



Electro-Optics Technology, Inc.

Innovative High Quality Laser Solutions

SLC

70 W & 100 W Fiber Laser Isolator



EOT's 70 W and 100 W model SLC Fiber Laser Isolators have been specifically designed for pulsed Yb fiber lasers used in marking and engraving applications.

Marking and engraving of highly reflective metals can result in large levels of back reflection, creating the potential for non-optimal performance of the laser or even damage to the laser. This can result in unacceptable marking quality and significant down time.

Utilizing high damage threshold optics, these isolators provide for high transmission of light in the forward direction and strong attenuation of light traveling in the reverse direction.

Designed specifically for harsh, industrial environments, an integrated beam expanding telescope assures excellent beam-pointing stability and beam quality, which is required to assure high quality marking and engraving.

FEATURES

- High throughput
- Minimized return loss
- Rugged, environmentally hardened assembly
- Minimal beam distortion
- Proper steering and heat sinking of backward traveling light
- Protective armor cabling is standard
- High average power for faster processing speeds

OPTIONS

- Various output beam sizes
- Customization available

APPLICATIONS

- Marking
- Engraving
- Welding
- Laser Cleaning



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SPECIFICATIONS

	70 W*	100 W*
Fiber Types^a	Contact EOT	Contact EOT
Maximum Incident Average Power	70 W	100 W
Center Wavelength	1065 nm ± 15 nm	1065 nm ± 15 nm
M² Degradation	<10%	<10%
Standard Output Beam Diameter (1/e²)^b	3 mm, 5 mm, 7.5 mm, 10 mm	3 mm, 5 mm, 7.5 mm, 10 mm
Insertion Loss of light through fiber core^c	<0.5 dB	<0.5 dB
Isolation at 10 °C to 50 °C	>20 dB	>20 dB
Isolation at 30 °C	>27 dB	>27 dB
Return Loss	<-50 dB	<-50 dB
Reverse Power Handling^d	77 W for 90 s max.	77 W for 90 s max.
Maximum Pulse Energy	1 mJ	1 mJ
Peak Power	20 kW	20 kW
Operating Temperature	10 °C to 50 °C	10 °C to 50 °C
Storage Temperature	-10 °C to 70 °C	-10 °C to 70 °C
Storage Humidity, non-condensing	10% to 90%	10% to 90%

Product specifications are subject to change. All products are RoHS compliant.

^a Standard fiber length is 3 m, protective Teflon tubing length is 2.15 m in a 2 m armor cable jacket. Customers should contact EOT regarding other fiber requirements.

^b Unless otherwise specified by customer

^c Insertion loss of light through fiber cladding is not included in the insertion loss specification.

^d Case temperature ≤ 50 °C

* U.S. Patent 7,306,376; other patents applied for

NOTE: It is recommended that the isolator be attached to the laser enclosure using a compression fitting that secures only the outer, metal reinforced jacket. The inner PTFE tube is meant as an abrasion barrier for the optical fiber and should be allowed to move freely with the fiber.