

IP/CCTV LENSES

- Mega-Pixel Vari-Focal Lenses
- Vari-Focal Lenses
- Fixed-Focal Lenses
- Zoom Lenses
- Mega-Pixel Machine Vision Lenses
- Machine Vision Lenses
- Accessories / Terminology Explanations



Caution: Please read the instruction manual carefully before using the lens.

TAMRON

Manufacturer of precise and sophisticated optical products
for a broad range of industries.

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Management on Quality and Environment

Tamron is certified with international standards: ISO 9001 for quality and ISO14001 for environmental management at its headquarters, domestic sales offices, China plant as well as three production facilities in Aomori, Japan, and is fully committed to striving for continued and sustainable improvement at all levels and facets of its business operations.

Vari-Focal lenses are constantly evolving together with Tamron, the optical equipment specialist

Tamron has consistently developed innovative Vari-Focal lenses compatible with the needs of a market that is accelerating towards increasingly sophisticated, ever more compact IP networks.

Images are all about “resolution”. High-quality products that refuse to compromise are the result of an unrelenting commitment to high resolution coupled with unsurpassed technological capabilities.

Offering high-resolution that is both durable and versatile, Tamron’s products enjoy worldwide success.

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Products and Features

Mega-Pixel Vari-Focal Lenses

Ultra-high-resolution vari-focal lenses deliver maximum performance for mega-pixel cameras. Innovative optical technology provides high-resolution and high-contrast performance.

Flat-Field Mega-Pixel Lenses



Delivering uniformly ultra-high-resolution image from corner to periphery

The Tamron Flat-Field Mega-Pixel Lens Series delivers mega-pixel image quality not only in the center but also in the corners of the image field, providing the mega-pixel resolution quality needed for image cropping and enlarging, irrespective of the location of the subject on the screen. This ensures that subject faces and other relevant information can be clearly identified and distinguished, making the Tamron Flat-Field Mega-Pixel Lenses an ideal solution for high-resolution network surveillance applications. In fact all lenses of the Tamron Mega-Pixel Lens Series lineup deliver Flat-Field Mega-Pixel resolution.



Mega-Pixel Key Technologies

These Technologies Unfold the Mega-Pixel Cameras True Powers

< M118VM413IRCS, M118VM413IR, M118VG413IRCS, M118VG413IR, M118VP413IRCS, M118VP413IR, M118VG1250IR, M118VP1250IR, M13VG2713IR, M13VM288IR, M13VG288IR, M13VP288IR, M13VG2812IR, M13VG850IR, M13VP850IR, M13VG550IR, M13VM246, M13VG246, M13VM308, M13VG308, M13VM550, M13VG550, M12VM412, M12VG412 >

Each lens in Tamron's Mega-Pixel Vari-Focal Lens Series uses Aspherical elements to minimize optical aberrations and ensures high optical quality while maintaining a compact form employing innovative optical technologies. These lenses deliver high-resolution and high-contrast images that are sharp from the center to the periphery of the image field and represent the ideal solution for applications that use high-quality mega-pixel cameras.

Compensation made possible by Aspherical lens



Vari-Focal Lenses

Through the beneficial employment of aspherical elements, Tamron manufactured a superior line of Vari-Focal lenses featuring fast maximum apertures, high magnification ratios compactness and uncompromised optical quality.



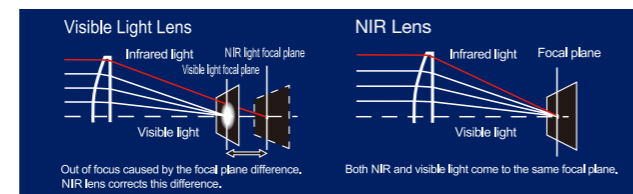
Wide Dynamic Range

The standard 3.0-8mm Vari-Focal lens for the 1/3" format, which meets the needs of the most frequent job applications, offers an impressive maximum open aperture of F/1.0 and F/360 minimum aperture. This wide dynamic range increases the versatility of this lens since it can be used in situations where light conditions are extreme or ever-changing.



Compatible NIR (Near-IR) *Only supported by NIR Lenses

The Tamron NIR lens series is designed to minimize focus shift in the NIR range by expanding chromatic aberration compensation to include both daylight and the NIR ranges. The lens therefore unfolds its power in 24-hour around-the-clock surveillance, when combined with a day/night camera.



Fixed-Focal Lenses

A complete series of 1/3" format Fixed-Focal Lenses from 2.2mm super wide angle (118.6°) to 8mm (34.5°).



Compatible NIR (Near-IR)

Tamron's 1/3" format 2.2mm, 2.8mm, 4mm, 6mm and 8mm lenses are precisely compatible with day/night cameras since their chromatic aberration compensation is expanded to the NIR range.

Zoom Lenses

Tamron's motorized zoom lenses are designed with durability and reliability in mind.



Mega-Pixel Machine Vision Lenses

Tamron's high-resolution line-up of lenses is most suitable for such applications as FA (Factory Automation), Machine Vision, etc., where high image quality is essential. Tamron has a complete line-up of lenses that are perfectly compatible with cameras featuring mega-pixel imagers.

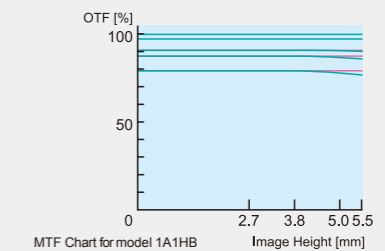


Minimized Distortion

Distortion, the most formidable enemy in image processing, is thoroughly compensated for, thereby reducing distortion in images to the absolute minimum. As a result, Tamron's High-Resolution Lenses provide stabilized high-performance in the field of precise measuring.

High-Resolution Extending to the Periphery

Various optical aberrations are compensated for to the absolute minimum in order to maintain high-resolution not only in the center of an image but also to its periphery.



Solid and Robust Mechanism

So as to endure the vibrations of FA and Machine Vision apparatus, where lenses are built in, Tamron's High-Resolution Lenses all feature solid and robust mechanisms. This makes it possible to maintain their finest initial performances even after long periods of use.

Locking Mechanisms

Each of the lenses is available with locking mechanisms for the iris and focusing controls, making their use ideal in environment suffering from significant vibrations.

Compact Design

In consideration of using the lenses with FA and Machine Vision, all of the lenses in each series provide compact chassis and the external dimensions and filter sizes are unified.

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Zoom Lenses
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Machine Vision Lenses
Accessories /
Terminology Explanation

Focal Length List



| Model | page | 2.2mm | 2.4mm | 2.8mm | 5mm | 8mm | 12mm | 50mm | 100mm |
|--------------------|----------------|-------|-------|-------|-----|-----|------|------|-------|
| 5MP | M118VM413IRCS | 8 | | | | | | | |
| | M118VM413IR | 8 | | | | | | | |
| | M118VG413IRCS | 8 | | | | | | | |
| | M118VG413IR | 9 | | | | | | | |
| | M118VP413IRCS | 10 | | | | | | | |
| | M118VP413IR | 10 | | | | | | | |
| | M118VG1250IR | 8 | | | | | | | |
| | M118VP1250IR | 10 | | | | | | | |
| 3MP | M13VG2713IR | 9 | | | | | | | |
| | M13VG2812IR | 9 | | | | | | | |
| | M13VM288IR | 8 | | | | | | | |
| | M13VG288IR | 9 | | | | | | | |
| | M13VP288IR | 10 | | | | | | | |
| | M13VG850IR | 10 | | | | | | | |
| | M13VP850IR | 11 | | | | | | | |
| | M13VG550IR | 9 | | | | | | | |
| | M13VM246 | 11 | | | | | | | |
| | M13VG246 | 12 | | | | | | | |
| 2MP | M13VM308 | 11 | | | | | | | |
| | M13VG308 | 12 | | | | | | | |
| | M12VM412 | 11 | | | | | | | |
| | M12VG412 | 12 | | | | | | | |
| | M13VM550 | 11 | | | | | | | |
| | M13VG550 | 12 | | | | | | | |
| | M13VG2812ASII | 15 | | | | | | | |
| Virt-Focal Lenses | M13VG2811ASIR | 14 | | | | | | | |
| | M13VM308ASIRII | 13 | | | | | | | |
| | M13VG308ASIRII | 14 | | | | | | | |
| | M12VM412ASIR | 13 | | | | | | | |
| | M12VG412ASIR | 14 | | | | | | | |
| | M13VM550ASII | 15 | | | | | | | |
| | M13VG550ASII | 15 | | | | | | | |
| | M13VM1040ASIR | 13 | | | | | | | |
| | M13VG1040ASIR | 14 | | | | | | | |
| | M12VM1040ASIR | 13 | | | | | | | |
| Fixed-Focal Lenses | M12VG1040ASIR | 14 | | | | | | | |
| | M13VM20100AS | 15 | | | | | | | |
| | M13VG20100AS | 15 | | | | | | | |
| | M13FM22IR | 16 | | | | | | | |
| | M13FG22IR | 17 | | | | | | | |
| | M13FM28IR | 16 | | | | | | | |
| | M13FG28IR | 17 | | | | | | | |
| | M13FM04IR | 16 | | | | | | | |
| M13FG04IR | 17 | | | | | | | | |
| M13FM06IR | 16 | | | | | | | | |
| M13FG06IR | 17 | | | | | | | | |
| M13FM08IR | 16 | | | | | | | | |
| M13FG08IR | 17 | | | | | | | | |

FFMP Flat-Field Mega-Pixel
 Full HD Full High Definition
 HD High Definition
 SD Standard Definition
 IR NIR (Near-IR)

2.5µm Supports 2.5µm Sensor
 3.1µm Supports 3.1µm Sensor
 3.5µm Supports 3.5µm Sensor
 4.0µm Supports 4.0µm Sensor
 5.86µm Supports 5.86µm Sensor

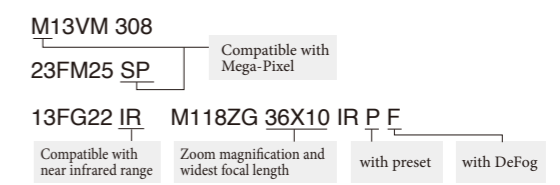
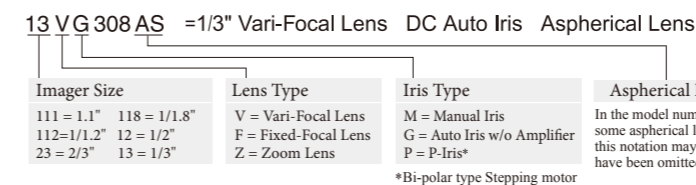
*Angle of view images are illustrative examples.



| Model | page | 2.2mm | 2.4mm | 2.8mm | 5mm | 8mm | 12mm | 50mm | 100mm |
|----------------------------------|-----------------|-------|-------|-------|-----|-----|------|------|-------|
| Zoom Lenses | M118ZG36X10IRP | 18 | | | | | | | |
| | M118ZG36X10IRPF | 18 | | | | | | | |
| | M12ZG34X15IRPF | 18 | | | | | | | |
| Mega-Pixel Machine Vision Lenses | M111FM08 | 20 | | | | | | | |
| | M111FM16 | 20 | | | | | | | |
| | M111FM25 | 20 | | | | | | | |
| | M111FM50 | 20 | | | | | | | |
| | M112FM08 | 21 | | | | | | | |
| | M112FM12 | 21 | | | | | | | |
| | M112FM16 | 21 | | | | | | | |
| | M112FM25 | 21 | | | | | | | |
| | M112FM35 | 22 | | | | | | | |
| | M112FM50 | 22 | | | | | | | |
| | M112FM75 | 22 | | | | | | | |
| | M23FM06 | 23 | | | | | | | |
| | M23FM08 | 23 | | | | | | | |
| | M23FM12 | 23 | | | | | | | |
| | M23FM16 | 23 | | | | | | | |
| | M23FM25 | 23 | | | | | | | |
| | M23FM35 | 24 | | | | | | | |
| | M23FM50 | 24 | | | | | | | |
| | M118FM06 | 25 | | | | | | | |
| | M118FM08 | 25 | | | | | | | |
| | M118FM12 | 25 | | | | | | | |
| | M118FM16 | 25 | | | | | | | |
| | M118FM25 | 25 | | | | | | | |
| M118FM50 | 25 | | | | | | | | |
| 23FM16SP | 24 | | | | | | | | |
| 23FM25SP | 24 | | | | | | | | |
| 23FM50SP | 24 | | | | | | | | |
| Machine Vision Lenses | 22HA | 26 | | | | | | | |
| | 219HB | 26 | | | | | | | |
| | 25HA | 26 | | | | | | | |
| | 25HB | 26 | | | | | | | |
| | 17HD | 27 | | | | | | | |
| | 17HF | 27 | | | | | | | |
| | 20HA | 27 | | | | | | | |
| | 20HC | 27 | | | | | | | |
| | 35HB | 28 | | | | | | | |
| | 21HA | 28 | | | | | | | |
| | 21HC | 28 | | | | | | | |
| | 1A1HB | 28 | | | | | | | |

Model Explanation | Tamron IP / CCTV lens model numbers are very simple. Please see the following explanation of model number nomenclature.

Model Explanation



The Double Vari-Focal solution. Cover all focal lengths from wide to tele with 3-Mega-Pixel resolution using just 2 lenses.

The new IR-corrected Mega-Pixel lens series from Tamron features a focal length range of 2.8 to 50mm in just two lenses covering 124.3° to 6.7° horizontal field of view with use of a 1/2.7" camera. A new optical design uses glass mold aspherical lens elements and a special optical coating that ensures 3MP high resolution even under IR light and a clear image.




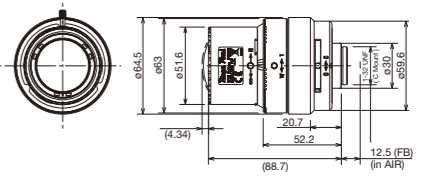
Model: M13VG288IR
1/2.7" 2.8-8mm F/1.2

Model: M13VG850IR
1/2.7" 8-50mm F/1.6


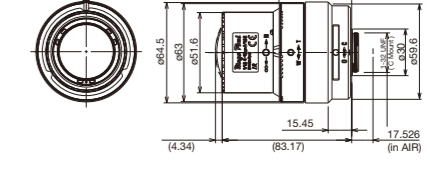
Mega-Pixel Vari-Focal Lenses Day / Night

Manual Iris


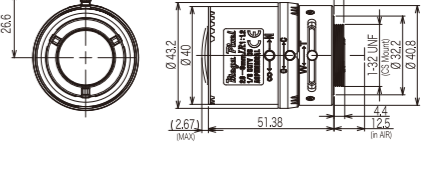
M118VM413IRCS FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

| | | | | | |
|---|---|---------------|----------------|------------------|---|
| 5MP  | Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| | Mount Type | CS | | Zoom | Manual with Lock |
| | Focal Length | 4.0 - 13mm | Iris | Manual with Lock |  |
| | Aperture Range | F/1.5 - Close | Overall Length | 98mm | |
| | Zoom Ratio | ×3.2 | Weight | 172g | |
| | Focus Range | 0.3m - ∞ | Remarks | RoHS | |
| | Field of View Angle (Horizontal × Vertical) | 1/1.8W | | | |
| | | 1/1.8T | | | 33.0°×24.8° |
| | | 1/2W | | | 91.7°×67.9° |
| | | 1/2T | | | 29.0°×21.8° |
| 1/3W | | 67.9°×50.6° | | | |

M118VM413IR FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3


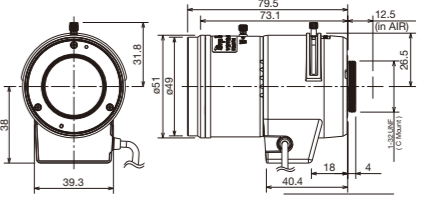
| | | | | | |
|---|---|---------------|----------------|------------------|---|
| 5MP  | Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Zoom | Manual with Lock |
| | Focal Length | 4.0 - 13mm | Iris | Manual with Lock |  |
| | Aperture Range | F/1.5 - Close | Overall Length | 92mm | |
| | Zoom Ratio | ×3.2 | Weight | 167g | |
| | Focus Range | 0.3m - ∞ | Remarks | RoHS | |
| | Field of View Angle (Horizontal × Vertical) | 1/1.8W | | | |
| | | 1/1.8T | | | 33.0°×24.8° |
| | | 1/2W | | | 91.7°×67.9° |
| | | 1/2T | | | 29.0°×21.8° |
| 1/3W | | 67.9°×50.6° | | | |

M13VM288IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4


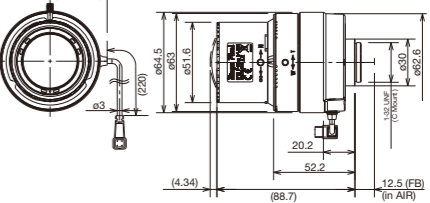
| | | | | | |
|---|---|---------------|----------------|------------------|---|
| 3MP  | Imager Size | 1/2.7 | Operation | Focus | Manual with Lock |
| | Mount Type | CS | | Zoom | Manual with Lock |
| | Focal Length | 2.8 - 8mm | Iris | Manual with Lock |  |
| | Aperture Range | F/1.2 - Close | Overall Length | 58mm | |
| | Zoom Ratio | ×2.8 | Weight | 61g | |
| | Focus Range | 0.3m - ∞ | Remarks | RoHS | |
| | Field of View Angle (Horizontal × Vertical) | 1/2.7W | | | |
| | | 1/2.7T | | | 43.0°×24.2° |
| | | 1/3W | | | 100.1°×72.9° |
| | | 1/3T | | | 35.8°×26.8° |
| 1/4W | | 72.9°×53.9° | | | |

DC Auto Iris

M118VG1250IR FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

| | | | | | |
|---|---|---------------|-------------------|-------------------------|---|
| 5MP  | Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| | Mount Type | CS | | Zoom | Manual with Lock |
| | Focal Length | 12 - 50mm | Iris | DC Auto Iris |  |
| | Aperture Range | F/1.4 - F/360 | Operating Voltage | Open 4.0V Close 0.5V | |
| | Zoom Ratio | ×4.1 | Overall Length | 84mm | |
| | Focus Range | 1.0m - ∞ | Weight | 130g | |
| | Field of View Angle (Horizontal × Vertical) | 1/1.8W | 34.0°×25.5° | Remarks | |
| | | 1/1.8T | 8.5°×6.4° | | |
| | | 1/2W | 29.9°×22.4° | | |
| | | 1/2T | 7.5°×5.6° | | |
| 1/3W | | 22.4°×16.8° | | | |

M118VG413IRCS FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

| | | | | | |
|---|---|---------------|-------------------|-------------------------|---|
| 5MP  | Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| | Mount Type | CS | | Zoom | Manual with Lock |
| | Focal Length | 4.0 - 13mm | Iris | DC Auto Iris |  |
| | Aperture Range | F/1.5 - Close | Operating Voltage | Open 3.0V Close 0.5V | |
| | Zoom Ratio | ×3.2 | Overall Length | 98mm | |
| | Focus Range | 0.3m - ∞ | Weight | 172g | |
| | Field of View Angle (Horizontal × Vertical) | 1/1.8W | 105.4°×77.6° | Remarks | |
| | | 1/1.8T | 33.0°×24.8° | | |
| | | 1/2W | 91.7°×67.9° | | |
| | | 1/2T | 29.0°×21.8° | | |
| 1/3W | | 67.9°×50.6° | | | |

Mega-Pixel Vari-Focal Lenses Day / Night

DC Auto Iris

M118VG413IR FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

5MP

| | | | | |
|---|---------------|-------------------|------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | C | Operation | Zoom | Manual with Lock |
| Focal Length | 4.0 - 13mm | Operating Voltage | Iris | DC Auto Iris |
| Aperture Range | F/1.5 - Close | Operating Voltage | Open 3.0V | Close 0.7V |
| Zoom Ratio | ×3.2 | Overall Length | 92mm | |
| Focus Range | 0.3m - ∞ | Weight | 167g | |
| Field of View Angle (Horizontal × Vertical) | 1/1.8W | 105.4°×77.6° | Remarks | RoHS |
| | 1/1.8T | 33.0°×24.8° | | |
| | 1/2W | 91.7°×67.9° | | |
| | 1/2T | 29.0°×21.8° | | |
| | 1/3T | 21.8°×16.3° | | |

M13VG2713IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4

3MP

| | | | | |
|---|-------------|-------------------|------------|------------------|
| Imager Size | 1/2.7 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 2.7 - 13mm | Operating Voltage | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | Operating Voltage | Open 4.0V | Close 0.5V |
| Zoom Ratio | ×4.8 | Overall Length | 71mm | |
| Focus Range | 0.3m - ∞ | Weight | 90g | |
| Field of View Angle (Horizontal × Vertical) | 1/2.7W | 125.1°×66.1° | Remarks | RoHS |
| | 1/2.7T | 26.7°×15.2° | | |
| | 1/3W | 101.1°×73.9° | | |
| | 1/3T | 22.3°×16.8° | | |
| | | | | |

M13VG288IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4

3MP

| | | | | |
|---|-------------|-------------------|------------|------------------|
| Imager Size | 1/2.7 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 2.8 - 8mm | Operating Voltage | Iris | DC Auto Iris |
| Aperture Range | F/1.2 - 360 | Operating Voltage | Open 4.0V | Close 0.7V |
| Zoom Ratio | ×2.8 | Overall Length | 58mm | |
| Focus Range | 0.3m - ∞ | Weight | 70g | |
| Field of View Angle (Horizontal × Vertical) | 1/2.7W | 124.3°×65.2° | Remarks | RoHS |
| | 1/2.7T | 43.0°×24.2° | | |
| | 1/3W | 100.1°×72.9° | | |
| | 1/3T | 35.8°×26.8° | | |
| | 1/4W | 72.9°×53.9° | | |

M13VG2812IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4

3MP

| | | | | |
|---|-------------|-------------------|------------|------------------|
| Imager Size | 1/2.7 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 2.8 - 12mm | Operating Voltage | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | Operating Voltage | Open 4.0V | Close 0.5V |
| Zoom Ratio | ×4.2 | Overall Length | 72mm | |
| Focus Range | 0.3m - ∞ | Weight | 70g | |
| Field of View Angle (Horizontal × Vertical) | 1/2.7W | 107°×79.3° | Remarks | RoHS |
| | 1/2.7T | 26.4°×19.8° | | |
| | 1/3W | 96.8°×71.6° | | |
| | 1/3T | 24.0°×18.0° | | |
| | 1/4W | 71.6°×53.4° | | |

M13VG550IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4

2MP

| | | | | |
|---|-------------|-------------------|------------|------------------|
| Imager Size | 1/3 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 5 - 50mm | Operating Voltage | Iris | DC Auto Iris |
| Aperture Range | F/1.6 - 360 | Operating Voltage | Open 4.0V | Close 0.5V |
| Zoom Ratio | ×10 | Overall Length | 81mm | |
| Focus Range | 1.0m - ∞ | Weight | 104g | |
| Field of View Angle (Horizontal × Vertical) | 1/3W | 53°×40° | Remarks | RoHS |
| | 1/3T | 5.6°×4.2° | | |
| | 1/4W | 40°×30° | | |
| | 1/4T | 4.2°×3.2° | | |

DC Auto Iris

M13VG850IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4

3MP

| | | | | |
|---|-------------|-------------------|------------|------------------|
| Imager Size | 1/2.7 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 8 - 50mm | Operating Voltage | Iris | DC Auto Iris |
| Aperture Range | F/1.6 - 360 | Operating Voltage | Open 4.0V | Close 0.5V |
| Zoom Ratio | ×6.2 | Overall Length | 78mm | |
| Focus Range | 2.0m - ∞ | Weight | 106g | |
| Field of View Angle (Horizontal × Vertical) | 1/2.7W | 40.2°×22.6° | Remarks | RoHS |
| | 1/2.7T | 6.6°×3.8° | | |
| | 1/3W | 33.5°×25.1° | | |
| | 1/3T | 5.6°×4.2° | | |
| | 1/4W | 25.1°×18.8° | | |

P-Iris*

*Bi-polar type Stepping motor

M118VP1250IR FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

5MP

| | | | | |
|---|---------------|-------------------|-------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 12 - 50mm | Operating Voltage | Iris | P-Iris |
| Aperture Range | F/1.4 - Close | Operating Voltage | Open 3 - 5V | Close 0.5V |
| Zoom Ratio | ×4.1 | Overall Length | 84mm | |
| Focus Range | 1.0m - ∞ | Weight | 128g | |
| Field of View Angle (Horizontal × Vertical) | 1/1.8W | 34.0°×25.5° | Remarks | RoHS |
| | 1/1.8T | 8.5°×6.4° | | |
| | 1/2W | 29.9°×22.4° | | |
| | 1/2T | 7.5°×5.6° | | |
| | 1/3W | 22.4°×16.8° | | |

M118VP413IRCS FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

5MP

| | | | | |
|---|---------------|-------------------|-------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 4.0 - 13mm | Operating Voltage | Iris | P-Iris |
| Aperture Range | F/1.5 - Close | Operating Voltage | Open 3 - 5V | Close 0.5V |
| Zoom Ratio | ×3.2 | Overall Length | 98mm | |
| Focus Range | 0.3m - ∞ | Weight | 172g | |
| Field of View Angle (Horizontal × Vertical) | 1/1.8W | 105.4°×77.6° | Remarks | RoHS |
| | 1/1.8T | 33.0°×24.8° | | |
| | 1/2W | 91.7°×67.9° | | |
| | 1/2T | 29.0°×21.8° | | |
| | 1/3T | 21.8°×16.3° | | |

M118VP413IR FFMP Full HD IR ASL Imager Size 2/3 1/1.8 1/2 1/3

5MP

| | | | | |
|---|---------------|-------------------|-------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | C | Operation | Zoom | Manual with Lock |
| Focal Length | 4.0 - 13mm | Operating Voltage | Iris | P-Iris |
| Aperture Range | F/1.5 - Close | Operating Voltage | Open 3 - 5V | Close 0.5V |
| Zoom Ratio | ×3.2 | Overall Length | 92mm | |
| Focus Range | 0.3m - ∞ | Weight | 167g | |
| Field of View Angle (Horizontal × Vertical) | 1/1.8W | 105.4°×77.6° | Remarks | RoHS |
| | 1/1.8T | 33.0°×24.8° | | |
| | 1/2W | 91.7°×67.9° | | |
| | 1/2T | 29.0°×21.8° | | |
| | 1/3T | 21.8°×16.3° | | |

M13VP288IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4


3MP

| | | | | |
|---|---------------|-------------------|-------------|------------------|
| Imager Size | 1/2.7 | Operation | Focus Zoom | Manual with Lock |
| Mount Type | CS | Operation | Zoom | Manual with Lock |
| Focal Length | 2.8 - 8mm | Operating Voltage | Iris | P-Iris |
| Aperture Range | F/1.2 - Close | Operating Voltage | Open 3 - 5V | Close 0.5V |
| Zoom Ratio | ×2.8 | Overall Length | 58mm | |
| Focus Range | 0.3m - ∞ | Weight | 68g | |
| Field of View Angle (Horizontal × Vertical) | 1/2.7W | 124.3°×65.2° | Remarks | RoHS |
| | 1/2.7T | 43.0°×24.2° | | |
| | 1/3W | 100.1°×72.9° | | |
| | 1/3T | 35.8°×26.8° | | |
| | 1/4W | 72.9°×53.9° | | |

Mega-Pixel Vari-Focal Lenses

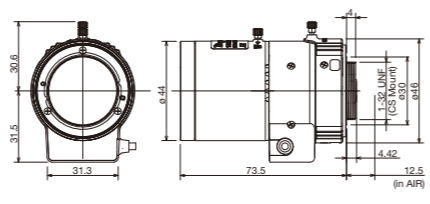
P-Iris *Bi-polar type Stepping motor Day / Night

M13VP850IR FFMP Full HD IR ASL Imager Size 2/3 1/2.7 1/3 1/4



3MP


| | | | | |
|---|---------------|-------------------|-------|------------------|
| Imager Size | 1/2.7 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 8 - 50mm | | Iris | P-Iris |
| Aperture Range | F/1.6 - Close | Operating Voltage | | 3 - 5V |
| Zoom Ratio | ×6.2 | Overall Length | | 78mm |
| Focus Range | 2.0m - ∞ | Weight | | 106g |
| Field of View Angle (Horizontal × Vertical) | | Remarks | | RoHS |
| 1/2.7W | 40.2°×22.6° | | | |
| 1/2.7T | 6.6°×3.8° | | | |
| 1/3 W | 33.5°×25.1° | | | |
| 1/3 T | 5.6°×4.2° | | | |
| 1/4 W | 25.1°×18.8° | | | |
| 1/4 T | 4.2°×3.2° | | | |



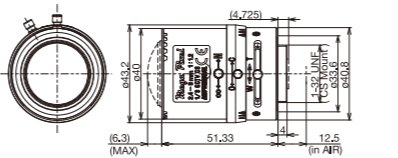
Connecting the lens to a camera that does not support P-Iris may cause a malfunction. The lens cannot be connected to cameras that use DC auto iris or video auto iris lenses.

Manual Iris


M13VM246 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



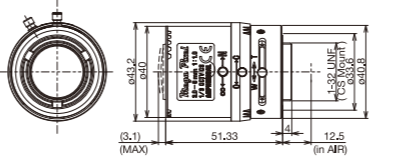
| | | | | |
|---|---------------|----------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 2.4 - 6mm | | Iris | Manual with Lock |
| Aperture Range | F/1.2 - close | Overall Length | | 62mm |
| Zoom Ratio | ×2.5 | Weight | | 65g |
| Focus Range | 0.3m - ∞ | Remarks | | RoHS |
| Field of View Angle (Horizontal × Vertical) | | | | |
| 1/3 W | 111.3°×83.5° | | | |
| 1/3 T | 47.1°×35.4° | | | |
| 1/4 W | 83.5°×62.6° | | | |
| 1/4 T | 35.4°×26.6° | | | |




M13VM308 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



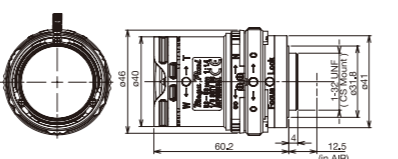
| | | | | |
|---|---------------|----------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 3.0 - 8mm | | Iris | Manual with Lock |
| Aperture Range | F/1.0 - Close | Overall Length | | 58mm |
| Zoom Ratio | ×2.6 | Weight | | 65g |
| Focus Range | 0.3m - ∞ | Remarks | | RoHS |
| Field of View Angle (Horizontal × Vertical) | | | | |
| 1/3 W | 92.5°×68.2° | | | |
| 1/3 T | 35.4°×26.5° | | | |
| 1/4 W | 68.2°×50.6° | | | |
| 1/4 T | 26.5°×19.9° | | | |




M13VM550 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



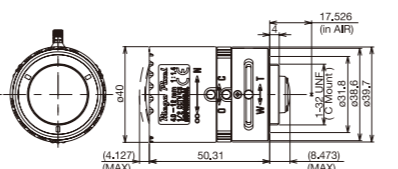
| | | | | |
|---|---------------|----------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 5 - 50mm | | Iris | Manual with Lock |
| Aperture Range | F/1.4 - Close | Overall Length | | 64mm |
| Zoom Ratio | ×10 | Weight | | 64g |
| Focus Range | 1m - ∞ | Remarks | | RoHS |
| Field of View Angle (Horizontal × Vertical) | | | | |
| 1/3 W | 53.8°×40.3° | | | |
| 1/3 T | 5.5°×4.2° | | | |
| 1/4 W | 40.3°×30.2° | | | |
| 1/4 T | 4.2°×3.1° | | | |



M12VM412 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4




| | | | | |
|---|---------------|----------------|-------|------------------|
| Imager Size | 1/2 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Zoom | Manual with Lock |
| Focal Length | 4.0 - 12mm | | Iris | Manual with Lock |
| Aperture Range | F/1.4 - Close | Overall Length | | 63mm |
| Zoom Ratio | ×3 | Weight | | 58g |
| Focus Range | 0.3m - ∞ | Remarks | | RoHS |
| Field of View Angle (Horizontal × Vertical) | | | | |
| 1/2 W | 93.9°×68.8° | | | |
| 1/2 T | 31.4°×23.6° | | | |
| 1/3 W | 68.8°×51.0° | | | |
| 1/3 T | 23.6°×17.7° | | | |

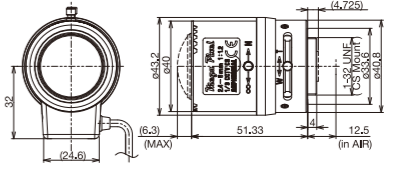


DC Auto Iris


M13VG246 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



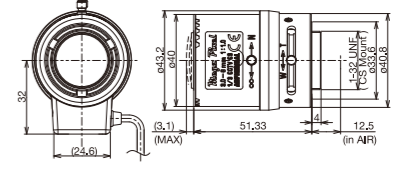
| | | | | |
|---|--------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 2.4 - 6mm | | Iris | DC Auto Iris |
| Aperture Range | F/1.2 - 360 | Operating Voltage | | Open 4.0V |
| Zoom Ratio | ×2.5 | Close | | 0.7V |
| Focus Range | 0.3m - ∞ | Overall Length | | 62mm |
| Field of View Angle (Horizontal × Vertical) | | Weight | | 75g |
| 1/3 W | 111.3°×83.5° | Remarks | | RoHS |
| 1/3 T | 47.1°×35.4° | | | |
| 1/4 W | 83.5°×62.6° | | | |
| 1/4 T | 35.4°×26.6° | | | |




M13VG308 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



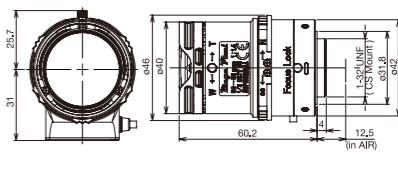
| | | | | |
|---|-------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 3.0 - 8mm | | Iris | DC Auto Iris |
| Aperture Range | F/1.0 - 360 | Operating Voltage | | Open 4.0V |
| Zoom Ratio | ×2.6 | Close | | 0.7V |
| Focus Range | 0.3m - ∞ | Overall Length | | 58mm |
| Field of View Angle (Horizontal × Vertical) | | Weight | | 75g |
| 1/3 W | 92.5°×68.2° | Remarks | | RoHS |
| 1/3 T | 35.4°×26.5° | | | |
| 1/4 W | 68.2°×50.6° | | | |
| 1/4 T | 26.5°×19.9° | | | |




M13VG550 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



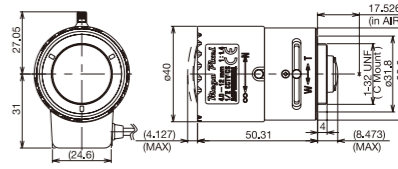
| | | | | |
|---|-------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Zoom | Manual with Lock |
| Focal Length | 5 - 50mm | | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | Operating Voltage | | Open 4.0V |
| Zoom Ratio | ×10 | Close | | 0.7V |
| Focus Range | 1m - ∞ | Overall Length | | 64mm |
| Field of View Angle (Horizontal × Vertical) | | Weight | | 77g |
| 1/3 W | 53.8°×40.3° | Remarks | | RoHS |
| 1/3 T | 5.5°×4.2° | | | |
| 1/4 W | 40.3°×30.2° | | | |
| 1/4 T | 4.2°×3.1° | | | |



M12VG412 FFMP HD ASL Imager Size 2/3 1/2 1/3 1/4



| | | | | |
|---|-------------|-------------------|-------|------------------|
| Imager Size | 1/2 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Zoom | Manual with Lock |
| Focal Length | 4.0 - 12mm | | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | Operating Voltage | | Open 3.0V |
| Zoom Ratio | ×3 | Close | | 0.5V |
| Focus Range | 0.3m - ∞ | Overall Length | | 63mm |
| Field of View Angle (Horizontal × Vertical) | | Weight | | 69g |
| 1/2 W | 93.9°×68.8° | Remarks | | RoHS |
| 1/2 T | 31.4°×23.6° | | | |
| 1/3 W | 68.8°×51.0° | | | |
| 1/3 T | 23.6°×17.7° | | | |

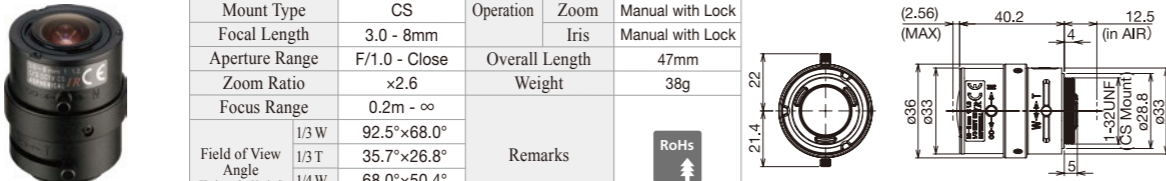


Vari-Focal Lenses Day / Night

Manual Iris

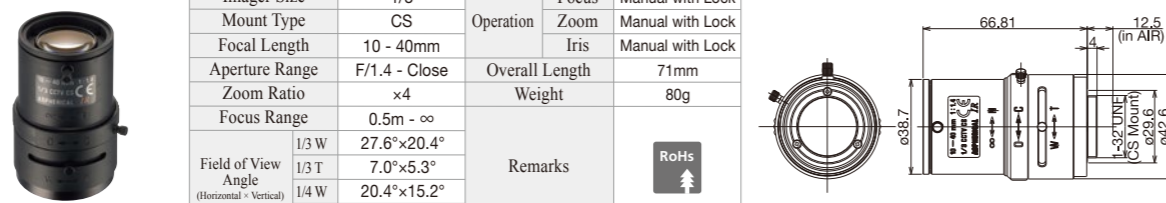
13VM308ASIRII SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|---------------|----------------|--------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| | Mount Type | | CS | Zoom |
| Focal Length | 3.0 - 8mm | Overall Length | Iris | Manual with Lock |
| Aperture Range | F/1.0 - Close | | Weight | 47mm |
| Zoom Ratio | ×2.6 | Remarks | RoHS | |
| Focus Range | 0.2m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 92.5°×68.0° | | |
| | 1/3 T | 35.7°×26.8° | | |
| | 1/4 W | 68.0°×50.4° | | |
| | 1/4 T | 26.8°×20.1° | | |



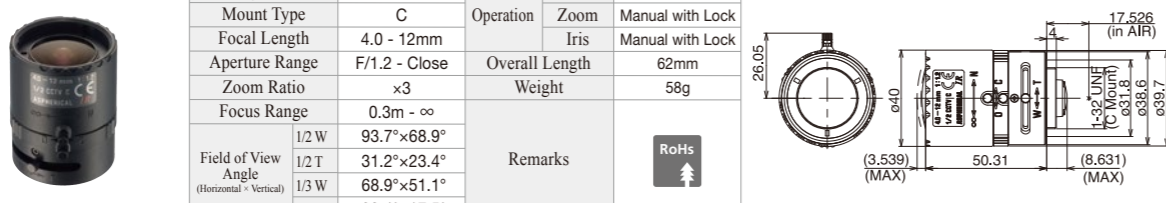
13VM1040ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|---------------|----------------|--------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| | Mount Type | | CS | Zoom |
| Focal Length | 10 - 40mm | Overall Length | Iris | Manual with Lock |
| Aperture Range | F/1.4 - Close | | Weight | 71mm |
| Zoom Ratio | ×4 | Remarks | RoHS | |
| Focus Range | 0.5m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 27.6°×20.4° | | |
| | 1/3 T | 7.0°×5.3° | | |
| | 1/4 W | 20.4°×15.2° | | |
| | 1/4 T | 5.2°×3.9° | | |



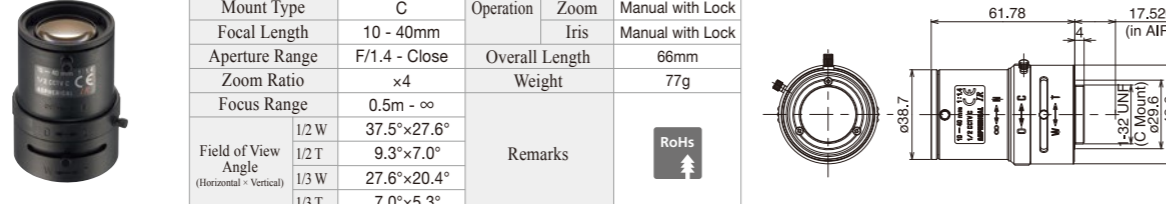
12VM412ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|---------------|----------------|--------|------------------|
| Imager Size | 1/2 | Operation | Focus | Manual with Lock |
| | Mount Type | | C | Zoom |
| Focal Length | 4.0 - 12mm | Overall Length | Iris | Manual with Lock |
| Aperture Range | F/1.2 - Close | | Weight | 62mm |
| Zoom Ratio | ×3 | Remarks | RoHS | |
| Focus Range | 0.3m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/2 W | 93.7°×68.9° | | |
| | 1/2 T | 31.2°×23.4° | | |
| | 1/3 W | 68.9°×51.1° | | |
| | 1/3 T | 23.4°×17.5° | | |



12VM1040ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

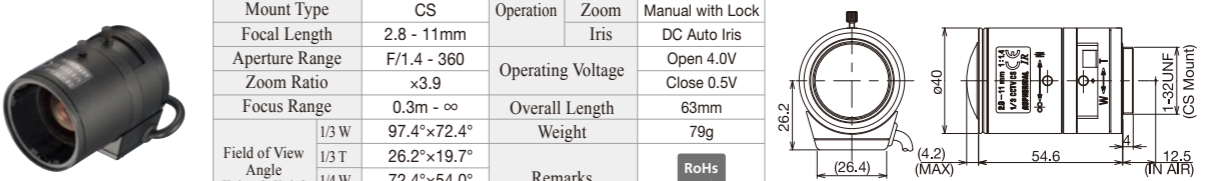
| | | | | |
|--|---------------|----------------|--------|------------------|
| Imager Size | 1/2 | Operation | Focus | Manual with Lock |
| | Mount Type | | C | Zoom |
| Focal Length | 10 - 40mm | Overall Length | Iris | Manual with Lock |
| Aperture Range | F/1.4 - Close | | Weight | 66mm |
| Zoom Ratio | ×4 | Remarks | RoHS | |
| Focus Range | 0.5m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/2 W | 37.5°×27.6° | | |
| | 1/2 T | 9.3°×7.0° | | |
| | 1/3 W | 27.6°×20.4° | | |
| | 1/3 T | 7.0°×5.3° | | |



DC Auto Iris

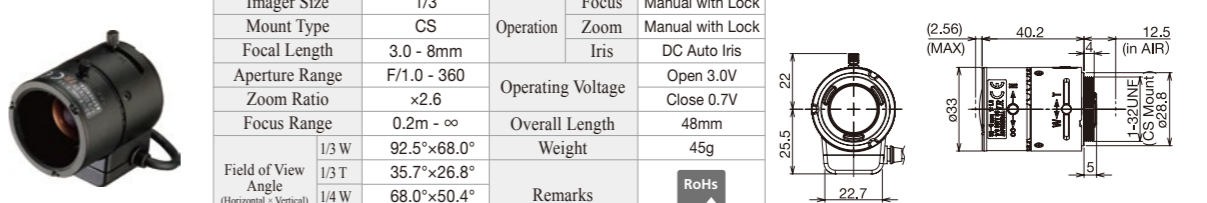
13VG2811ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|-------------|----------------|--------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| | Mount Type | | CS | Zoom |
| Focal Length | 2.8 - 11mm | Overall Length | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | | Weight | 63mm |
| Zoom Ratio | ×3.9 | Remarks | RoHS | |
| Focus Range | 0.3m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 97.4°×72.4° | | |
| | 1/3 T | 26.2°×19.7° | | |
| | 1/4 W | 72.4°×54.0° | | |
| | 1/4 T | 19.7°×14.7° | | |



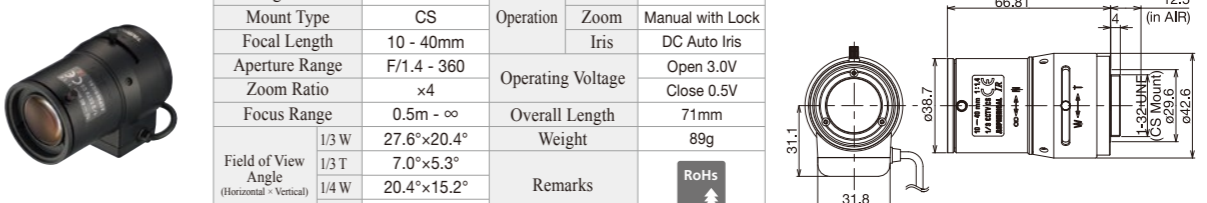
13VG308ASIRII SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|-------------|----------------|--------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| | Mount Type | | CS | Zoom |
| Focal Length | 3.0 - 8mm | Overall Length | Iris | DC Auto Iris |
| Aperture Range | F/1.0 - 360 | | Weight | 48mm |
| Zoom Ratio | ×2.6 | Remarks | RoHS | |
| Focus Range | 0.2m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 92.5°×68.0° | | |
| | 1/3 T | 35.7°×26.8° | | |
| | 1/4 W | 68.0°×50.4° | | |
| | 1/4 T | 26.8°×20.1° | | |



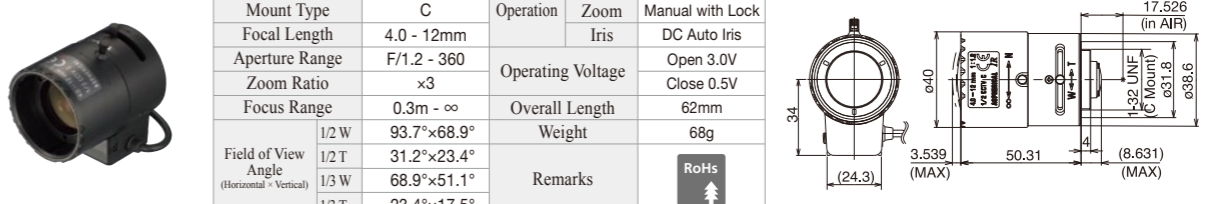
13VG1040ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|-------------|----------------|--------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| | Mount Type | | CS | Zoom |
| Focal Length | 10 - 40mm | Overall Length | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | | Weight | 71mm |
| Zoom Ratio | ×4 | Remarks | RoHS | |
| Focus Range | 0.5m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 27.6°×20.4° | | |
| | 1/3 T | 7.0°×5.3° | | |
| | 1/4 W | 20.4°×15.2° | | |
| | 1/4 T | 5.2°×3.9° | | |



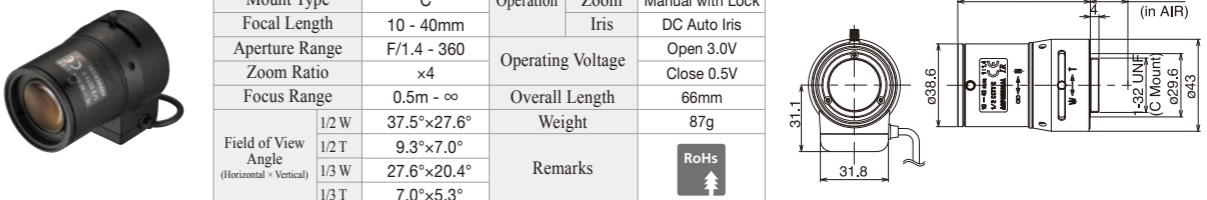
12VG412ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|-------------|----------------|--------|------------------|
| Imager Size | 1/2 | Operation | Focus | Manual with Lock |
| | Mount Type | | C | Zoom |
| Focal Length | 4.0 - 12mm | Overall Length | Iris | DC Auto Iris |
| Aperture Range | F/1.2 - 360 | | Weight | 62mm |
| Zoom Ratio | ×3 | Remarks | RoHS | |
| Focus Range | 0.3m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/2 W | 93.7°×68.9° | | |
| | 1/2 T | 31.2°×23.4° | | |
| | 1/3 W | 68.9°×51.1° | | |
| | 1/3 T | 23.4°×17.5° | | |



12VG1040ASIR SD IR ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|--|-------------|----------------|--------|------------------|
| Imager Size | 1/2 | Operation | Focus | Manual with Lock |
| | Mount Type | | C | Zoom |
| Focal Length | 10 - 40mm | Overall Length | Iris | DC Auto Iris |
| Aperture Range | F/1.4 - 360 | | Weight | 66mm |
| Zoom Ratio | ×4 | Remarks | RoHS | |
| Focus Range | 0.5m - ∞ | | | |
| Field of View Angle (Horizontal × Vertical) | 1/2 W | 37.5°×27.6° | | |
| | 1/2 T | 9.3°×7.0° | | |
| | 1/3 W | 27.6°×20.4° | | |
| | 1/3 T | 7.0°×5.3° | | |



Vari-Focal Lenses

Manual Iris

13VM550ASII SD ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | | |
|---|---------------|----------------|------------------|------------------|--|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock | |
| Mount Type | CS | Zoom | Manual with Lock | | |
| Focal Length | 5 - 50mm | Iris | Manual with Lock | | |
| Aperture Range | F/1.4 - Close | Overall Length | 63mm | | |
| Zoom Ratio | ×10 | Weight | 75g | | |
| Focus Range | 1.0m - ∞ | Remarks | RoHS | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | | | 53.6°×40.3° | |
| | 1/3 T | | | 5.6°×4.2° | |
| | 1/4 W | | | 40.3°×30.1° | |
| 1/4 T | 4.2°×3.1° | | | | |

13VM20100AS SD ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | | |
|---|---------------|----------------|------------------|------------------|--|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock | |
| Mount Type | CS | Zoom | Manual with Lock | | |
| Focal Length | 20 - 100mm | Iris | Manual with Lock | | |
| Aperture Range | F/1.6 - Close | Overall Length | 114mm | | |
| Zoom Ratio | ×5 | Weight | 148g | | |
| Focus Range | 1.0m - ∞ | Remarks | RoHS | | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | | | 13.6°×10.2° | |
| | 1/3 T | | | 2.8°×2.1° | |
| | 1/4 W | | | 10.2°×7.6° | |
| 1/4 T | 2.1°×1.6° | | | | |

DC Auto Iris

13VG2812ASII SD ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|-------------|-------------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Zoom | Manual with Lock | |
| Focal Length | 2.8 - 12mm | Iris | DC Auto Iris | |
| Aperture Range | F/1.4 - 360 | Operating Voltage | Open 3.3V | |
| Zoom Ratio | ×4.2 | Close 0.7V | | |
| Focus Range | 0.3m - ∞ | Overall Length | 64mm | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 97.4°×72.5° | Remarks | RoHS |
| | 1/3 T | 24.1°×18.1° | | |
| | 1/4 W | 72.5°×54.1° | | |
| | 1/4 T | 18.1°×13.6° | | |

13VG550ASII SD ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|-------------|-------------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Zoom | Manual with Lock | |
| Focal Length | 5 - 50mm | Iris | DC Auto Iris | |
| Aperture Range | F/1.4 - 360 | Operating Voltage | Open 4.0V | |
| Zoom Ratio | ×10 | Close 0.7V | | |
| Focus Range | 1.0m - ∞ | Overall Length | 63mm | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 53.6°×40.3° | Remarks | RoHS |
| | 1/3 T | 5.6°×4.2° | | |
| | 1/4 W | 40.3°×30.1° | | |
| | 1/4 T | 4.2°×3.1° | | |

13VG20100AS SD ASL Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|-------------|-------------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Zoom | Manual with Lock | |
| Focal Length | 20 - 100mm | Iris | DC Auto Iris | |
| Aperture Range | F/1.6 - 360 | Operating Voltage | Open 4.0V | |
| Zoom Ratio | ×5 | Close 0.5V | | |
| Focus Range | 1.0m - ∞ | Overall Length | 114mm | |
| Field of View Angle (Horizontal × Vertical) | 1/3 W | 13.6°×10.2° | Remarks | RoHS |
| | 1/3 T | 2.8°×2.1° | | |
| | 1/4 W | 10.2°×7.6° | | |
| | 1/4 T | 2.1°×1.6° | | |

Fixed-Focal Lenses Day / Night

Manual Iris

13FM22IR SD IR Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|---------------|----------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Iris | Manual with Lock | |
| Focal Length | 2.2mm | Overall Length | 42mm | |
| Aperture Range | F/1.2 - Close | Weight | 41g | |
| Focus Range | 0.1m - ∞ | Remarks | RoHS | |
| Field of View Angle (Horizontal × Vertical) | 1/3 | | | 118.6°×90.0° |
| | 1/4 | | | 90.0°×67.9° |

13FM28IR SD IR Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|---------------|----------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Iris | Manual with Lock | |
| Focal Length | 2.8mm | Overall Length | 39mm | |
| Aperture Range | F/1.2 - Close | Weight | 36g | |
| Focus Range | 0.2m - ∞ | Remarks | RoHS | |
| Field of View Angle (Horizontal × Vertical) | 1/3 | | | 93.2°×70.7° |
| | 1/4 | | | 70.7°×53.4° |

13FM04IR SD IR Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|---------------|----------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Iris | Manual with Lock | |
| Focal Length | 4mm | Overall Length | 39mm | |
| Aperture Range | F/1.2 - Close | Weight | 33g | |
| Focus Range | 0.2m - ∞ | Remarks | RoHS | |
| Field of View Angle (Horizontal × Vertical) | 1/3 | | | 65.6°×49.7° |
| | 1/4 | | | 49.7°×37.4° |

13FM06IR SD IR Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|---------------|----------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Iris | Manual with Lock | |
| Focal Length | 6mm | Overall Length | 39mm | |
| Aperture Range | F/1.2 - Close | Weight | 30g | |
| Focus Range | 0.2m - ∞ | Remarks | RoHS | |
| Field of View Angle (Horizontal × Vertical) | 1/3 | | | 46.5°×34.6° |
| | 1/4 | | | 34.6°×25.9° |

13FM08IR SD IR Imager Size 2/3 1/2 1/3 1/4

| | | | | |
|---|---------------|----------------|------------------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | Iris | Manual with Lock | |
| Focal Length | 8mm | Overall Length | 39mm | |
| Aperture Range | F/1.2 - Close | Weight | 35g | |
| Focus Range | 0.2m - ∞ | Remarks | RoHS | |
| Field of View Angle (Horizontal × Vertical) | 1/3 | | | 34.5°×25.7° |
| | 1/4 | | | 25.7°×19.2° |

Fixed-Focal Lenses Day / Night

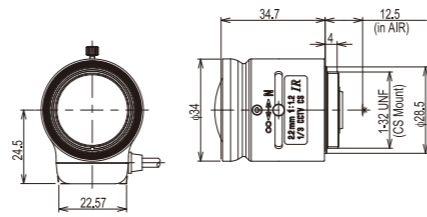
DC Auto Iris

13FG22IR

SD IR Imager Size 2/3 1/2 1/3 1/4



| | | | | |
|---|-------------------------------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Iris | DC Auto Iris |
| Focal Length | 2.2mm | Operating Voltage | | Open 2.5V |
| Aperture Range | F/1.2 - 360 | | | Close 0.5V |
| Focus Range | 0.1m - ∞ | Overall Length | | 42mm |
| Field of View Angle (Horizontal * Vertical) | 1/3 118.6°×90.0° 1/4 90.0°×67.9° | Weight | | 49g |
| Remarks | | | | RoHs |

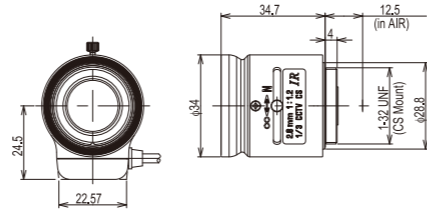


13FG28IR

SD IR Imager Size 2/3 1/2 1/3 1/4



| | | | | |
|---|------------------------------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Iris | DC Auto Iris |
| Focal Length | 2.8mm | Operating Voltage | | Open 2.5V |
| Aperture Range | F/1.2 - 360 | | | Close 0.5V |
| Focus Range | 0.2m - ∞ | Overall Length | | 39mm |
| Field of View Angle (Horizontal * Vertical) | 1/3 93.2°×70.7° 1/4 70.7°×53.4° | Weight | | 44g |
| Remarks | | | | RoHs |

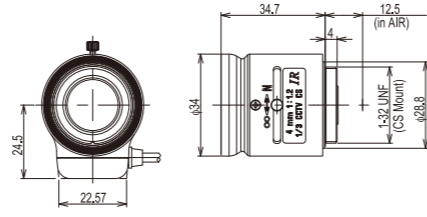


13FG04IR

SD IR Imager Size 2/3 1/2 1/3 1/4



| | | | | |
|---|------------------------------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Iris | DC Auto Iris |
| Focal Length | 4mm | Operating Voltage | | Open 2.5V |
| Aperture Range | F/1.2 - 360 | | | Close 0.5V |
| Focus Range | 0.2m - ∞ | Overall Length | | 39mm |
| Field of View Angle (Horizontal * Vertical) | 1/3 65.6°×49.7° 1/4 49.7°×37.4° | Weight | | 40g |
| Remarks | | | | RoHs |

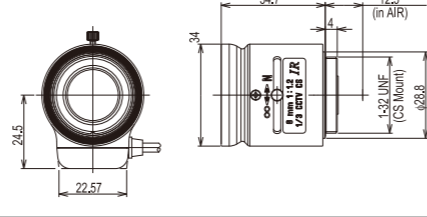


13FG06IR

SD IR Imager Size 2/3 1/2 1/3 1/4



| | | | | |
|---|------------------------------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Iris | DC Auto Iris |
| Focal Length | 6mm | Operating Voltage | | Open 2.5V |
| Aperture Range | F/1.2 - 360 | | | Close 0.5V |
| Focus Range | 0.2m - ∞ | Overall Length | | 39mm |
| Field of View Angle (Horizontal * Vertical) | 1/3 46.5°×34.6° 1/4 34.6°×25.9° | Weight | | 38g |
| Remarks | | | | RoHs |

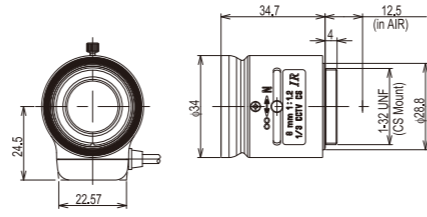


13FG08IR

SD IR Imager Size 2/3 1/2 1/3 1/4



| | | | | |
|---|------------------------------------|-------------------|-------|------------------|
| Imager Size | 1/3 | Operation | Focus | Manual with Lock |
| Mount Type | CS | | Iris | DC Auto Iris |
| Focal Length | 8mm | Operating Voltage | | Open 2.5V |
| Aperture Range | F/1.2 - 360 | | | Close 0.5V |
| Focus Range | 0.2m - ∞ | Overall Length | | 39mm |
| Field of View Angle (Horizontal * Vertical) | 1/3 34.5°×25.7° 1/4 25.7°×19.2° | Weight | | 43g |
| Remarks | | | | RoHs |



Zoom Lenses Day / Night

DC Auto Iris

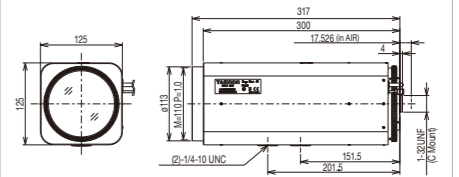
M118ZG36X10IRP

FFMP Full HD IR Imager Size 2/3 1/1.8 1/2 1/3

2MP



| | | | | |
|---|--|-------------------|-------|----------------------|
| Imager Size | 1/1.8 | Operation | Focus | Motorized |
| Mount Type | C | | Zoom | Motorized |
| Focal Length | 10 - 360mm | | Iris | DC Auto Iris |
| Aperture Range | F/1.6 - 16 | Operating Voltage | | Open 4.0V (MAX 6.0V) |
| Zoom Ratio | ×36 | | | Close 0V |
| Focus Range | 6.0m - ∞ | Overall Length | | 321mm |
| Field of View Angle (Horizontal * Vertical) | 1/1.8 W 39.6°×29.7° 1/1.8 T 1.15°×0.84° 1/2 W 35.5°×27.0° 1/2 T 1.02°×0.76° 1/3 W 27.0°×20.4° 1/3 T 0.76°×0.57° | Weight | | 5kg |
| Remarks | | | | RoHs |



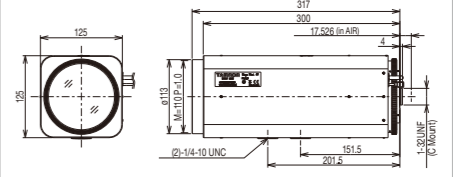
M118ZG36X10IRPF

FFMP Full HD IR Imager Size 2/3 1/1.8 1/2 1/3

2MP



| | | | | |
|---|--|-------------------|-------|----------------------|
| Imager Size | 1/1.8 | Operation | Focus | Motorized |
| Mount Type | C | | Zoom | Motorized |
| Focal Length | 10 - 360mm | | Iris | DC Auto Iris |
| Aperture Range | F/1.6 - 16 | Operating Voltage | | Open 4.0V (MAX 6.0V) |
| Zoom Ratio | ×36 | | | Close 0V |
| Focus Range | 6.0m - ∞ | Overall Length | | 321mm |
| Field of View Angle (Horizontal * Vertical) | 1/1.8 W 39.6°×29.7° 1/1.8 T 1.15°×0.84° 1/2 W 35.5°×27.0° 1/2 T 1.02°×0.76° 1/3 W 27.0°×20.4° 1/3 T 0.76°×0.57° | Weight | | 5kg |
| Remarks | | | | with DeFog RoHs |



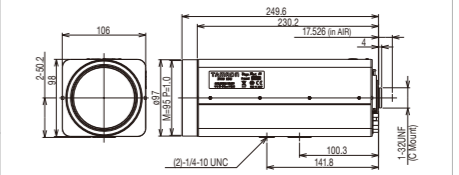
M12ZG34X15IRPF

FFMP Full HD IR Imager Size 2/3 1/1.8 1/2 1/3

2MP



| | | | | |
|---|--|-------------------|-------|----------------------|
| Imager Size | 1/2 | Operation | Focus | Motorized |
| Mount Type | C | | Zoom | Motorized |
| Focal Length | 15 - 510mm | | Iris | DC Auto Iris |
| Aperture Range | F/3.0 - 6.4 | Operating Voltage | | Open 5.0V (MAX 6.0V) |
| Zoom Ratio | ×34 | | | Close 0V |
| Focus Range | 4.0m - ∞ | Overall Length | | 254mm |
| Field of View Angle (Horizontal * Vertical) | 1/2 W 24.1°×18.2° 1/2 T 0.72°×0.54° 1/3 W 18.2°×13.7° 1/3 T 0.54°×0.40° | Weight | | 2.3kg |
| Remarks | | | | with DeFog RoHs |



New

Full 5-mega-pixel resolution for 1/1.2" large imagers Industry's most compact solution employing a largest-diameter 29mm lens

Full 5-mega-pixel resolution optimized for both 1/1.2" and 2/3" imagers
Industry's most compact* body and leading-edge
optical performance employing a largest diameter 29mm lens.
Newly released are three models to address the requirement of
short-distance high-resolution for machine vision; an unrivalled
advantage of choice to empower production and inspection equipment.
The product portfolio will consist of a total of 7 models,
of which four additional models will be announced shortly.


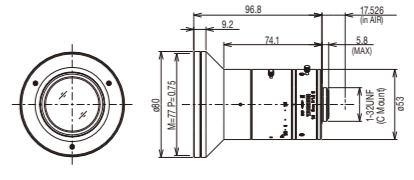
*In machine-vision lenses that are compatible with a 1/1.2" imager and 5-mega-pixel resolution
(survey by Tamron, effective as of November, 2017)

Compatible with
IMX174/IMX249 (1/1.2" 2.4-mega-pixel), IMX250/IMX264 (2/3" 5-mega-pixel)


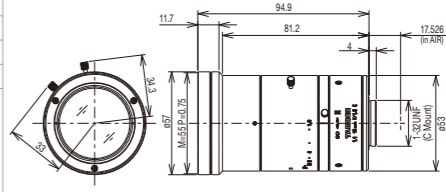


Mega-Pixel Machine Vision Lenses


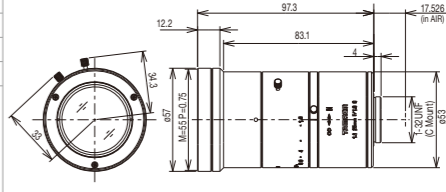
M111FM08 FFMP 3.1μm Imager Size 1.1/1 1 2/3

| | | | | | |
|---|----------------|-------------|----------------|--------------|---|
|  | Imager Size | 1.1 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 8mm | Filter Size | M77 P=0.75mm | |
| | Aperture Range | F/1.8 - 22 | Overall Length | 103mm | |
| | Focus Range | 0.3m - ∞ | Weight | 490g | |
| Field of View Angle (Horizontal - Vertical) | 1.1 (1:1) | 76.0°×76.0° | Remarks | RoHS |  |
| | (4:3) | 83.5°×66.7° | | | |
| | 1 (1:1) | 71.2°×71.2° | | | |
| | (4:3) | 78.4°×62.2° | | | |
| 2/3 | 57.8°×44.9° | | | | |


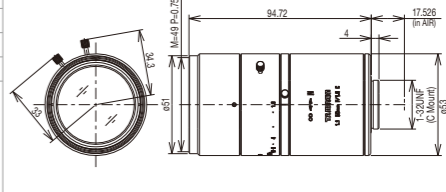
M111FM16 FFMP 3.1μm Imager Size 1.1/1 1 2/3

| | | | | | |
|---|----------------|-------------|----------------|--------------|---|
|  | Imager Size | 1.1 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 16mm | Filter Size | M55 P=0.75mm | |
| | Aperture Range | F/1.8 - 22 | Overall Length | 99mm | |
| | Focus Range | 0.3m - ∞ | Weight | 385g | |
| Field of View Angle (Horizontal - Vertical) | 1.1 (1:1) | 42.6°×42.6° | Remarks | RoHS |  |
| | (4:3) | 47.7°×36.5° | | | |
| | 1 (1:1) | 39.4°×39.4° | | | |
| | (4:3) | 44.2°×33.7° | | | |
| 2/3 | 31.0°×23.4° | | | | |

M111FM25 FFMP 3.1μm Imager Size 1.1/1 1 2/3

| | | | | | |
|--|----------------|-------------|----------------|--------------|--|
|  | Imager Size | 1.1 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 25mm | Filter Size | M55 P=0.75mm | |
| | Aperture Range | F/1.8 - 22 | Overall Length | 102mm | |
| | Focus Range | 0.3m - ∞ | Weight | 415g | |
| Field of View Angle (Horizontal - Vertical) | 1.1 (1:1) | 27.6°×27.6° | Remarks | RoHS |  |
| | (4:3) | 31.1°×23.6° | | | |
| | 1 (1:1) | 25.5°×25.5° | | | |
| | (4:3) | 28.7°×21.7° | | | |
| 2/3 | 20.0°×15.0° | | | | |

M111FM50 FFMP 3.1μm Imager Size 1.1/1 1 2/3

| | | | | | |
|---|----------------|-------------|----------------|--------------|---|
|  | Imager Size | 1.1 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 50mm | Filter Size | M49 P=0.75mm | |
| | Aperture Range | F/1.8 - 22 | Overall Length | 99mm | |
| | Focus Range | 0.4m - ∞ | Weight | 415g | |
| Field of View Angle (Horizontal - Vertical) | 1.1 (1:1) | 14.1°×14.1° | Remarks | RoHS |  |
| | (4:3) | 15.9°×11.9° | | | |
| | 1 (1:1) | 12.9°×12.9° | | | |
| | (4:3) | 14.6°×11.0° | | | |
| 2/3 | 10.1°×7.6° | | | | |

Mega-Pixel Machine Vision Lenses

M112FM08 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-------------|----------------|---------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 8mm | | Filter Size | M35.5 P=0.5mm | |
| Aperture Range | F/2.4 - 16 | | Overall Length | 47mm | |
| Focus Range | 0.1m - ∞ | | Weight | 86g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 70.3°×54.9° | Remarks | RoHS | |
| | (16:9) | 75.3°×45.6° | | | |
| | 2/3 (4:3) | 59.5°×45.8° | | | |
| | (16:9) | 64.0°×37.8° | | | |

M112FM35 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-------------|----------------|-------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 35mm | | Filter Size | M27 P=0.5mm | |
| Aperture Range | F/2.1 - 16 | | Overall Length | 44mm | |
| Focus Range | 0.2m - ∞ | | Weight | 57g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 17.3°×13.1° | Remarks | RoHS | |
| | (16:9) | 18.8°×10.7° | | | |
| | 2/3 (4:3) | 14.3°×10.7° | | | |
| | (16:9) | 15.5°×8.8° | | | |

M112FM12 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-------------|----------------|-------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 12mm | | Filter Size | M27 P=0.5mm | |
| Aperture Range | F/2.0 - 16 | | Overall Length | 43mm | |
| Focus Range | 0.1m - ∞ | | Weight | 64g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 49.2°×37.6° | Remarks | RoHS | |
| | (16:9) | 53.2°×30.6° | | | |
| | 2/3 (4:3) | 40.9°×31.1° | | | |
| | (16:9) | 44.4°×25.5° | | | |

M112FM50 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-------------|----------------|-------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 50mm | | Filter Size | M27 P=0.5mm | |
| Aperture Range | F/2.8 - 16 | | Overall Length | 56mm | |
| Focus Range | 0.3m - ∞ | | Weight | 70g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 12.2°×9.2° | Remarks | RoHS | |
| | (16:9) | 13.2°×7.5° | | | |
| | 2/3 (4:3) | 10.0°×7.5° | | | |
| | (16:9) | 10.9°×6.16° | | | |

M112FM16 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-------------|----------------|-------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 16mm | | Filter Size | M27 P=0.5mm | |
| Aperture Range | F/2.0 - 16 | | Overall Length | 36mm | |
| Focus Range | 0.1m - ∞ | | Weight | 51g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 37.4°×28.4° | Remarks | RoHS | |
| | (16:9) | 40.5°×22.3° | | | |
| | 2/3 (4:3) | 31.0°×23.4° | | | |
| | (16:9) | 33.7°×19.2° | | | |

M112FM75 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-----------|----------------|-------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 75mm | | Filter Size | M27 P=0.5mm | |
| Aperture Range | F/3.5 - 16 | | Overall Length | 69mm | |
| Focus Range | 0.7m - ∞ | | Weight | 81g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 8.1°×6.1° | Remarks | RoHS | |
| | (16:9) | 8.9°×5.0° | | | |
| | 2/3 (4:3) | 6.7°×5.0° | | | |
| | (16:9) | 7.3°×4.1° | | | |

M112FM25 FFMP 5.86μm Imager Size 1.1/1 1/1.2 2/3

| | | | | | |
|--|-------------|-------------|----------------|-------------|------------------|
| Imager Size | 1/1.2 | | Operation | Focus Iris | Manual with Lock |
| | C | | | | |
| Focal Length | 25mm | | Filter Size | M27 P=0.5mm | |
| Aperture Range | F/1.8 - 16 | | Overall Length | 41mm | |
| Focus Range | 0.1m - ∞ | | Weight | 54g | |
| Field of View Angle (Horizontal / Vertical) | 1/1.2 (4:3) | 24.1°×18.2° | Remarks | RoHS | |
| | (16:9) | 26.2°×15.0° | | | |
| | 2/3 (4:3) | 19.9°×15.0° | | | |
| | (16:9) | 21.7°×12.3° | | | |

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M23FM06 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|---|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 6mm | Filter Size | M67 P=0.75mm | |
| Aperture Range | F/1.8 - 22 | Overall Length | 48mm | |
| Focus Range | 0.1m - ∞ | Weight | 240g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 74.3°×58.4° 1/2 56.8°×43.6° 1/3 43.6°×33.1° | Remarks | RoHS | |

M23FM08 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|---|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 8mm | Filter Size | M52 P=0.75mm | |
| Aperture Range | F/1.8 - 22 | Overall Length | 64mm | |
| Focus Range | 0.1m - ∞ | Weight | 280g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 58.5°×45.1° 1/2 43.8°×33.3° 1/3 33.3°×25.2° | Remarks | RoHS | |

M23FM12 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|---|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 12mm | Filter Size | M49 P=0.75mm | |
| Aperture Range | F/1.8 - 22 | Overall Length | 71mm | |
| Focus Range | 0.1m - ∞ | Weight | 333g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 40.5°×30.9° 1/2 30.0°×22.7° 1/3 22.7°×17.1° | Remarks | RoHS | |

M23FM16 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|---|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 16mm | Filter Size | M49 P=0.75mm | |
| Aperture Range | F/1.8 - 22 | Overall Length | 89mm | |
| Focus Range | 0.1m - ∞ | Weight | 358g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 30.1°×22.8° 1/2 22.1°×16.6° 1/3 16.6°×12.5° | Remarks | RoHS | |

M23FM25 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|--|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 25mm | Filter Size | M49 P=0.75mm | |
| Aperture Range | F/1.8 - 22 | Overall Length | 91mm | |
| Focus Range | 0.1m - ∞ | Weight | 380g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 20.0°×15.1° 1/2 14.6°×11.0° 1/3 11.0°×8.2° | Remarks | RoHS | |

M23FM35 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|--|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 35mm | Filter Size | M49 P=0.75mm | |
| Aperture Range | F/1.8 - 22 | Overall Length | 91mm | |
| Focus Range | 0.15m - ∞ | Weight | 388g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 14.4°×10.8° 1/2 10.5°×7.8° 1/3 7.8°×5.9° | Remarks | RoHS | |

M23FM50 FFMP 2.5μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|--|----------------|--------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 50mm | Filter Size | M49 P=0.75mm | |
| Aperture Range | F/2.8 - 32 | Overall Length | 93mm | |
| Focus Range | 0.15m - ∞ | Weight | 374g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 10.1°×7.6° 1/2 7.3°×5.5° 1/3 5.5°×4.1° | Remarks | RoHS | |

23FM16SP FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|---|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 16mm | Filter Size | M30.5 P=0.5mm | |
| Aperture Range | F/1.4 - 22 | Overall Length | 43mm | |
| Focus Range | 0.15m - ∞ | Weight | 80g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 30.9°×23.4° 1/2 22.7°×17.1° 1/3 17.1°×12.9° | Remarks | RoHS | |

23FM25SP FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|--|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 25mm | Filter Size | M30.5 P=0.5mm | |
| Aperture Range | F/1.4 - 22 | Overall Length | 51mm | |
| Focus Range | 0.15m - ∞ | Weight | 103g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 20.0°×15.1° 1/2 14.6°×11.0° 1/3 11.0°×8.2° | Remarks | RoHS | |

23FM50SP FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|---|--|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 50mm | Filter Size | M30.5 P=0.5mm | |
| Aperture Range | F/2.8 - 32 | Overall Length | 67mm | |
| Focus Range | 0.2m - ∞ | Weight | 117g | |
| Field of View Angle (Horizontal * Vertical) | 2/3 10.1°×7.6° 1/2 7.3°×5.5° 1/3 5.5°×4.1° | Remarks | RoHS | |

Mega-Pixel Machine Vision Lenses

Machine Vision Lenses

M118FM06 FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|-------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 6mm | Filter Size | M34 P=0.5mm | |
| Aperture Range | F/1.4 - 16 | Overall Length | 50mm | |
| Focus Range | 0.1m - ∞ | Weight | 86g | |
| Field of View Angle (Horizontal° Vertical) | 1/1.8 66.1°×50.8° 1/2 58.9°×44.9° 1/3 44.9°×34.0° | Remarks | RoHS | |

M118FM08 FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 8mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.4 - 16 | Overall Length | 33mm | |
| Focus Range | 0.1m - ∞ | Weight | 44g | |
| Field of View Angle (Horizontal° Vertical) | 1/1.8 50.8°×38.6° 1/2 45.0°×34.0° 1/3 34.0°×25.6° | Remarks | RoHS | |

M118FM12 FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 12mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.4 - 16 | Overall Length | 45mm | |
| Focus Range | 0.1m - ∞ | Weight | 57g | |
| Field of View Angle (Horizontal° Vertical) | 1/1.8 34.2°×25.8° 1/2 30.2°×22.7° 1/3 22.7°×17.1° | Remarks | RoHS | |

M118FM16 FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 16mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.4 - 16 | Overall Length | 30mm | |
| Focus Range | 0.1m - ∞ | Weight | 39g | |
| Field of View Angle (Horizontal° Vertical) | 1/1.8 25.9°×19.5° 1/2 22.8°×17.1° 1/3 17.1°×12.9° | Remarks | RoHS | |

M118FM25 FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|--|----------------|---------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 25mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.6 - 16 | Overall Length | 40mm | |
| Focus Range | 0.1m - ∞ | Weight | 39g | |
| Field of View Angle (Horizontal° Vertical) | 1/1.8 16.6°×12.5° 1/2 14.6°×11.0° 1/3 11.0°×8.2° | Remarks | RoHS | |

M118FM50 FFMP 4.0μm Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 1/1.8 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 50mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/2.8 - 22 | Overall Length | 67mm | |
| Focus Range | 0.2m - ∞ | Weight | 52g | |
| Field of View Angle (Horizontal° Vertical) | 1/1.8 8.3°×6.2° 1/2 7.3°×5.5° 1/3 5.5°×4.1° | Remarks | RoHS | |

22HA SD Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 6.5mm | Filter Size | M35.5 P=0.5mm | |
| Aperture Range | F/1.8 - Close | Overall Length | 37mm | |
| Focus Range | 1.5m - ∞ | Weight | 60g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 71.6°×55.5° 1/2 53.9°×41.0° 1/3 41.0°×31.0° | Remarks | RoHS | |

219HB SD Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 8mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.4 - 16 | Overall Length | 33mm | |
| Focus Range | 0.26m - ∞ | Weight | 48g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 59.3°×45.2° 1/2 43.6°×33.1° 1/3 33.1°×25.0° | Remarks | RoHS | |

25HA SD Imager Size 2/3 1/1.8 1/2 1/4



| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual |
| Focal Length | 12mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.8 - 16 | Overall Length | 34mm | |
| Focus Range | 0.26m - ∞ | Weight | 40g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 40.9°×30.9° 1/2 30.0°×22.4° 1/3 22.4°×16.6° | Remarks | RoHS | |

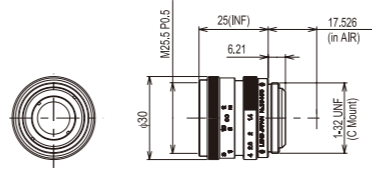
25HB SD Imager Size 2/3 1/1.8 1/2 1/4

| | | | | |
|--|---|----------------|---------------|------------------|
| Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| Mount Type | C | | Iris | Manual with Lock |
| Focal Length | 12mm | Filter Size | M25.5 P=0.5mm | |
| Aperture Range | F/1.8 - 16 | Overall Length | 34mm | |
| Focus Range | 0.26m - ∞ | Weight | 46g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 40.9°×30.9° 1/2 30.0°×22.4° 1/3 22.4°×16.6° | Remarks | RoHS | |



Machine Vision Lenses

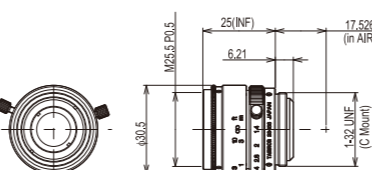
17HD SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|---|----------------|-------------|----------------|---|--------|
|  | Imager Size | 2/3 | Operation | Focus | Manual |
| | Mount Type | C | | Iris | Manual |
| | Focal Length | 16mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/1.4 - 16 | Overall Length | 31mm | |
| | Focus Range | 0.29m - ∞ | Weight | 50g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 30.9°×23.2° | Remarks |  | |
| | 1/2 | 22.5°×16.9° | | | |
| | 1/3 | 16.9°×12.7° | | | |





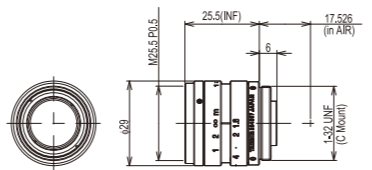
17HF SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|---|----------------|-------------|----------------|---|------------------|
|  | Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 16mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/1.4 - 16 | Overall Length | 31mm | |
| | Focus Range | 0.29m - ∞ | Weight | 48g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 30.9°×23.2° | Remarks |  | |
| | 1/2 | 22.5°×16.9° | | | |
| | 1/3 | 16.9°×12.7° | | | |





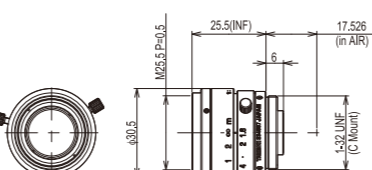
20HA SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|--|----------------|-------------|----------------|--|--------|
|  | Imager Size | 2/3 | Operation | Focus | Manual |
| | Mount Type | C | | Iris | Manual |
| | Focal Length | 25mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/1.6 - 16 | Overall Length | 32mm | |
| | Focus Range | 0.21m - ∞ | Weight | 37g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 20.0°×15.0° | Remarks |  | |
| | 1/2 | 14.6°×11.0° | | | |
| | 1/3 | 11.0°×8.2° | | | |





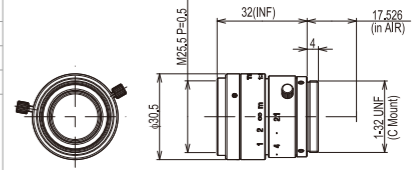
20HC SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|---|----------------|-------------|----------------|---|------------------|
|  | Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 25mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/1.6 - 16 | Overall Length | 32mm | |
| | Focus Range | 0.21m - ∞ | Weight | 40g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 20.0°×15.0° | Remarks |  | |
| | 1/2 | 14.6°×11.0° | | | |
| | 1/3 | 11.0°×8.2° | | | |





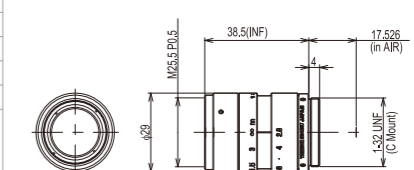
35HB SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|---|----------------|-------------|----------------|---|------------------|
|  | Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 35mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/2.1 - 22 | Overall Length | 36mm | |
| | Focus Range | 0.3m - ∞ | Weight | 44g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 14.3°×10.8° | Remarks |  | |
| | 1/2 | 10.4°×7.8° | | | |
| | 1/3 | 7.8°×5.9° | | | |





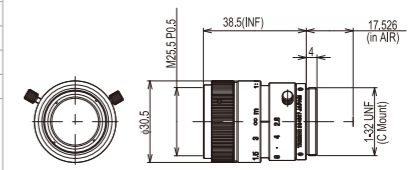
21HA SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|---|----------------|------------|----------------|---|--------|
|  | Imager Size | 2/3 | Operation | Focus | Manual |
| | Mount Type | C | | Iris | Manual |
| | Focal Length | 50mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/2.8 - 22 | Overall Length | 43mm | |
| | Focus Range | 0.44m - ∞ | Weight | 50g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 10.0°×7.5° | Remarks |  | |
| | 1/2 | 7.3°×5.5° | | | |
| | 1/3 | 5.5°×4.1° | | | |





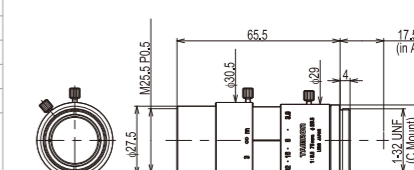
21HC SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|--|----------------|------------|----------------|--|------------------|
|  | Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 50mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/2.8 - 22 | Overall Length | 43mm | |
| | Focus Range | 0.44m - ∞ | Weight | 52g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 10.0°×7.5° | Remarks |  | |
| | 1/2 | 7.3°×5.5° | | | |
| | 1/3 | 5.5°×4.1° | | | |



1A1HB SD Imager Size **2/3 1/1.8 1/2 1/4**

| | | | | | |
|---|----------------|------------|----------------|---|------------------|
|  | Imager Size | 2/3 | Operation | Focus | Manual with Lock |
| | Mount Type | C | | Iris | Manual with Lock |
| | Focal Length | 75mm | Filter Size | M25.5 P=0.5mm | |
| | Aperture Range | F/3.9 - 32 | Overall Length | 70mm | |
| | Focus Range | 0.5m - ∞ | Weight | 68g | |
| Field of View Angle (Horizontal° Vertical) | 2/3 | 6.9°×5.2° | Remarks |  | |
| | 1/2 | 5.0°×3.5° | | | |
| | 1/3 | 3.5°×2.5° | | | |



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TAMRON IP / CCTV LENSES for machine vision

Accessories

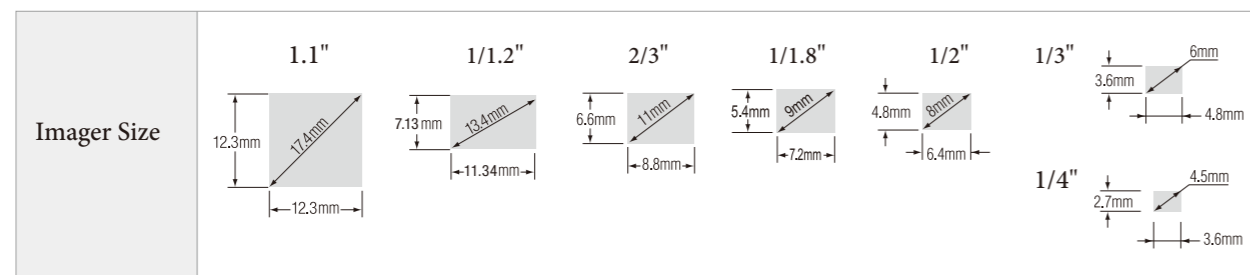
Special Accessories for Machine Vision Lenses

| | | |
|-----------------------|---------|---|
| Extension Ring | MR-SET | 7 Sets (0.5mm, 1mm, 2mm, 5mm, 10mm, 20mm, 40mm) |
| Filter for Protection | 25.5-NO | Ø25.5mm |
| | 30.5-NO | Ø30.5mm |
| | 35.5-NO | Ø35.5mm |
| Polarizer Filter | 25.5-PL | Ø25.5mm |
| | 30.5-PL | Ø30.5mm |
| | 35.5-PL | Ø35.5mm |

Special Accessories for Security Lenses

| | |
|----------------------|--------------|
| C-CS Convert Adapter | C-CS Adapter |
|----------------------|--------------|

Remarks



- 1.1" lenses can also be used with 1.1", 1", 1/1.2", 2/3", 1/1.8", 1/2", 1/2.5", 1/2.7", 1/2.8", 1/3" & 1/4" Imager cameras.
- 1/1.2" lenses can also be used with 2/3", 1/1.8", 1/2", 1/2.5", 1/2.7", 1/2.8", 1/3" & 1/4" Imager cameras.
- 2/3" lenses can also be used with 1/1.8", 1/2", 1/2.5", 1/2.7", 1/2.8", 1/3" & 1/4" Imager cameras.
- 1/1.8" lenses can also be used with 1/2", 1/2.5", 1/2.7", 1/2.8", 1/3" & 1/4" Imager cameras.
- 1/2" lenses can also be used with 1/2.5", 1/2.7", 1/2.8", 1/3" & 1/4" Imager cameras.
- 1/3" lenses can also be used with 1/4" Imager cameras.
- When you fit C-Mount lenses with CS-Mount cameras, please use the C-CS adapter.
- The "Field of View Angle" in the data sheets shows the data when the lens is used with a camera with the indicated imager size. When other cameras with different imager sizes are used, please refer to the following datum:

| | | |
|-------------|---------------|---|
| 1.1" Lens | 1/1.2" Camera | 0.77× against the Specified Angle of View |
| | 2/3" Camera | 0.63× against the Specified Angle of View |
| | 1/2" Camera | 0.46× against the Specified Angle of View |
| | 1/3" Camera | 0.34× against the Specified Angle of View |
| 1/1.2" Lens | 1/4" Camera | 0.26× against the Specified Angle of View |
| | 2/3" Camera | 0.82× against the Specified Angle of View |
| | 1/2" Camera | 0.6× against the Specified Angle of View |
| | 1/3" Camera | 0.45× against the Specified Angle of View |
| 1/4" Camera | 1/3" Camera | 0.34× against the Specified Angle of View |
| | 1/4" Camera | 0.26× against the Specified Angle of View |

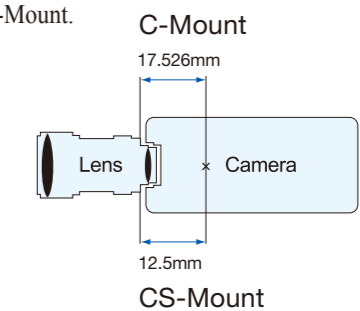
| | | |
|-------------|-------------|---|
| 2/3" Lens | 1/2" Camera | 0.73× against the Specified Angle of View |
| | 1/3" Camera | 0.55× against the Specified Angle of View |
| 1/1.8" Lens | 1/4" Camera | 0.41× against the Specified Angle of View |
| | 1/2" Camera | 0.89× against the Specified Angle of View |
| 1/1.8" Lens | 1/3" Camera | 0.67× against the Specified Angle of View |
| | 1/4" Camera | 0.5× against the Specified Angle of View |
| 1/2" Lens | 1/3" Camera | 0.75× against the Specified Angle of View |
| | 1/4" Camera | 0.56× against the Specified Angle of View |
| 1/3" Lens | 1/4" Camera | 0.75× against the Specified Angle of View |

Terminology Explanation

Mount Type

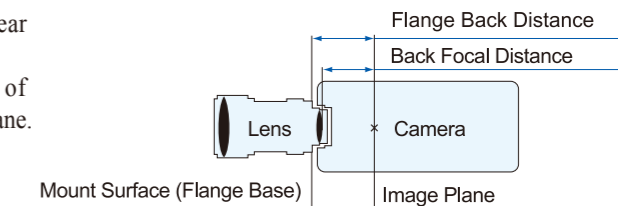
Correspond to the standard mount type of the camera which may be either C-Mount or CS-Mount. The characteristics are as follows.

| | | |
|----------------------|----------|----------|
| Flange Back Distance | C-Mount | 17.526mm |
| | CS-Mount | 12.5mm |



Flange Back Distance & Back Focal Distance

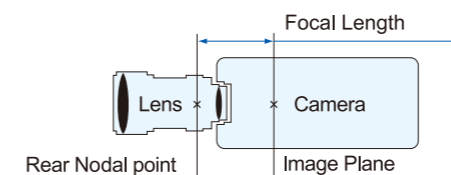
- Flange Back Distance: Distance between the mechanical rear end of the mount surface and the image plane.
- Back Focal Distance: Distance between the physical end of the lens element (side closest to the camera) and the image plane.



Focal Length

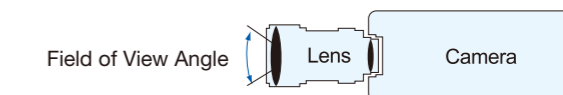
Distance between the rear nodal point and the focal point (Image Plane) on the optical axis.

*The smaller number, the wider the field of view angle.
The bigger number, the narrower the field of view angle.



Field of View Angle

Angle of the captured image as it relates to the given image size. Field-of-view angle will vary, even when using the same lens, depending on the imager size of the camera in use. Details can be found in this catalog.



Aperture Range

The F-number is used to indicate the speed of the lens from full open aperture to minimum aperture. The F-number is calculated using the following formula:

$$F/No. = \frac{\text{Focal Length}}{\text{Effective Diameter of the lens}}$$

*Smaller F-numbers equal faster/brighter lenses.

Focusing Range

Indicate the shooting range from the Minimum Object Distance (MOD) to infinity. Generally, the range is measured from the physical end of the lens to the object.

About the Tamron IP / CCTV Lens WEB SITE <http://www.tamron.biz/>

- Latest news concerning new IP/CCTV lens models and trading shows.
- Download the catalog (PDF), specification sheets (PDF).
- Get technical information and news about discontinued products.