

Controllers for Passively Q-switched Lasers - Triggered Microchip Lasers (STx) only -



Desktop MLC-03A-DP1 for CDRH certified lasers and 100-240V AC



Module MLC-03A-MP1 for OEM lasers using 12V DC



Board MLC-03A-BP1 for OEM lasers using 12V DC

KEY FEATURES

- External laser pulse triggering capability
- 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

TECHNICAL SPECIFICATIONS

| | | MLC-03A-DP1 | MLC-03A-MP1 | MLC-03A-BP1 |
|-------------------------------|--|--|--|-------------|
| 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 | | |
| | 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-DP1 | Desktop | Yes | Yes | Yes |
| MLC-03A-MP1 | Module | Yes | Yes | No |
| MLC-03A-BP1 | Board | Yes | No, OEM only | No |

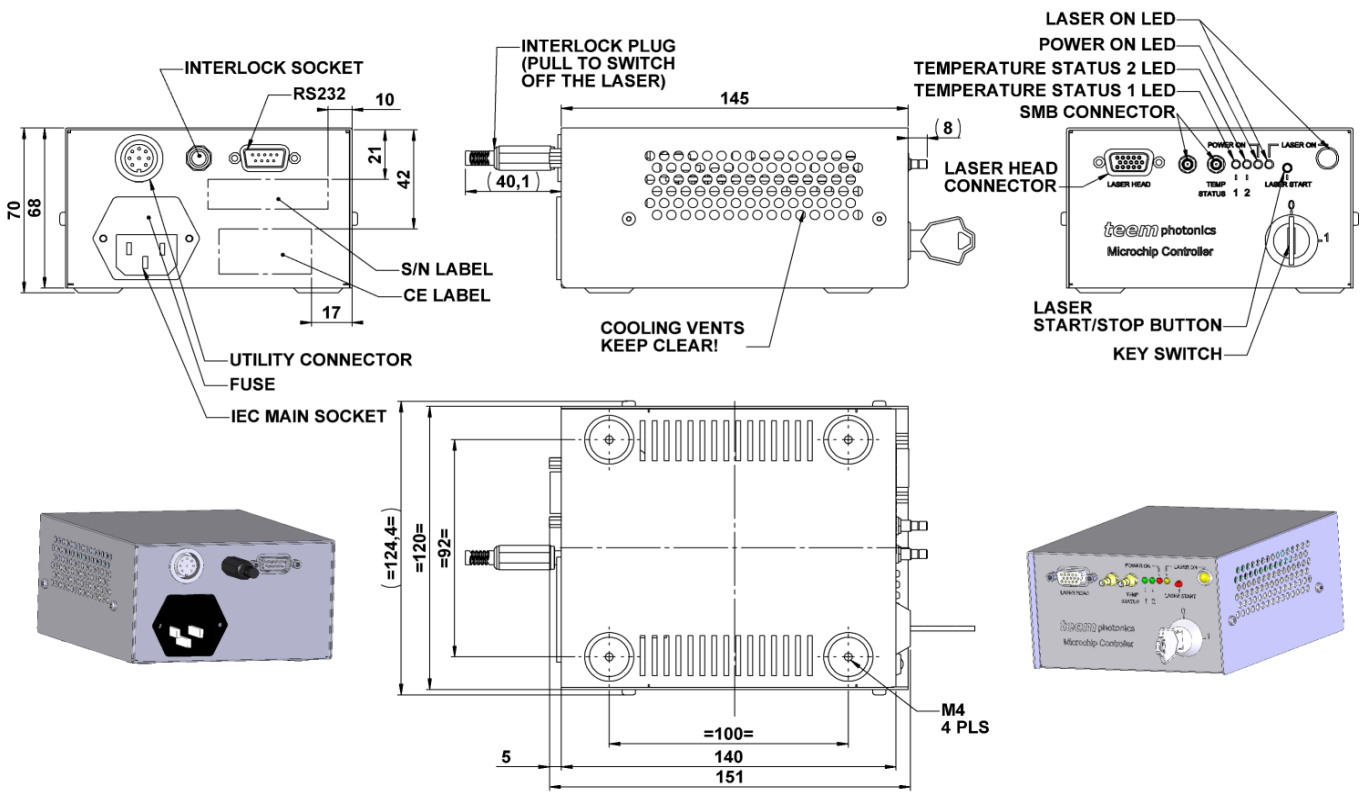


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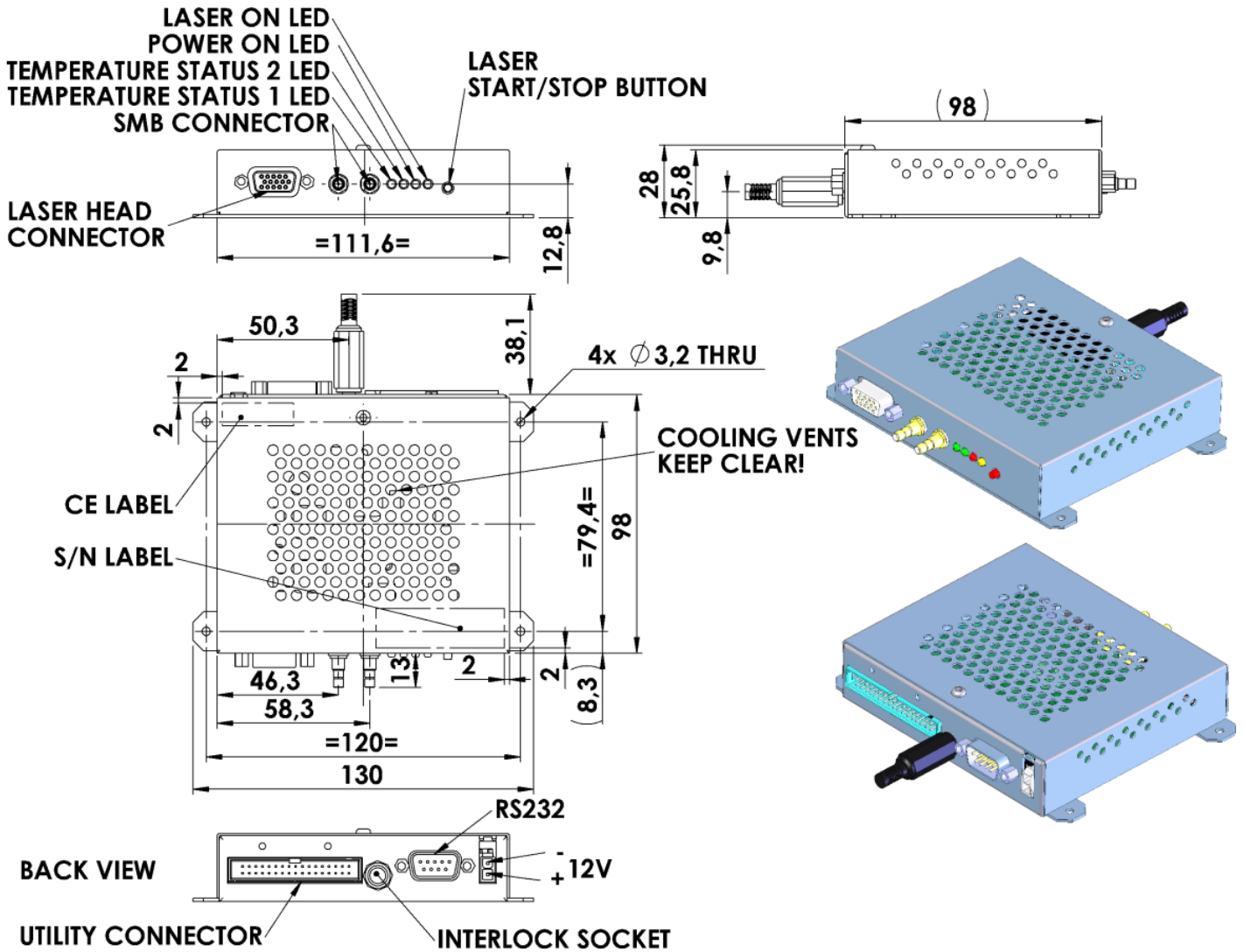
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DESKTOP CONTROLLER MECHANICAL DRAWINGS: MLC-03A-DP1



MODULE CONTROLLER MECHANICAL DRAWINGS: MLC-03A-MP1



BOARD CONTROLLER MECHANICAL DRAWINGS: MLC-03A-BP1

