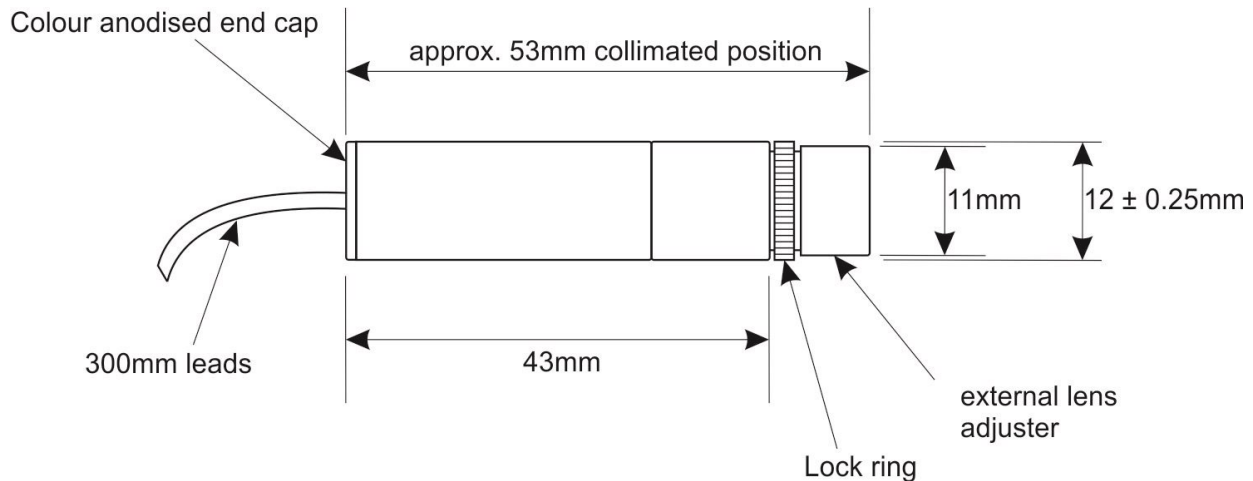


## Laser diode module, 450nm, ø12mm



### Warranty

All laser diode modules are covered by a two year warranty.  
Specifications are subject to change without notice. E&OE.

### Laser Safety

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into 3 categories depending on light emitted, wavelength and eye safety.

#### CLASS II: "CAUTION"

Visible laser light less than 1.0mW. Considered eye-safe, normal exposure to this type of beam will not cause permanent damage to the retina.

#### CLASS IIIR: "DANGER"

Visible laser light between 1.0mW and 5.0mW. Considered eye-safe with caution. Focusing of this light into the eye could cause some damage.

#### CLASS IIIB: "DANGER"

Infrared (IR) and high power visible lasers considered dangerous to the retina if exposed.

**NB:** Please note that, while complying with the above classifications, unless otherwise stated our laser diode products are not certified and are designed solely of use in OEM products. The way the device is used in the final product may alter its original design classification and it is the responsibility of the OEM to ensure compliance with the relevant standards.

### Heat Sinking

Please note that premature or sudden catastrophic laser diode failure may occur if the maximum operating temperature is exceeded. For optimal laser diode lifetime we recommend our laser diode modules and collimators are provided with an additional form of external heat-sinking. The lower the operating temperature of the laser diode, the longer will be its lifetime.

## Laser diode module, 450nm, ø12mm

A range of compact, 12mm diameter, 450nm direct emission laser diode modules which offer a reliable, high performance blue light source for a wide range of applications.

The laser diode modules are robust and energy efficient and offer excellent thermal stability, wide operating temperature range and low divergence. Their high beam quality, combined with low power consumption opens up new possibilities as light sources. They can be used as a direct light source or integrated to provide further stabilisation and control.

Our compact 450nm laser diode modules consist of a laser diode, an aspherical AR coated glass lens, self-contained drive electronics and externally adjustable optics. The housing material is anodised aluminium.



### Specifications (typical figures at 25°C)

Part number	500-045001	500-045002	500-045003
Wavelength (nm)	450	450	450
Power (mW)	5	25	35
Typ. operating current (mA)	70	90	140
Power stability	<5%	<5%	<5%
Pointing stability (mrad/°C)	<0.2	<0.2	<0.2
Bore sighting (half angle, °)	<2.0	<2.0	<2.0
Beam diameter (mm)	4 x 2	4 x 2	4 x 2
Beam divergence (mrad, collimated beam)	0.6 x 0.3	0.6 x 0.3	0.6 x 0.3
Operating voltage (V DC)	9	9	9
Operating temperature (non-condensing, °C)	-10 to +50	-10 to +50	-10 to +50
Storage temperature (°C)	-40 to +85	-40 to +85	-40 to +85
Housing material	Anodised aluminium	Anodised aluminium	Anodised aluminium

### Key features

- Direct emission laser diode
- Externally adjustable optics
- Self-contained drive electronics
- Aspherical AR coated glass lens
- Compact, ergonomic design
- Thermally stable
- Energy efficient
- Robust & reliable
- Laser engraving optional

### Applications

- High resolution display
- Medical diagnostics and alignment
- Industrial alignment
- Inspection
- Sensing