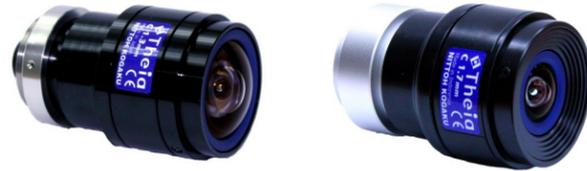


Super high resolution machine vision lenses

Theia's factory automation and machine vision lenses provide an ultra wide field of view with low barrel distortion for applications where camera distance is limited and a large field of view is required. Patented **Linear Optical Technology®** is used to correct distortion in the lens. The optics leave less than 3% residual barrel distortion (far less than the 30% or more of comparably wide angle lenses) with fields of view up to ultra wide 135°.



Lens models	MY125M	MY110M
Focal length	1.28mm	1.67mm
Linear Optical Technology®	Yes	Yes
Field of view	Fixed up to 135°	Fixed up to 120°
Distortion*	<3%	<1%
F/#	F/1.8 to close	F/1.8 to close
Minimum focus distance	0.5m	0.5m
IR Correction	IR transmitting	IR+vis co-planar focus

- Using patented **Linear Optical Technology®**, Theia's ultra wide angle lenses correct barrel distortion optically in the lens. No need to design dewarping algorithms for image stitching applications.
- High quality optics designed for cameras up to **five megapixels** resolution giving a sharp image throughout the wide field of view.
- **Durable** metal mount construction and anti-vibration focus lock screws for use in demanding environments.
- **IR corrected** (MY110M) and IR transmitting (MY125M) optics for use with LED illumination up to 950nm. The MY110M lens focuses IR and visible light to the same plane to support multispectral imaging applications.
- Designed for **C-mount** cameras with sensor sizes 1/3" (Ø6.0mm) up to 1/2.5" (Ø7.2mm) and larger (with image cropping).

* Horizontal distortion on a 1/3" image sensor

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TECHNOLOGIES

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Lens Catalog 2012

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Theia
TECHNOLOGIES

Megapixel Lenses



Ultra wide megapixel lenses without distortion

Using patented  Linear Optical Technology[®] to optically correct barrel distortion, Theia's family of ultra wide lenses provides the widest field of view available without distortion while keeping straight lines straight. The ultra wide field of view requires fewer cameras to cover large areas and provides greater situational awareness for the viewer.

Theia's lens using Linear Optical Technology[®]



Typical wide angle lens



- Theia's SL183 series of varifocal lenses includes **EasyZoom™** which allows the installer to optimize the field of view with minimal need for refocus.
- Theia's high quality lenses are compatible with cameras up to **five megapixel** resolution enabling the installer to take advantage of all the pixels megapixel cameras have to offer.
- The SY110 and SL183 series lenses are IR corrected for use with true **Day/Night** cameras. Light from LED illuminators focuses to the same plane as visible light allowing the highest image quality at night without the need to refocus the camera.
- The SY125 series offers the **widest field of view** available, up to 135°, without barrel distortion.
- All lenses are designed for **CS-mount** cameras with image sensor sizes 1/3", 1/2.7" HD, 1/2.5", and 1/2"*. Available in manual and DC autoiris versions.



Lens models	SY125A & SY125M	SY110A & SY110M	SL183A & SL183M
Focal length	1.28mm	1.67mm	1.8-3.0mm
Linear Optical Technology [®]	Yes	Yes	Yes
Field of view	Fixed up to 135°	Fixed up to 120°	Varifocal 116° - 77°
EasyZoom™	n/a	n/a	Yes
Distortion	<3%	<1%	<1%
F/#	F/1.8 to close	F/1.8 to close	F/1.8 to close
IR Correction	No	Day/Night	Day/Night
Lens length	59mm	56mm	49.5mm

* Wide angle image on a 1/2" sensor should be cropped vertically to eliminate dark corners

Telephoto varifocal megapixel lenses

Theia's new SL940 series of lenses provides a combination of features rarely found in other lenses available on the market. The SL940 features include **multi megapixel** resolution, IR correction for use with **Day/Night** cameras, and **compact size** for a telephoto lens. The high quality lenses are compatible with cameras up to five megapixel resolution providing the sharpest image with maximum detail. The high resolution allows the viewer 16X digital zoom capability in addition to the 4.5X optical zoom.

Picture at 9mm



Picture at 40mm



- Theia's SL940 lenses are IR corrected for use with true **Day/Night** cameras. IR and visible light will be focused to a common plane allowing the best image quality during day and night without the need to refocus the camera.
- The lenses support cameras up to **five megapixels** with a crisp image from center to edge and throughout the 4.5X optical zoom range.
- The SL940 series lenses are some of the **shortest** megapixel lenses available at telephoto focal lengths of less than 50mm long allowing them to fit into many 4" minidomes**. As a bonus, the lens is IR corrected, a feature rarely found in other telephoto megapixel lenses even those with longer physical length.
- Designed for **CS-mount** cameras with image sensor sizes 1/3", 1/2.7" HD, 1/2.5", and 1/2"*. Available in manual and DC autoiris versions.

Lens models	SL940A & SL940M
Focal length	9-40mm
Field of view	Varifocal 36° - 7°
F/#	F/1.5 to close
IR Correction	Day/Night
Resolution	Up to 5MPix
Lens length	49.5mm



* Image on a 1/2" sensor should be cropped vertically to eliminate dark corners
 ** Minidome camera must allow for interchangeable CS-mount lens types