

Incoupling breadboard components

Fiber collimator

Company: [Schäfter+Kirchoff](#)

- Model: 60FC-4-A2.7-45

- Datasheet:

fk60fc_e.pdf

- 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

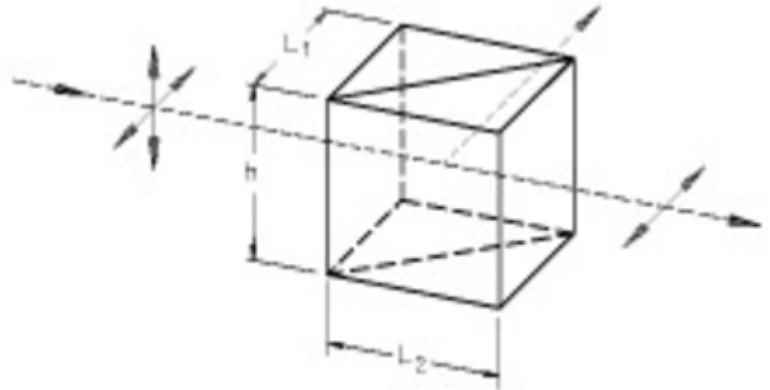
- Model: I-15UHP-4
- Serial Number: 45830
- Wavelength: 1515-1585nm
- Clear Aperture: 4mm
- Isolation
 - Typ: 75dB
 - Minimum: >60dB
 - testet by 1550nm: 71dB
- Transmission: 83% (90% Typ)
- Ambient Temp: 23 °C
- Insertion loss: 0.5dB

- Test report

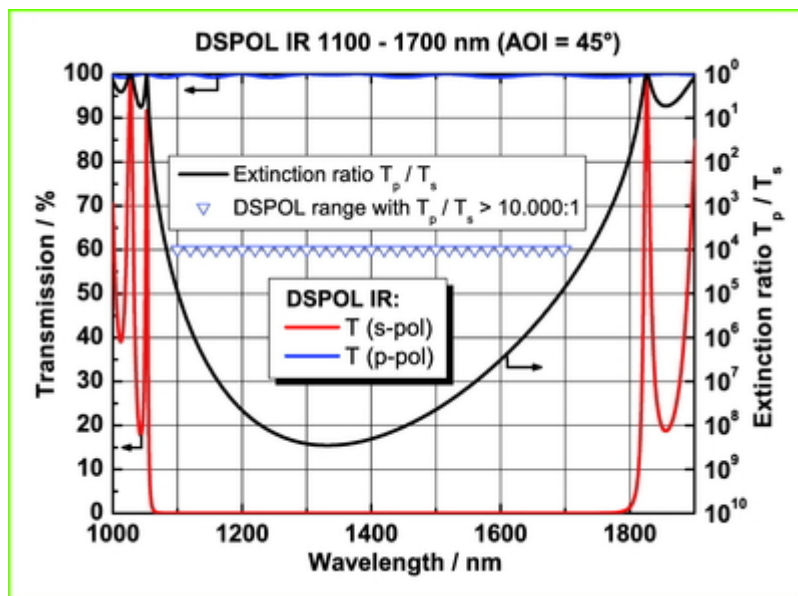
- [Datasheet](#)
- Length: 42.3mm
- Diameter: 19mm

DS Polaristaor

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



- Article number: G335-753-000
 - Dimensions $h=L_1=L_2$: 10x10mm
 - Tolerance:
 - High h : -0.09mm
 - $L_1=L_2$: ± 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: $> 2 \text{ kW/cm}^2$ cw (488/514 nm)
- Damage thresholds: $> 200 \text{ mJ/cm}^2$ for pulses of 10 ns (1064 nm)
- Damage thresholds: $> 28 \text{ mJ/cm}^2$ 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
- Designed for use with Ø1/2" Optics
- $\pm 5^\circ$ Mechanical Angular Range
- $\sim 11 \text{ mrad/rev}$ Resolution
- datasheet:

polaris-k05s1-specsheet.pdf

Mirrors

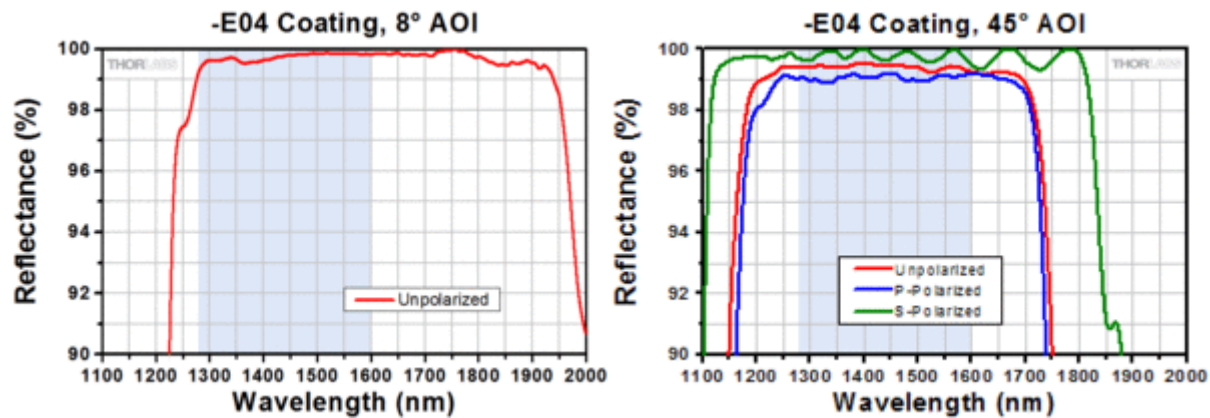
Company: Thorlabs

Mirror Specifications

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

Coating Specifications

- Broadband Coatings: 1280-1600 nm
- $R_{\text{avg}} > 99\%$ 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^2 (1542 nm, 10 ns, 10 Hz, Ø0.181 mm)



Waveplate

$\lambda/2$

Company: [Crylight](#)

- Typ: WP0210-1550 (with holder: WH1210)
<http://www.crylight.com/product/detail.jsp?myid=215879>
- Type: Optically contacted zero Order
- Diameter: 10mm
- Outer Diameter: 12.7 mm
- Retardation: $\lambda/2$
- Wavelength: 1550nm
- Coating: AR/AR
- Size tolerance: ± 0.2
- Retardation tolerance: $\lambda/300$
- Surface Quality: 40/20
- Parallelism: $< 3''$
- Wavefront distortion: $\lambda/8$ @ 632.8nm
- Clear aperture: $> 90\%$
- Optical axis tolerance: ± 0.3
- Holder: WH1210
- Test Protocol:

Test Protocol-Waveplates

$\lambda/4$

Company: [Crylight](#)

- Typ: WP0410-1550 (with holder: WH1210)
<http://www.crylight.com/product/detail.jsp?myid=215879>

- Type: Opically contacted zero Order
- Diameter: 10mm
- Outer Diameter: 12.7 mm
- Retardation: $\lambda/4$
- Wavelength: 1550nm
- Coating: AR/AR
- Size tolerance: ± 0.2
- Retardation tolerance: $\lambda/300$
- Surface Quality: 40/20
- Parallism: $< 3''$
- Wavefront distortion: $\lambda/8$ @ 632.8nm
- Clear aperuture: $> 90\%$
- Optical axis tolerance: ± 0.3
- Holder: WH1210

Waveplate Rotation Mount

Company: Thorlabs

- Typ: RSP05/M https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=246
- Mount Ø1/2" Optics up to 5.8 mm Thick
- Compact: 25.4 mm x 22.1 mm x 11.4 mm
- Compatible with our SM05-Threaded Lens Tubes
- One SM05RR Retaining Ring Included
- Post Mountable via 8-32 (M4) Mounting Tap
- The knurled edge of the RSP05(/M) and the 360° laser-engraved scale marked at 2° increments allow for precise

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 μm

Lens

Lens

Company: Thorlabs

- Typ: LA1805-C <https://www.thorlabs.de/thorproduct.cfm?partnumber=LA1805-C>
- Size: Ø1"
- N-BK7 Plano-Convex Lens
- Focal length: $f = 30.0$ mm
- AR Coating: 1050-1700 nm

Lens holder

Company: Thorlabs

- Typ: LMR1S/M <https://www.thorlabs.de/thorproduct.cfm?partnumber=LMR1S/M>
- Size: Ø1"
- Internal and External SM1 Threads
- M4 Tap

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

Iris

Company: Thorlabs

- Typ: ID5MS/M
https://www.thorlabs.de/newgrouppage9.cfm?objectgroup_id=206&pn=ID5MS/M#3883
- Max Aperture: Ø5.0 mm
- 38 mm Long
- Ø6 mm Post

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