

COMPACT MOTORIZED LASER POWER ATTENUATOR – 990-0075



990-0075 series laser power attenuator is a compact motorized device for laser power control of linearly polarized beam. Its operation principle consists of changing laser beam polarization by rotation of zero-order half-waveplate and then passing the beam through a fixed Brewster type thin film polarizer which transmits p-polarized and reflects s-polarized laser beam. The intensity ratio of s- and p- polarized beams can be continuously varied without alteration of other beam parameters by motorized rotation of the waveplate. The attenuation level is controlled by the software in 0.1 – 97% range.

The device combines unique mechanical design which ensures repeatability and high stability of performance. All optical components of the attenuator have high LIDT coatings and provide stable and reliable performance even using device with high power lasers in industrial applications.

A secondary laser beam with s-polarization can be rejected from the laser power attenuator unit to an external beam dump or utilized for the particular application. A standard compact external beam dump is optionally offered with this attenuator and is suitable for lasers with average power up to 6 W. This beam dump stops secondary s-polarized beam in the attenuator and allows to avoid any thermal effects or stress in the housing of the device.

Features

- Compact design
- High optical damage threshold
- Full solution - includes controller, software, power supply and USB cable
- Standard models for the most popular laser wavelengths are offered ex-stock

Standard Kit includes:

- Motorized laser power attenuator
- Controller
- Software
- Power supply (DC 12 V)
- USB cable (1.5 m)

Optical Specifications

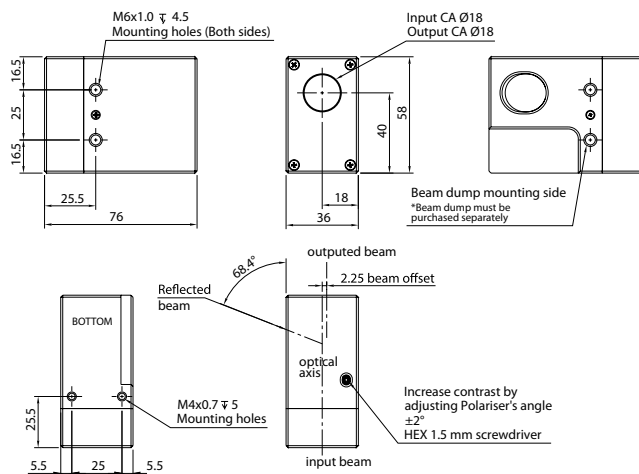
Clear input aperture	Ø18 mm
Clear output aperture	Ø18 mm
Power attenuation range	<0.1 % to >98 %
LIDT coating	>10 J/cm ² , 10 ns @ 1064 nm
Close to open time	< 0.2 sec
Resolution	175,542 µsteps in full rotation (0.002 deg, 7.2 arcsec, 0.035 mrad)
Accuracy (repeatability after 10,000 positions without homing)	±10 µsteps (±0.02 deg, less than ±0.035 %)
Motor	2 phase stepper motor, 200 steps with 256 µstepping

Mechanical Specifications

	Length	Width	Height
Attenuator	76 mm	36 mm	58 mm
Attenuator with beam dump	76 mm	52 mm	58 mm
Controller	125 mm	53 mm	31 mm

Operating Conditions

Operating temperature	10 to 40 °C
Storage temperature	-15 to 50 °C



Laser Power Attenuators

Wavelength, nm	LIDT	Catalogue number
343	3 J/cm ² , 10 ns, 50 Hz @ 343 nm	990-0075-343M
355	3 J/cm ² , 10 ns, 50 Hz @ 355 nm	990-0075-355M
390 – 410	3 J/cm ² , 10 ns, 50 Hz @ 400 nm	990-0075-400M
510 – 520	5 J/cm ² , 10 ns, 50 Hz @ 515 nm	990-0075-515M
532	5 J/cm ² , 10 ns, 50 Hz @ 532 nm	990-0075-532M
780 – 820	8 J/cm ² , 10 ns, 50 Hz @ 800 nm	990-0075-800M
1020 – 1040	10 J/cm ² , 10 ns, 50 Hz @ 1030 nm	990-0075-1030M
1064	10 J/cm ² , 10 ns, 50 Hz @ 1064 nm	990-0075-1064M

Additional Accessories

Catalogue number	Description
990-0075ABD	Attachable Beam Dump <6W with coated protective window
990-0075SBD	Separated Beam Dump < 30 W
990-0075C1	RS232 Cable, 1.8 m
990-0075C5	RS232 Cable, 5 m
990-0075C10	RS232 Cable, 10 m
990-0075C15	RS232 Cable, 15 m
990-0075RA	DIN35 Rail Adapter