop	Yes	Yes	Yes
MLC-03A-MR1	Module	Yes	Yes	No
MLC-03A-BR1	Board	Yes	No, OEM only	No

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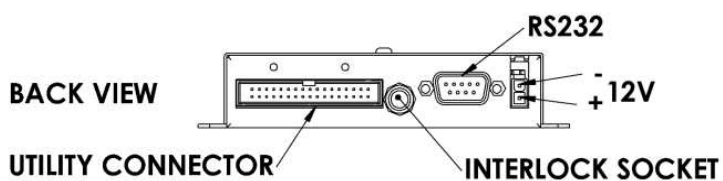
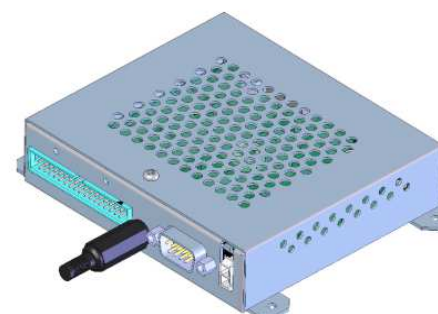
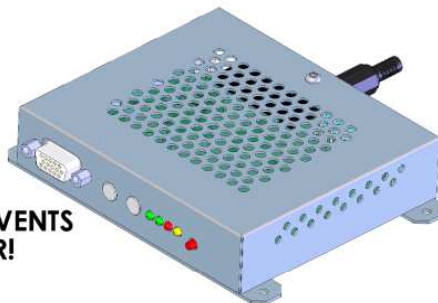
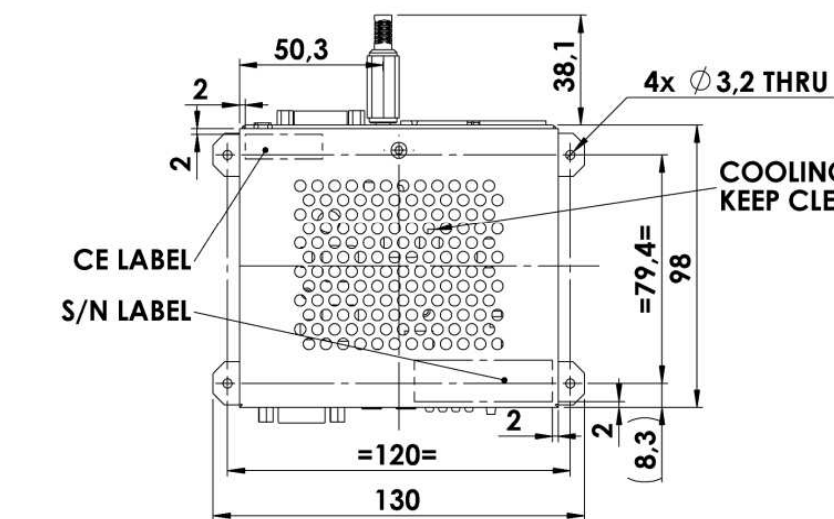
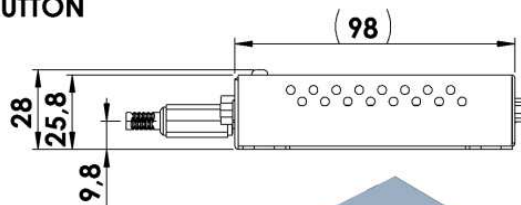
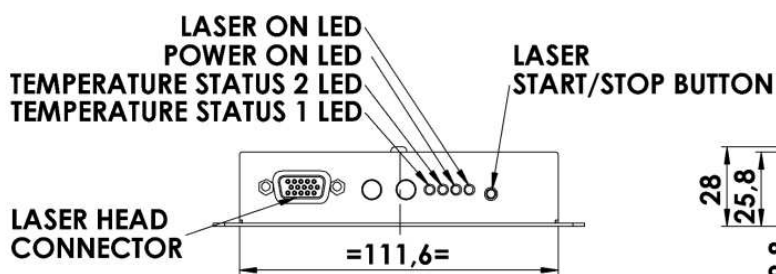
**Desktop Controller Mechanical Drawings : MLC-03A-DR1**



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**Module Controller Mechanical Drawings : MLC-03A-MR1**



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**Board Controller Mechanical Drawings : MLC-03A-BR1**

