



4K Telephoto lenses



Theia's telephoto lenses provides a combination of features rarely found in other lenses available on the market. Our 940 and 1250 series are high performance megapixel 200 and 300 lp/mm resolution lenses providing the sharpest image with maximum detail. They both feature compact size with excellent NIR correction for use with Day/Night and NIR illuminators. The lenses are highly effective in ITS/LPR/ANPR applications.

SL940 at 9mm



SL940 at 40mm



- The lenses support **4K resolution** (up to 300lp/mm and 1.55µ pixel) cameras with a crisp image from center to edge and throughout the optical zoom range.
- Theia's telephoto lenses are corrected for the NIR spectrum for use with true **Day/Night** cameras. NIR (435 to 940nm) 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.
- These telephoto lenses are some of the **most compact** megapixel lenses available at telephoto focal lengths.
- Designed for **CS-mount** cameras, The 940 series is compatible with 1/3", 1/2.7" HD, 1/2.5" and 1/2.3" 4K format sensors. The 1250 series image circle covers 1/1.8" and 1/1.7" 4K format sensors as well.
- Also available in motorized and board mount versions.



Lens models	SL940A	SL940P	SL940M	SL1250A	SL1250P
Iris type	Auto-iris	P-iris	Manual	Auto-iris	P-iris
Mount type	CS	CS	CS	CS	CS
Focal length	9-40mm			12-50mm	
Sensor sizes	up to 1/2.3"			up to 1/1.7"	
Field of view	Varifocal 39° - 9° on 1/2.3" sensor			Varifocal 36° - 8° on 1/1.7" sensor 30° - 7° on 1/2.3" sensor	
Resolution	200 lp/mm			300 lp/mm	
Focus range*	2m to ∞			2m to ∞	
F/#	F/1.5 to close			F/1.8 to close	
IR Correction	From 435-940nm			From 435-940nm	
Lens length	49mm			52mm	

*Minimum object distance may be shortened with extenders



Machine Vision Lenses

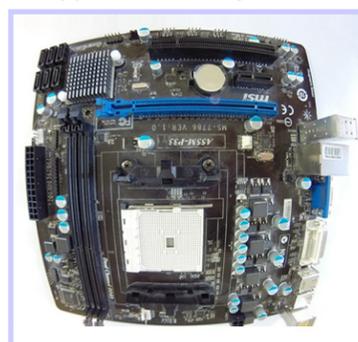


Theia's family of ultra wide field of view megapixel lenses uses our patented **Linear Optical Technology®** to optically correct barrel distortion without the use of de-warping software. The lenses provide the widest field of view available without distortion or the latency inherent with software correction. The ultra wide field of view covers a larger area while keeping straight lines straight.

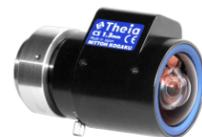
Theia's lens using Linear Optical Technology®



Typical wide angle lens



- Theia's high quality lenses are compatible with cameras **up to 200 lp/mm**.
- The -110, and -183, and -23 series lenses are IR corrected up to 940nm focusing NIR spectrum light to the same plane as visible light for the highest image quality in multi-spectral applications.
- The -125 series offers the **widest field of view** available, up to 135° without barrel distortion.
- All lenses are rugged and have been tested to resist shock and vibration at 20-200Hz at 10G/axis.
- All lenses are designed for **C-mount, CS-mount, and M12 for some models**.



Lens models	SY125A/M	MY125M	MY125M-E*	SY110A/M	MY110A/M	SL183A/M	ML183A/M	MY23F
Iris types	DC Auto/Manual	Manual	Manual	DC Auto/Manual	Manual	DC Auto/Manual	DC Auto/Manual	Fixed
Mount type	CS	C	C	CS	C	CS	C	C/M12
Focal length	1.28mm			1.67mm		1.8-3.0mm		2.3mm
Largest Sensor	1/2.5"			1/2.5"		1/2.3"		1/1.8"
Field of view	Fixed up to 135°			Fixed up to 120°		Varifocal 115° - 88°		116°
Resolution	200 lp/mm			160 lp/mm		200 lp/mm		200 lp/mm
Focus Range	10cm to ∞			20cm to ∞		30cm to ∞		50cm to ∞
Distortion	<3%			<1%		<1%		<1%
F/#	F/1.8 to close			F/1.8 to close		F/1.8 to close		F/2.2
IR Correction	No			435 - 940nm		435-940nm		435 - 940nm
Lens length	59mm			56mm		50mm	45mm	60.8mm
Lens length to mount	58.9mm	53.9mm	55mm	56mm	51mm	49.3mm	44.3mm	44mm

* MY125M-E ruggedized version

Theia's standard focal range lenses provide **true 300 lp/mm**, excellent NIR correction for **multi-spectral imaging**, and **compact size** for very high performance lenses. Their small size allows the lenses to fit in tight envelopes. The lenses have an easy to use focus adjustment ring for simple and precise focusing from 0.5m to infinity. Both lenses offer varifocal flexibility, replacing 3 to 4 prime lenses with a single lens.

- Theia's -410 and ML610 series lenses are IR corrected for use in NIR spectrum from 435 to 940nm without refocusing. IR and visible light will be focused to a common plane allowing the best image quality in multi-spectral applications.
- The lenses are very bright (**fast F/1.4 and F/1.6**) and have great performance in low light scenes. The lenses can be used with WDR cameras without creating distracting ghost images.
- The lenses support cameras with very high resolution (300lp/mm and 1.55μ pixels) using the smaller 1/1.7" or the larger 2/3" sensors.
- The lenses are very **compact**, only 52mm, from the mount <64mm TTL to fit in tight envelopes.
- Designed for **C-mount** cameras; -410 also available in **CS-mount**.
- Available in Manual, DC Auto-iris, and Precise iris (P-iris) versions for some models.
- Also available in motorized and board mount versions.

Picture at 10mm



Lens models	SL410A/P	SL410M	ML410M	ML610M
Iris type	Auto-iris/P-iris	Manual	Manual	Manual
Mount type	CS	CS	C	C
Focal length	4-10mm			6-10mm
Sensor sizes	up to 1/1.7"			up to 2/3"
Field of view	Varifocal 112° - 44° on 1/1.7" sensor			Varifocal 87° - 51° on 2/3" sensor
Resolution	300lp/mm (center)			300lp/mm (center)
F/#	F/1.4			F/1.6
Focus range*	.5m to ∞			.5m to ∞
IR Correction	Yes, 435 to 940nm			Yes, 435 to 940nm
Lens length	<64mm TTL			<64mm TTL

*Minimum object distance may be shortened with extenders