

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.

Contents	2
Products and Features	3, 4
Focal Length list	5, 6
Mega-Pixel Vari-Focal Lenses	7, 8, 9, 10, 11, 12
Vari-Focal Lenses	13, 14, 15,
Fixed-Focal Lenses	16, 17
Zoom Lenses	18
Mega-Pixel Machine Vision Lenses	19, 20, 21, 22, 23, 24, 25
Machine Vision Lenses	26, 27, 28
Accessories / Terminology Explanation	29, 30



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.

Flat-Field *Mega-Pixel*

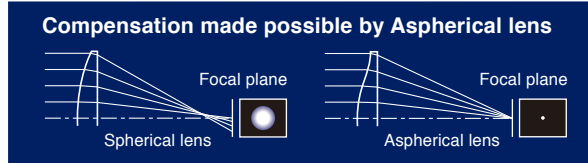


Mega-Pixel Key Technologies

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.



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.

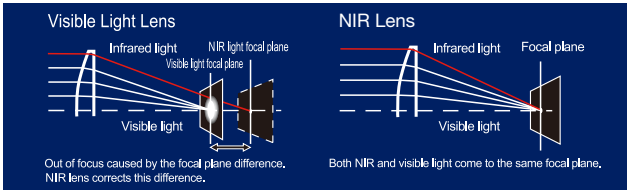
Wide Dynamic Range

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.

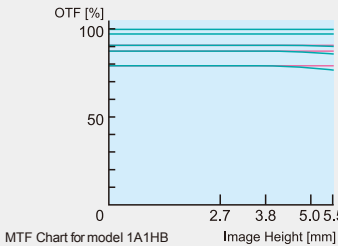


Minimized Distortion

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.

TAMRON IP / CCTV LENSES

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Model Explanation

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graph TD
    A[M13VM 308] --> B[23FM25 SP]
    A --> C[Compatible with Mega-Pixel]
    B --> D[13FG22 IR]
    B --> E[M118ZG 36X10 IR P F]
    D --> F[Compatible with near infrared range]
    E --> G[Zoom magnification and widest focal length]
    E --> H[with preset]
    E --> I[with DeFog]
  
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M13VM 308

23FM25 SP

Compatible with Mega-Pixel

13FG22 IR

M118ZG 36X10 IR P F

Compatible with near infrared range

Zoom magnification and widest focal length

with preset

with DeFog

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

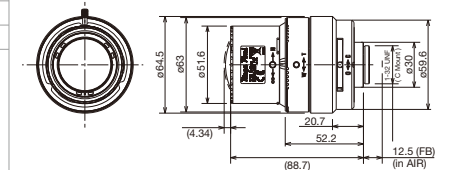
Manual Iris

M118VM413IRCS

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 - ∞			
Field of View Angle (Horizontal × Vertical)	1/1.8W 105.4°×77.6° 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° 1/3T 21.8°×16.3°	Remarks		RoHS

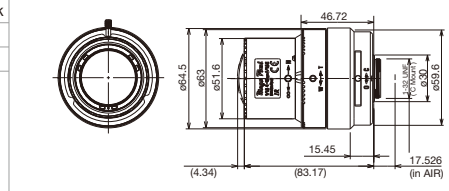


M118VM413IR

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 - ∞			
Field of View Angle (Horizontal × Vertical)	1/1.8W 105.4°×77.6° 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° 1/3T 21.8°×16.3°	Remarks		RoHS

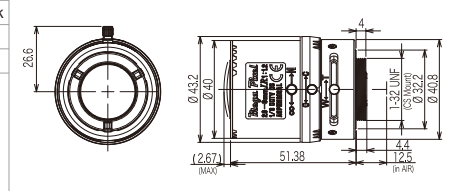


M13VM288IR

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 - ∞			
Field of View Angle (Horizontal × Vertical)	1/2.7W 124.3°×65.2° 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° 1/4T 26.8°×20.1°	Remarks		RoHS



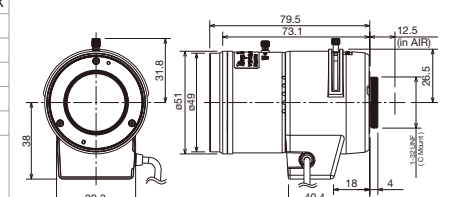
DC Auto Iris

M118VG1250IR

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° 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° 1/3T 5.6°×4.2°	Remarks		RoHS

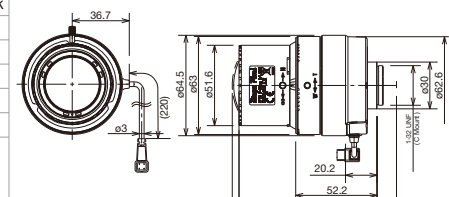


M118VG413IRCS

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° 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° 1/3T 21.8°×16.3°	Remarks		RoHS



Mega-Pixel Vari-Focal Lenses

Day / Night

DC Auto Iris

M118VG413IR

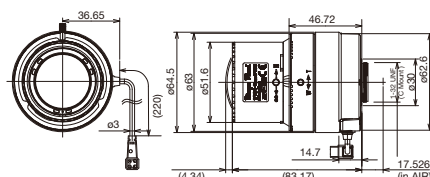
FFMP Full HD IR ASL

Imager Size 2/3 1/1.8 1/2 1/3

5MP



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



M13VG2713IR

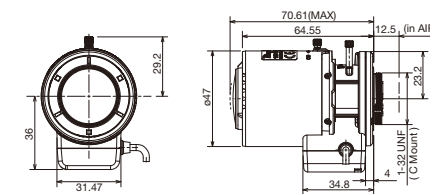
FFMP Full HD IR ASL

Imager Size 2/3 1/2.7 1/3 1/4

3MP



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



M13VG288IR

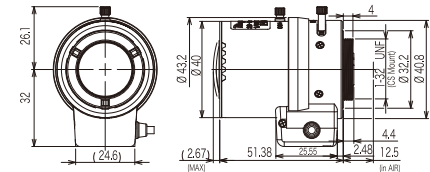
FFMP Full HD IR ASL

Imager Size 2/3 1/2.7 1/3 1/4

3MP



Imager Size	1/2.7	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	2.8 - 8mm	Iris	DC Auto Iris	
Aperture Range	F/1.2 - 360	Operating Voltage	Open 4.0V	
Zoom Ratio	×2.8		Close 0.7V	
Focus Range	0.3m - ∞	Overall Length	58mm	
		Weight	70g	
Field of View Angle (Horizontal × Vertical)		Remarks	RoHS	
1/2.7W	124.3°×65.2°			
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°			
1/4T	26.8°×20.1°			



M13VG2812IR

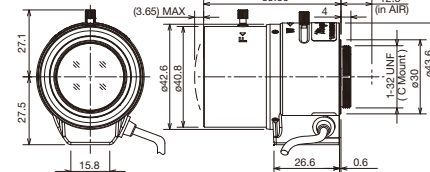
FFMP Full HD IR ASL

Imager Size 2/3 1/2.7 1/3 1/4

3MP



Imager Size	1/2.7	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	2.8 - 12mm	Iris	DC Auto Iris	
Aperture Range	F/1.4 - 360	Operating Voltage	Open 4.0V	
Zoom Ratio	×4.2		Close 0.5V	
Focus Range	0.3m - ∞	Overall Length	72mm	
		Weight	70g	
Field of View Angle (Horizontal × Vertical)		Remarks	RoHS	
1/2.7W	107°×79.3°			
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°			
1/4T	18.0°×13.5°			



M13VG550IR

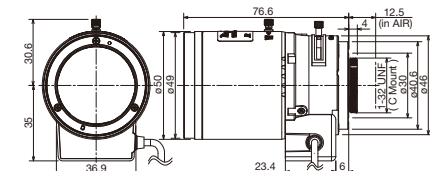
FFMP Full HD IR ASL

Imager Size 2/3 1/2.7 1/3 1/4

2MP



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



DC Auto Iris

M13VG850IR

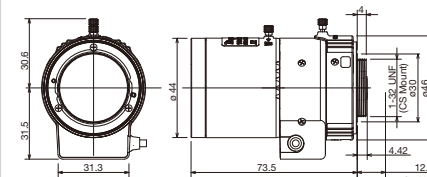
FFMP Full HD IR ASL

Imager Size 2/3 1/2.7 1/3 1/4

3MP



Imager Size	1/2.7	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	8 - 50mm	Iris	DC Auto Iris	
Aperture Range	F/1.6 - 360	Operating Voltage	Open 4.0V	
Zoom Ratio	×6.2		Close 0.5V	
Focus Range	2.0m - ∞	Overall Length	78mm	
		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°			



P-Iris*

*Bi-polar type Stepping motor

M118VP1250IR

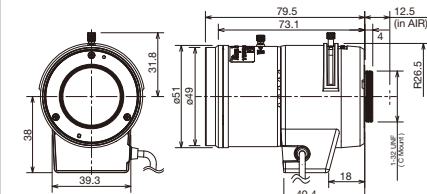
FFMP Full HD IR ASL

Imager Size 2/3 1/1.8 1/2 1/3

5MP



Imager Size	1/1.8	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	12 - 50mm	Iris	P-Iris	
Aperture Range	F/1.4 - Close	Operating Voltage	3 - 5V	
Zoom Ratio	×4.1	Overall Length	84mm	
Focus Range	1.0m - ∞	Weight	128g	
Field of View Angle (Horizontal × Vertical)		Remarks	RoHS	
1/1.8W	34.0°×25.5°			
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°			
1/3T	5.6°×4.2°			



M118VP413IRCS

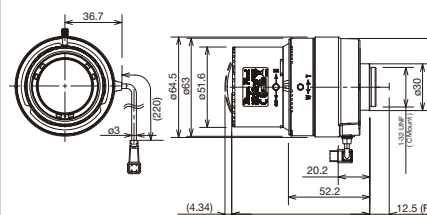
FFMP Full HD IR ASL

Imager Size 2/3 1/1.8 1/2 1/3

5MP



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



M118VP413IR

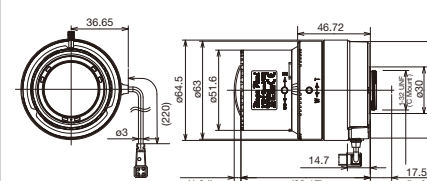
FFMP Full HD IR ASL

Imager Size 2/3 1/1.8 1/2 1/3

5MP



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



M13VP288IR

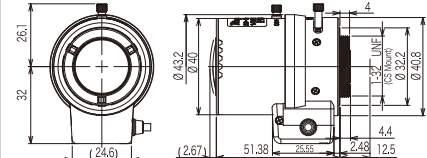
FFMP Full HD IR ASL

Imager Size 2/3 1/2.7 1/3 1/4

3MP



Imager Size	1/2.7	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	2.8 - 8mm	Iris	P-Iris	
Aperture Range	F/1.2 - Close	Operating Voltage	3 - 5V	
Zoom Ratio	×2.8	Overall Length	58mm	
Focus Range	0.3m - ∞	Weight	68g	
Field of View Angle (Horizontal × Vertical)		Remarks	RoHS	
1/2.7W	124.3°×65.2°			
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°			
1/4T	26.8°×20.1°			



FFMP Flat-Field Mega-Pixel

Full HD Full High Definition

IR NIR (Near-IR)

ASL Aspherical Lens

RoHS RoHS Compatible

Mega-Pixel Vari-Focal Lenses

P-Iris

*Bi-polar type Stepping motor

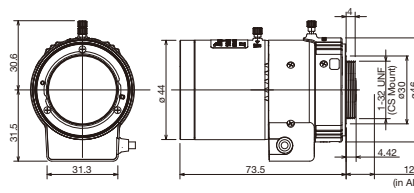
Day / Night

M13VP850IR

FFMPFull HDASLImager 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)	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°	Remarks		RoHs



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.

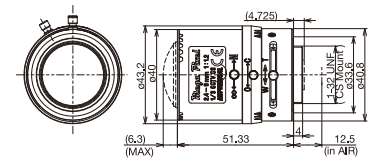
Manual Iris

M13VM246

FFMPHDASLImager 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 - ∞			
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°	Remarks		RoHs

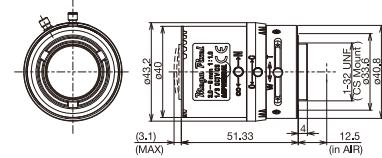


M13VM308

FFMPHDASLImager 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 - ∞			
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°	Remarks		RoHs

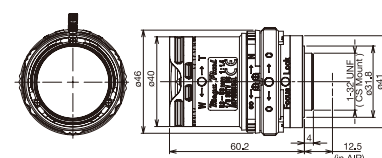


M13VM550

FFMPHDASLImager 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 - ∞			
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°	Remarks		RoHs

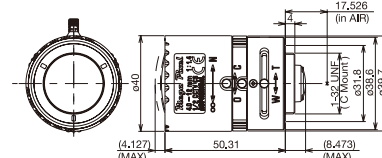


M12VM412

FFMPHDASLImager 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 - ∞			
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°	Remarks		RoHs



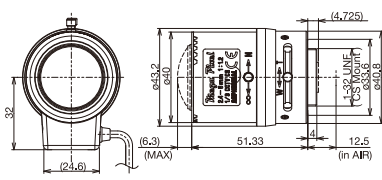
DC Auto Iris

M13VG246

FFMPHDASLImager 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 Close 0.7V
Zoom Ratio	×2.5	Overall Length		62mm
Focus Range	0.3m - ∞	Weight		75g
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°	Remarks		RoHs

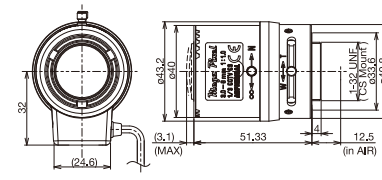


M13VG308

FFMPHDASLImager 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 Close 0.7V
Zoom Ratio	×2.6	Overall Length		58mm
Focus Range	0.3m - ∞	Weight		75g
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°	Remarks		RoHs

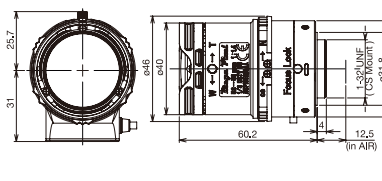


M13VG550

FFMPHDASLImager 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 Close 0.7V
Zoom Ratio	×10	Overall Length		64mm
Focus Range	1m - ∞	Weight		77g
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°	Remarks		RoHs

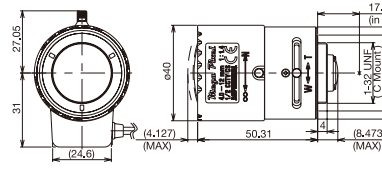


M12VG412

FFMPHDASLImager 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 Close 0.5V
Zoom Ratio	×3	Overall Length		63mm
Focus Range	0.3m - ∞	Weight		69g
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°	Remarks		RoHs



Vari-Focal Lenses Day / Night

Manual Iris

13VM308ASIRII

SD

IR

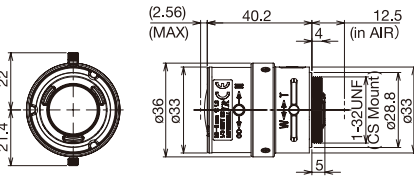
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	3.0 - 8mm	Iris	Iris	Manual with Lock
Aperture Range	F/1.0 - Close	Overall Length	47mm	
Zoom Ratio	×2.6	Weight	38g	
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°	Remarks	RoHs	



13VM1040ASIR

SD

IR

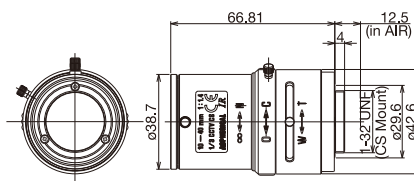
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	10 - 40mm	Iris	Iris	Manual with Lock
Aperture Range	F/1.4 - Close	Overall Length	71mm	
Zoom Ratio	×4	Weight	80g	
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°	Remarks	RoHs	



12VM412ASIR

SD

IR

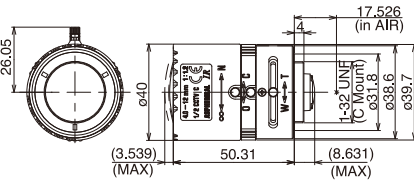
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/2	Operation	Focus	Manual with Lock
Mount Type	C	Zoom	Zoom	Manual with Lock
Focal Length	4.0 - 12mm	Iris	Iris	Manual with Lock
Aperture Range	F/1.2 - Close	Overall Length	62mm	
Zoom Ratio	×3	Weight	58g	
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°	Remarks	RoHs	



12VM1040ASIR

SD

IR

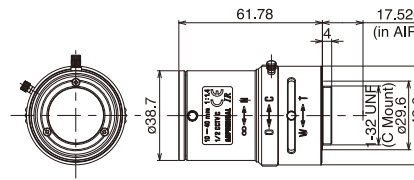
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/2	Operation	Focus	Manual with Lock
Mount Type	C	Zoom	Zoom	Manual with Lock
Focal Length	10 - 40mm	Iris	Iris	Manual with Lock
Aperture Range	F/1.4 - Close	Overall Length	66mm	
Zoom Ratio	×4	Weight	77g	
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°	Remarks	RoHs	



DC Auto Iris

13VG2811ASIR

SD

IR

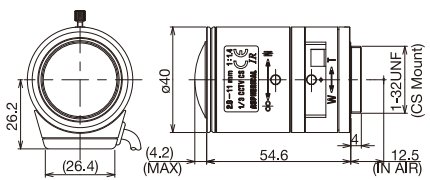
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	2.8 - 11mm	Iris	Iris	DC Auto Iris
Aperture Range	F/1.4 - 360	Operating Voltage	Open 4.0V Close 0.5V	
Zoom Ratio	×3.9	Overall Length	63mm	
Focus Range	0.3m - ∞	Weight	79g	
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°	Remarks	RoHs	



13VG308ASIRII

SD

IR

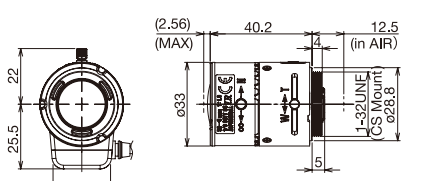
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	3.0 - 8mm	Iris	Iris	DC Auto Iris
Aperture Range	F/1.0 - 360	Operating Voltage	Open 3.0V Close 0.7V	
Zoom Ratio	×2.6	Overall Length	48mm	
Focus Range	0.2m - ∞	Weight	45g	
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°	Remarks	RoHs	



13VG1040ASIR

SD

IR

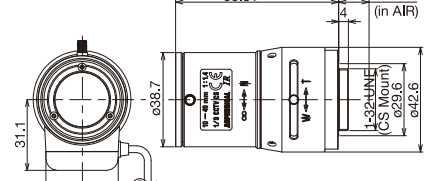
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Zoom	Zoom	Manual with Lock
Focal Length	10 - 40mm	Iris	Iris	DC Auto Iris
Aperture Range	F/1.4 - 360	Operating Voltage	Open 3.0V Close 0.5V	
Zoom Ratio	×4	Overall Length	71mm	
Focus Range	0.5m - ∞	Weight	89g	
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°	Remarks	RoHs	



12VG412ASIR

SD

IR

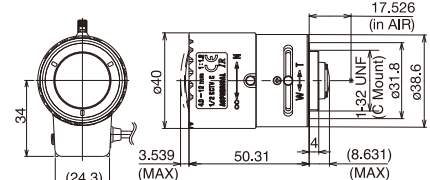
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/2	Operation	Focus	Manual with Lock
Mount Type	C	Zoom	Zoom	Manual with Lock
Focal Length	4.0 - 12mm	Iris	Iris	DC Auto Iris
Aperture Range	F/1.2 - 360	Operating Voltage	Open 3.0V Close 0.5V	
Zoom Ratio	×3	Overall Length	62mm	
Focus Range	0.3m - ∞	Weight	68g	
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°	Remarks	RoHs	



12VG1040ASIR

SD

IR

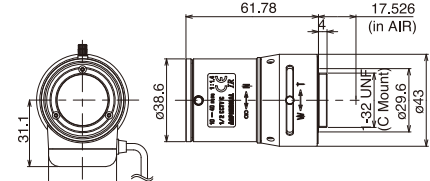
ASL

Imager Size

2/3 1/2 1/3 1/4



Imager Size	1/2	Operation	Focus	Manual with Lock
Mount Type	C	Zoom	Zoom	Manual with Lock
Focal Length	10 - 40mm	Iris	Iris	DC Auto Iris
Aperture Range	F/1.4 - 360	Operating Voltage	Open 3.0V Close 0.5V	
Zoom Ratio	×4	Overall Length	66mm	
Focus Range	0.5m - ∞	Weight	87g	
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°	Remarks	RoHs	



Vari-Focal Lenses

Manual Iris

13VM550ASII

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				
Field of View Angle (Horizontal × Vertical)	1/3 W					
	1/3 T					
	1/4 W					
	1/4 T					

SD

ASL

Imager Size 2/3 1/2 1/3 1/4

13VM20100AS

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				
Field of View Angle (Horizontal × Vertical)	1/3 W					
	1/3 T					
	1/4 W					
	1/4 T					

SD

ASL

Imager Size 2/3 1/2 1/3 1/4

DC Auto Iris

13VG2812ASII

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	Weight	71g			
	1/3 T	Remarks				
	1/4 W					
	1/4 T					

SD

ASL

Imager Size 2/3 1/2 1/3 1/4

13VG550ASII

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	Weight	84g			
	1/3 T	Remarks				
	1/4 W					
	1/4 T					

SD

ASL

Imager Size 2/3 1/2 1/3 1/4

13VG20100AS

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	Weight	156g			
	1/3 T	Remarks				
	1/4 W					
	1/4 T					

SD

ASL

Imager Size 2/3 1/2 1/3 1/4

Fixed-Focal Lenses Day / Night

Manual Iris

13FM22IR

SD

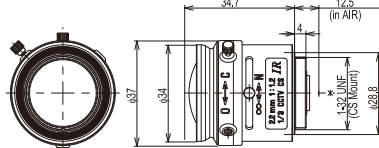
IR

Imager Size

2/31/21/31/4



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				
Field of View Angle (Horizontal × Vertical)	1/3				118.6°×90.0°	
	1/4				90.0°×67.9°	



13FM28IR

SD

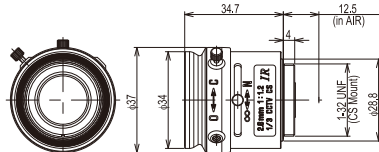
IR

Imager Size

2/31/21/31/4



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				
Field of View Angle (Horizontal × Vertical)	1/3				93.2°×70.7°	
	1/4				70.7°×53.4°	



13FM04IR

SD

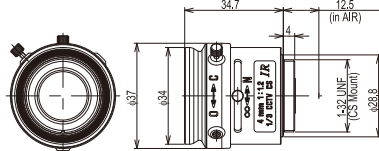
IR

Imager Size

2/31/21/31/4



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				
Field of View Angle (Horizontal × Vertical)	1/3				65.6°×34.7°	
	1/4				49.7°×37.4°	



13FM06IR

SD

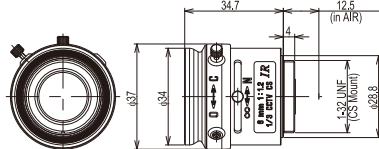
IR

Imager Size

2/31/21/31/4



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				
Field of View Angle (Horizontal × Vertical)	1/3				46.5°×34.6°	
	1/4				34.6°×25.9°	



13FM08IR

SD

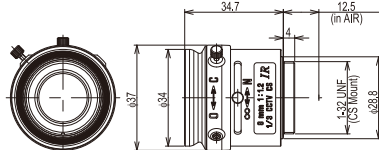
IR

Imager Size

2/31/21/31/4



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				
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

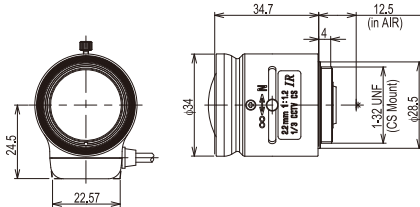
SD

IR

Imager Size 2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Operation	Iris	DC Auto Iris
Focal Length	2.2mm	Operating Voltage		Open 2.5V
Aperture Range	F/1.2 - 360	Operating Voltage		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

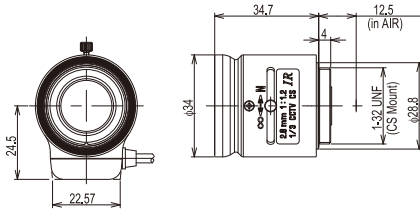
SD

IR

Imager Size 2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Operation	Iris	DC Auto Iris
Focal Length	2.8mm	Operating Voltage		Open 2.5V
Aperture Range	F/1.2 - 360	Operating Voltage		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

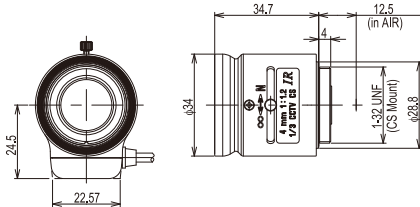
SD

IR

Imager Size 2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Operation	Iris	DC Auto Iris
Focal Length	4mm	Operating Voltage		Open 2.5V
Aperture Range	F/1.2 - 360	Operating Voltage		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

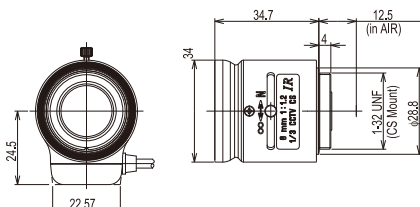
SD

IR

Imager Size 2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Operation	Iris	DC Auto Iris
Focal Length	6mm	Operating Voltage		Open 2.5V
Aperture Range	F/1.2 - 360	Operating Voltage		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

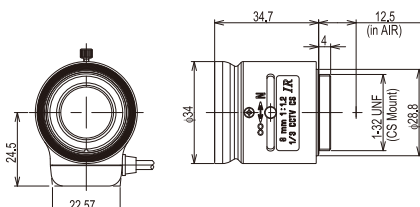
SD

IR

Imager Size 2/3 1/2 1/3 1/4



Imager Size	1/3	Operation	Focus	Manual with Lock
Mount Type	CS	Operation	Iris	DC Auto Iris
Focal Length	8mm	Operating Voltage		Open 2.5V
Aperture Range	F/1.2 - 360	Operating Voltage		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

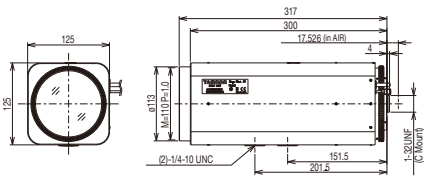
IR

Imager Size 2/3 1/1.8 1/2 1/3

2MP



Imager Size	1/1.8	Operation	Focus	Motorized
Mount Type	C	Operation	Zoom	Motorized
Focal Length	10 - 360mm	Operation	Iris	DC Auto Iris
Aperture Range	F/1.6 - 16	Operating Voltage		Open 4.0V (MAX 6.0V)
Zoom Ratio	×36	Operating Voltage		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

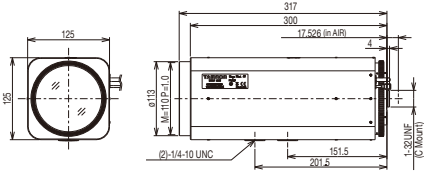
IR

Imager Size 2/3 1/1.8 1/2 1/3

2MP



Imager Size	1/1.8	Operation	Focus	Motorized
Mount Type	C	Operation	Zoom	Motorized
Focal Length	10 - 360mm	Operation	Iris	DC Auto Iris
Aperture Range	F/1.6 - 16	Operating Voltage		Open 4.0V (MAX 6.0V)
Zoom Ratio	×36	Operating Voltage		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

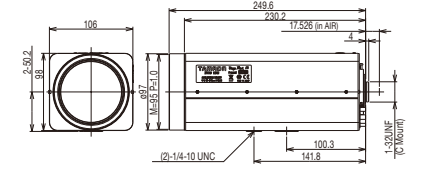
IR

Imager Size 2/3 1/1.8 1/2 1/3

2MP



Imager Size	1/2	Operation	Focus	Motorized
Mount Type	C	Operation	Zoom	Motorized
Focal Length	15 - 510mm	Operation	Iris	DC Auto Iris
Aperture Range	F/3.0 - 6.4	Operating Voltage		Open 5.0V (MAX 6.0V)
Zoom Ratio	×34	Operating Voltage		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)



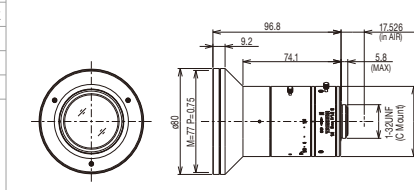
Mega-Pixel Machine Vision Lenses

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° (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°	Remarks	RoHs	

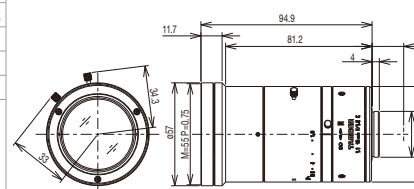


M111FM16

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° (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°	Remarks	RoHs	

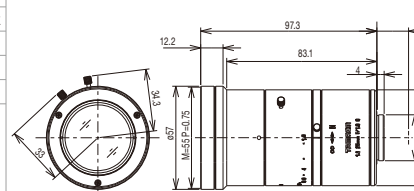


M111FM25

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° (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°	Remarks	RoHs	

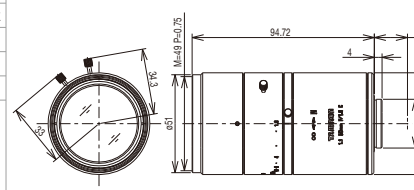


M111FM50

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° (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°	Remarks	RoHs	



FFMP Flat-Field Mega-Pixel 3.1μm Supports 3.1μm Sensor 5.86μm Supports 5.86μm Sensor RoHs RoHs Compatible

Mega-Pixel Machine Vision Lenses

M112FM08

FFMP

5.86μm

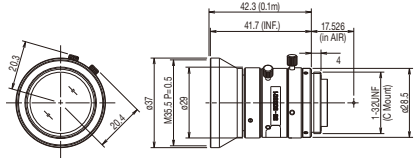
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			70.3°×54.9°	
	2/3	(4:3)			59.5°×45.8°	
		(16:9)			64.0°×37.8°	



M112FM12

FFMP

5.86μm

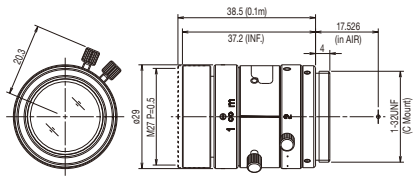
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			49.2°× 37.6°	
	2/3	(4:3)			53.2°× 30.6°	
		(16:9)			40.9°× 31.1°	
		(16:9)		44.4°× 25.5°		



M112FM16

FFMP

5.86μm

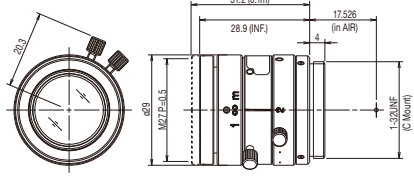
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			37.4°× 28.4°	
	2/3	(4:3)			40.5°× 22.3°	
		(16:9)			31.0°× 23.4°	
		(16:9)		33.7°× 19.2°		



M112FM25

FFMP

5.86μm

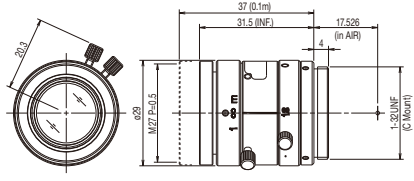
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			24.1°× 18.2°	
	2/3	(4:3)			26.2°× 15.0°	
		(16:9)			19.9°× 15.0°	
		(16:9)		21.7°× 12.3°		



M112FM35

FFMP

5.86μm

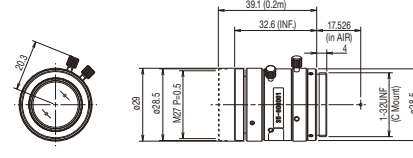
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			17.3°×13.1°	
	2/3	(4:3)			18.8°×10.7°	
		(16:9)			14.3°×10.7°	
		(16:9)		15.5°×8.8°		



M112FM50

FFMP

5.86μm

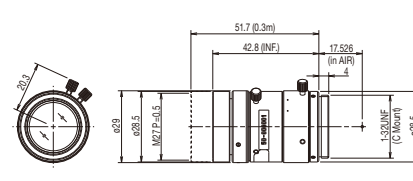
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			12.2°×9.2°	
	2/3	(4:3)			13.2°×7.5°	
		(16:9)			10.0°×7.5°	
		(16:9)		10.9°×6.16°		



M112FM75

FFMP

5.86μm

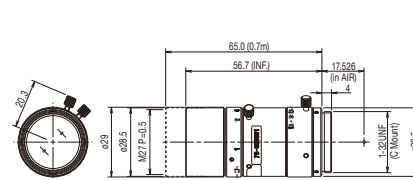
Imager Size

1.1/1

1/1.2

2/3

	Imager Size	1/1.2	Operation	Focus Iris	Manual with Lock	
	Mount Type	C			Manual with Lock	
	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)	Remarks	RoHs		
		(16:9)			8.1°×6.1°	
	2/3	(4:3)			8.9°×5.0°	
		(16:9)			6.7°×5.0°	
		(16:9)		7.3°×4.1°		



Mega-Pixel Machine Vision Lenses

M23FM06

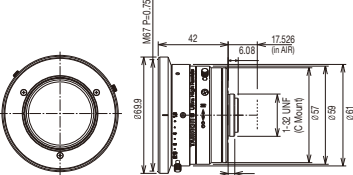
FFMP

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

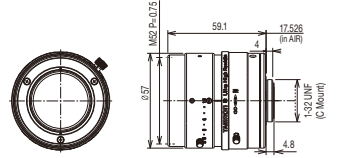
FFMP

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

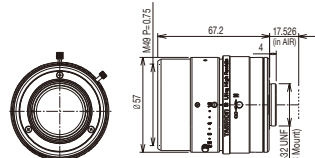
FFMP

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

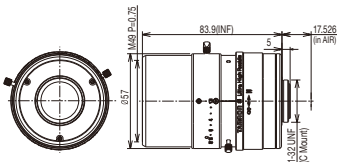
FFMP

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

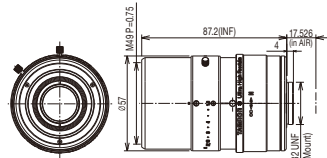
FFMP

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

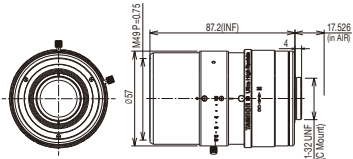
FFMP

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

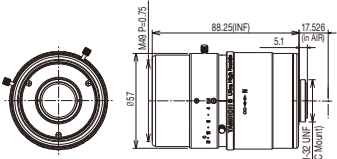
FFMP

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

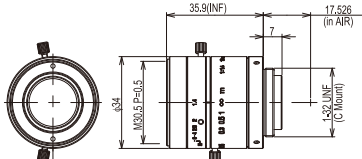
FFMP

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

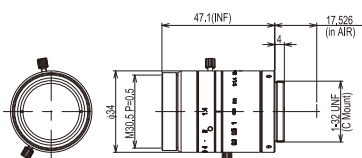
FFMP

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

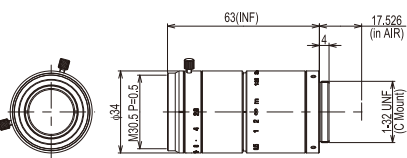
FFMP

4.0μm

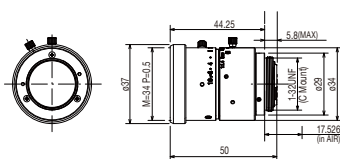
Imager Size 2/3 1/1.8 1/2 1/4

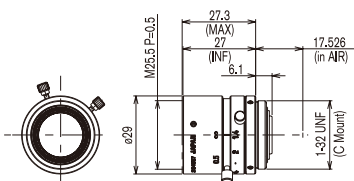


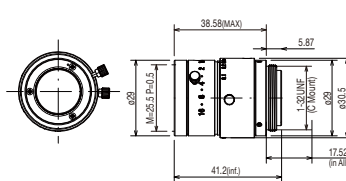
Imager Size	2/3	Operation	Focus	Manual with Lock
Mount Type	C	Iris		Manual with Lock
Focal Length	50mm	Filter Size	M30.5 P=0.5mm	
Aperture Range	F/2.8 - 32	Overall Length	67mm	
Focus Range	0.2m - ∞	Weight	117g	
Field of View Angle (Horizontal × Vertical)	2/3 10.1°×7.6° 1/2 7.3°×5.5° 1/3 5.5°×4.1°	Remarks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

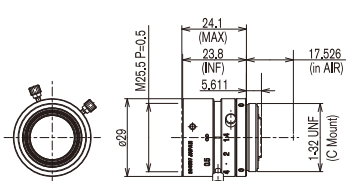


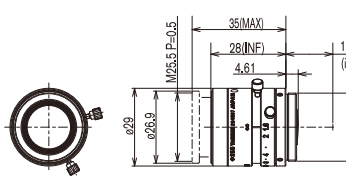
Mega-Pixel Machine Vision Lenses

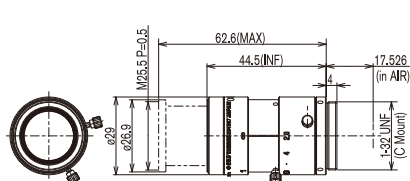
M118FM06		FFMP		4.0μm		Imager Size		2/3 1/1.8 1/2 1/4	
	Imager Size	1/1.8		Operation	Focus	Manual with Lock			
	Mount Type	C			Iris	Manual with Lock			
	Focal Length	6mm		Filter Size	M34 P=0.5mm				
	Aperture Range	F/1.4 - 16		Overall Length	50mm				
	Focus Range	0.1m - ∞		Weight	86g				
	Field of View Angle (Horizontal° Vertical)	1/1.8	66.1°×50.8°	Remarks					
		1/2	58.9°×44.9°						
	1/3	44.9°×34.0°							

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°	Remarks					
		1/2	45.0°×34.0°						
	1/3	34.0°×25.6°							

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°	Remarks					
		1/2	30.2°×22.7°						
	1/3	22.7°×17.1°							

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°	Remarks					
		1/2	22.8°×17.1°						
	1/3	17.1°×12.9°							

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°	Remarks					
		1/2	14.6°×11.0°						
	1/3	11.0°×8.2°							

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°	Remarks					
		1/2	7.3°×5.5°						
	1/3	5.5°×4.1°							

Machine Vision Lenses

22HA

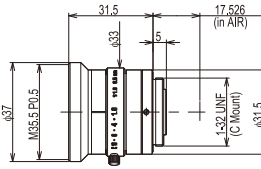
SD

Imager Size

2/31/1.81/21/4



Imager Size	2/3	Operation	Focus	-
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	Remarks	RoHs	
	1/2			
	1/3			



219HB

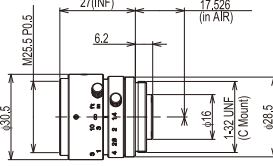
SD

Imager Size

2/31/1.81/21/4



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	Remarks	RoHs	
	1/2			
	1/3			



25HA

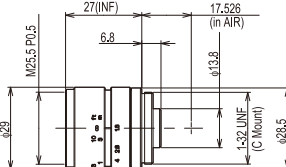
SD

Imager Size

2/31/1.81/21/4



Imager Size	2/3	Operation	Focus	Manual
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	Remarks	RoHs	
	1/2			
	1/3			



25HB

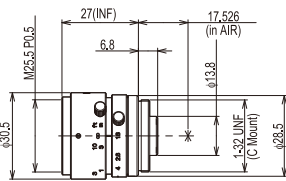
SD

Imager Size

2/31/1.81/21/4



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	Remarks	RoHs	
	1/2			
	1/3			

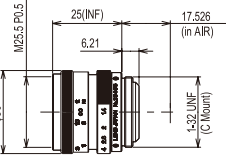


Machine Vision Lenses

17HD



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° 1/2: 22.5°×16.9° 1/3: 16.9°×12.7°		Remarks	RoHs

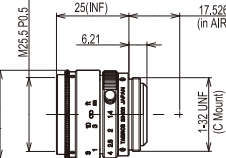


SDImager Size2/3 1/1.8 1/2 1/4

17HF



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° 1/2: 22.5°×16.9° 1/3: 16.9°×12.7°		Remarks	RoHs

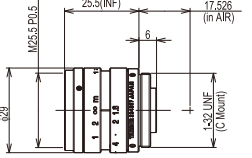


SDImager Size2/3 1/1.8 1/2 1/4

20HA



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° 1/2: 14.6°×11.0° 1/3: 11.0°×8.2°		Remarks	RoHs

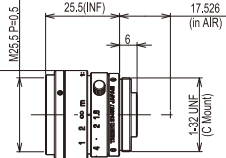


SDImager Size2/3 1/1.8 1/2 1/4

20HC



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° 1/2: 14.6°×11.0° 1/3: 11.0°×8.2°		Remarks	RoHs

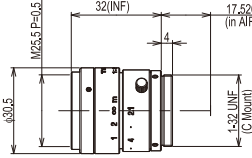


SDImager Size2/3 1/1.8 1/2 1/4

35HB



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° 1/2: 10.4°×7.8° 1/3: 7.8°×5.9°		Remarks	RoHs

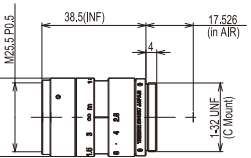


SDImager Size2/3 1/1.8 1/2 1/4

21HA



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° 1/2: 7.3°×5.5° 1/3: 5.5°×4.1°		Remarks	RoHs

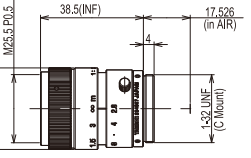


SDImager Size2/3 1/1.8 1/2 1/4

21HC



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° 1/2: 7.3°×5.5° 1/3: 5.5°×4.1°		Remarks	RoHs

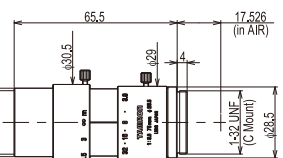


SDImager Size2/3 1/1.8 1/2 1/4

1A1HB



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° 1/2: 5.0°×3.5° 1/3: 3.5°×2.5°		Remarks	RoHs



SDImager Size2/3 1/1.8 1/2 1/4

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
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Remarks

Imager Size	1.1" 12.3mm 17.4mm 12.3mm 1/1.2" 7.13mm 13.4mm 11.34mm 2/3" 6.6mm 11mm 8.8mm 1/1.8" 5.4mm 9mm 7.2mm 1/2" 4.8mm 8mm 6.4mm 1/3" 3.6mm 6mm 4.8mm 1/4" 2.7mm 4.5mm 3.6mm
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- 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
	1/4" Camera	0.26× against the Specified Angle of View
1/1.2" Lens	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	0.34× against the Specified Angle of View

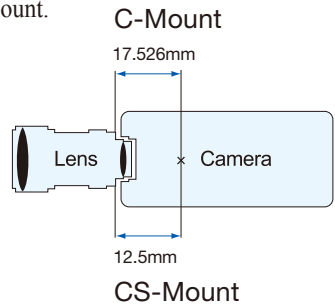
2/3" Lens	1/2" Camera	0.73× against the Specified Angle of View
	1/3" Camera	0.55× against the Specified Angle of View
	1/4" Camera	0.41× against the Specified Angle of View
1/1.8" Lens	1/2" Camera	0.89× against the Specified Angle of View
	1/3" Camera	0.67× against the Specified Angle of View
1/2" Lens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

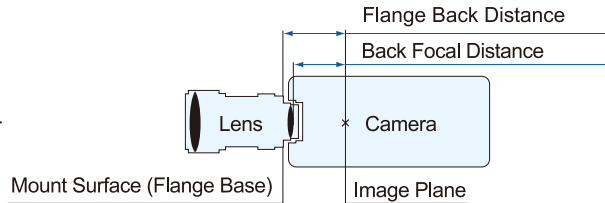
Correspond to the standard mount type of the camera which may be either C-Mount or CS-Mount. The characteristics are as follows.

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



Flange Back Distance & Back Focal Distance

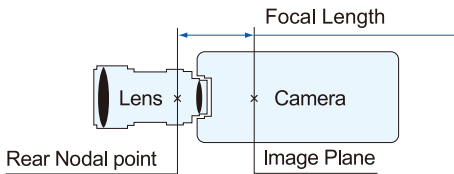
- Flange Back Distance: Distance between the mechanical rear end of the mount surface and the image plane.
- Back Focal Distance: Distance between the physical end of the lens element (side closest to the camera) and the image plane.



Focal Length

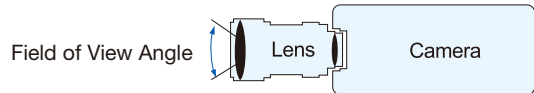
Distance between the rear nodal point and the focal point (Image Plane) on the optical axis.

*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.