

KO | BRING QUALITY INTO FOCUS

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Knight Optical's Deviating Penta Prisms

Knight Optical supply stock and custom [deviation penta prisms](#) that cover the visual and NIR range. Deviation prisms are an optical component that will redirect a light beam into another known angle relative to the incoming beam. The penta-prism is a deviation prism which is used in cameras with a movable mirror that bends the beam vertical onto the focus graticule. The penta-prism provides a 90° deviation of the beam from the focus plane and, via an eyepiece, the user can aim the camera along the same axis as the beam that is focused onto the detector, electronic or wet film. Deviations through other angles can be accomplished using, for example, abbe constant deviation, [littrow](#), and wadsworth prisms.

The Penta prism has two surfaces that reflect light. The deviation of the light in a penta prism is set by the angle between the two surfaces which is constant. This leads to a situation where the light is deviated by a constant angle which is independent of the incidence angle of the light falling on the prism. This can allow simplification of a design as the need for adjustments can be considerably reduced. Our range of stock Penta Prisms have aluminised reflecting surfaces and very tight deviation tolerance. Penta prisms are excellent in metrological applications, e.g. for setting up axes accurately for right angles. Typical usages for Penta Prisms are for beam steering and range finding, surveying and alignment in an optical system

Knight Optical supply high quality custom deviation prisms made to our design or to your custom specification. Every component is individually tested by our highly skilled technicians using our Trioptics Prism Master capable of 3 arc seconds accuracy to ensure all components meet our high quality standards.

Material: [N-BK7 or equivalent](#)

Dimensions: ±0.1mm

Angles: ±1 arcmin

Surface quality: [<40-20 scratch / dig](#)

Coating:

Anti Reflective and mirror coatings are available on request.

Internal reflective faces:

Protected aluminium/ Visible use (MV2)

[Ali/SiO₂ R.avg.>88%@450-650nm,AOI=0°-45°](#)

All faces apart from entry / exit faces have a protective matt black paint.

Options

Different mirror coatings to meet your wavelength application requirements.

Stock prisms can be machined thinner.

Mounting options, i.e. clevis mounts

Documents and drawings

Outside faces are coated with standard matt black paint, however epoxy based matt black paint can be applied for more demanding applications.

[Paint epoxy matt black PAT-EC75](#)

Coatings:

Protected aluminium/ Visible use (MV2)

[Al₂O₃/SiO₂ R.avg.>88%@450-650nm,AOI=0°-45°](#)

All our Penta Prisms are fully inspected on their quality in our ISO 9001 certified, state-of-the-art Metrology laboratory, This allows us to work to the highest [QA standards](#) and meet the tolerance specifications on these **precision components**.

[Contact our technical sales team](#) to discover how Knight Optical's high quality Penta prisms and superior service can improve your instrumentation and supply chain experience.

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- View our [QA and metrology information](#)
- Watch our [Corporate Video](#)
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