

# Incoupling breadboard components

## Fiber collimator

Company: Schäfter+Kirchoff [http://www.sukhamburg.com/products/Fiber\\_collimators\\_60FC-\\_.html](http://www.sukhamburg.com/products/Fiber_collimators_60FC-_.html)

- Model: 60FC-4-A2.7-45
- Housing diameter: 12mm
- Focal length: 2.75mm
- Coating: AR 1300-1750nm

Coating sheet

- NA: 0.55
- Connection: FC/APC
- Schrägorientierte Koppelachse
- Integral focussing
- Amagnetic collimators made from titanium on request
- Infrared optics made of Chalcogenide glass for wavelengths  $> 1000$  nm (see Technical Data, lens designed for  $\lambda = 2.5 \mu\text{m}$ )
- 2D-drawing:

970920020518.pdf

## Free beam optical isolator

Company: Nortus Optronic GmbH, Isowave

- Model: I-15UHP-4
- Serial Number: 45830
- Wavelength: 1515-1585nm
- Clear Aperture: 4mm
- Isolation
  - Typ: 75dB
  - Minimum:  $>60$ dB
  - testet by 1550nm: 71dB
- Transmission: 83% (90% Typ)
- Ambient Temp: 23 °C
- Insertion loss: 0.5dB

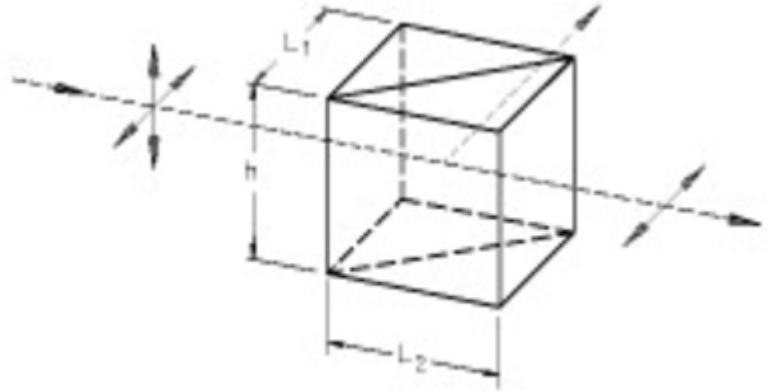
- Test report

- [Datasheet](#)
- Length: 42.3mm

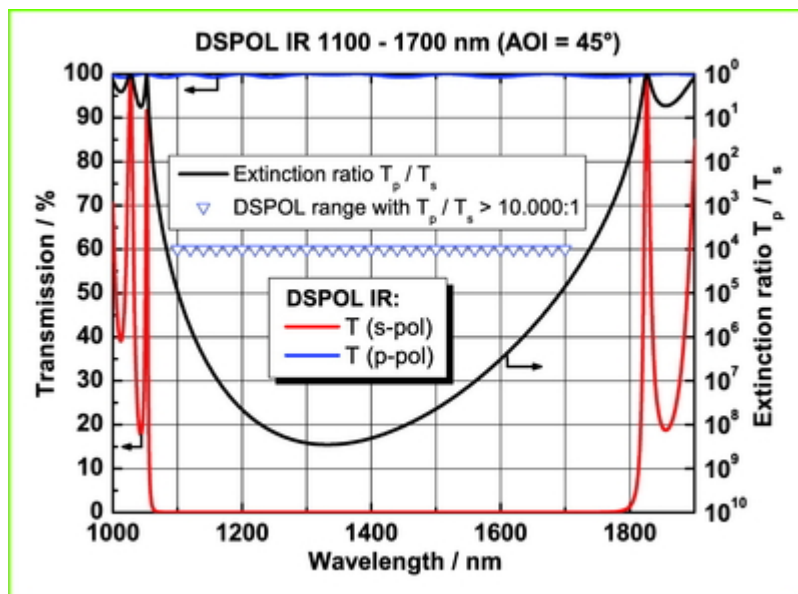
- Diameter: 19mm

## DS Polaristaor

Company: Qioptiq Photonics GmbH Link:  
<http://photonics.specpick.com/products/polarizers/edmund-optics-inc/36-434-g335753000>



- Article number: G335-753-000
  - Dimensions  $h=L1=L2$ : 10x10mm
  - Tolerance:
    - High  $h$ : -0.09mm
    - $L1=L2$ :  $\pm 0.2$ mm



- Wavelength: 1100-1700nm

- Datasheet

- Special beamsplitter coatings yield highly polarized transmitted beams
- Combine extreme spectral bandwidth with superb extinction ratio and transmittance
- Extinction ratio transmission  $> 10,000:1$  ( $\Phi T_p : \Phi T_s$ ) at  $\pm 2^\circ$
- No angular or lateral deflection of transmitted beams
- Less than  $\lambda/4$  wavefront distortion at 633 nm
- Broadband coated with ARB2
- $T_p > 90\%$

- Damage thresholds: > 2 kW/cm<sup>2</sup> cw (488/514 nm)
- Damage thresholds: > 200 mJ/cm<sup>2</sup> for pulses of 10 ns (1064 nm)
- Damage thresholds: > 28 mJ/cm<sup>2</sup> for pulses of 280 fs (850 nm, 20 Hz)

## Mirror holders

Company: Thorlabs

- Typ: Polaris-K05S1 <https://www.thorlabs.com/thorproduct.cfm?partnumber=POLARIS-K05S1>
- 2-Adjuster Hex-Driven Design  
[https://www.thorlabs.com/newgrouppage9.cfm?objectgroup\\_id=10690&pn=POLARIS-K05S1](https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=10690&pn=POLARIS-K05S1)
- Designed for use with Ø1/2" Optics
- ±5° Mechanical Angular Range
- ~11 mrad/rev Resolution
- datasheet:

polaris-k05s1-specsheet.pdf

## Mirrors

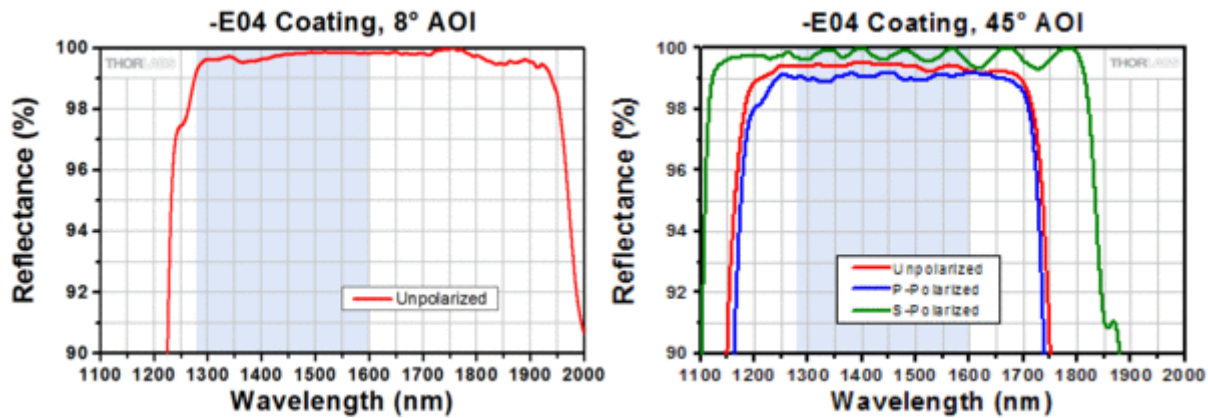
Company: Thorlabs

### Mirror Specifications

- Typ: BB0511-E04 <https://www.thorlabs.com/thorproduct.cfm?partnumber=BB0511-E04>
- Diameter: 12.7mm (1/2") +0.0 mm / -0.1 mm
- Thickness: 6.0 mm (0.24") ±0.2 mm

### Coating Specifications

- Broadband Coatings: 1280-1600 nm
- Ravg > 99% for S- and P-Polarizations for Angles of Incidence from 0 to 45°
- Substrate material: Zerodur
  - Zerodur®'s coefficient of thermal expansion is  $0 \pm 0.100 \times 10^{-6} / ^\circ\text{C}$ , which is significantly smaller than the value for fused silica,  $0.55 \times 10^{-6} / ^\circ\text{C}$
- Damage Threshold: 2.5 J/cm<sup>2</sup> (1542 nm, 10 ns, 10 Hz, Ø0.181 mm)



## Linear Stages

Company: Newport

- Typ: M-DS25-X <https://www.newport.com/p/M-DS25-X>
- Axes of Travel: X
- Maximum Stage Travel: 6.35 mm
- Load Capacity: 45 N
- Material: Aluminum
- Centered Load Capacity with BM Micrometer: 11 N
- Platform Size: 25 x 25 mm
- Sensitivity: 1  $\mu\text{m}$

## Beamsplitter Cube

Company: Thorlabs

- Typ: BS012 <https://www.thorlabs.com/thorproduct.cfm?partnumber=BS012>
- Size: 10.0 x 10.0 mm
- No Polarization
- Splitting: 50:50
- Wavelength: 1100 - 1600 nm

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