TAMRON
New eyes for industry

Flat-Field Mega-Pixel Lens Series

Flat-Field Mega-Pixel Lens

Flat-Field IR Mega-Pixel Lens

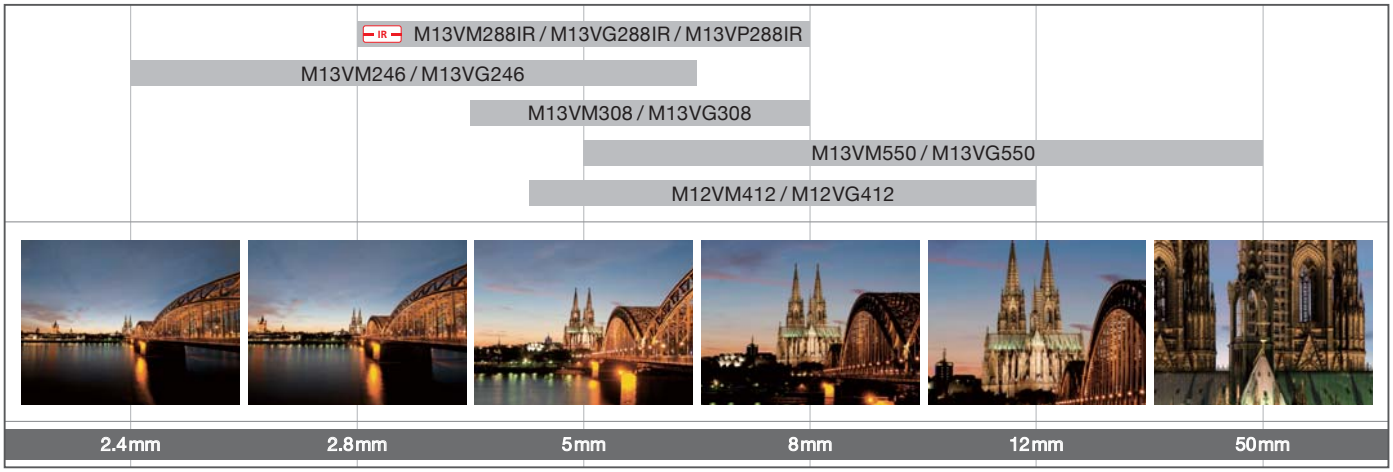
2011.ver.02 E

Specifications and Lineup

Image		Full HD / 3MP / IR — Flat-Field MegaPixel 			HD — Flat-Field MegaPixel 		HD — Flat-Field MegaPixel 	
Model		M13VM288IR	M13VG288IR	M13VP288IR	M13VM246	M13VG246	M13VM308	M13VG308
Imager Size		1/3			1/3		1/3	
Mount		CS			CS		CS	
Focal Length		2.8-8mm			2.4-6mm		3.0-8mm	
Aperture Range		1.2-Close	1.2-360	1.2-Close	1.2-Close	1.2-360	1.0-Close	1.0-360
Zoom Ratio		x2.8			x2.5		x2.6	
Angle of Veiw (Horizontal X Vertical)		1/2.8 Wide: 109.8°×79.8°			1/3 Wide: 111.3°×83.5°		1/3 Wide: 92.5°×68.2°	
		1/2.8 Tele: 38.8°×28.9°			1/3 Tele: 47.1°×35.4°		1/3 Tele: 35.4°×26.5°	
		1/3 Wide: 100.1°×72.9°			1/4 Wide: 83.5°×62.6°		1/4 Wide: 68.2°×50.6°	
		1/3 Tele: 35.8°×26.8°			1/4 Tele: 35.4°×26.6°		1/4 Tele: 26.5°×19.9°	
		1/4 Wide: 72.9°×53.9°						
		1/4 Tele: 26.8°×20.1°						
Operation	Focus	Manual w/Lock			Manual w/Lock		Manual w/Lock	
	Zoom	Manual w/Lock			Manual w/Lock		Manual w/Lock	
	Iris	Manual w/Lock	DC Auto Iris	P-Iris	Manual w/Lock	DC Auto Iris	Manual w/Lock	DC Auto Iris
Focusing Range		0.3m-∞			0.3m-∞		0.3m-∞	
Operating Temperature		-20 - +60℃			-20 - +60℃		-20 - +60℃	

Image		HD — Flat-Field MegaPixel 		HD — Flat-Field MegaPixel 	
Model		M13VM550	M13VG550	M12VM412	M12VG412
Imager Size		1/3		1/2	
Mount		CS		C	
Focal Length		5-50mm		4.0-12mm	
Aperture Range		1.4-Close	1.4-360	1.4-Close	1.4-360
Zoom Ratio		x10		x3	
Angle of Veiw (Horizontal X Vertical)		1/3 Wide: 53.8°×40.3°		1/2 *1 Wide: 100.5°×73.4°	
		1/3 Tele: 5.5°×4.2°		1/2 *1 Tele: 33.4°×25.1°	
		1/4 Wide: 40.3°×30.2°		1/2 *2 Wide: 93.9°×68.6°	
		1/4 Tele: 4.2°×3.1°		1/2 *2 Tele: 31.4°×23.6°	
				1/3 Wide: 68.6°×51.0°	
				1/3 Tele: 23.6°×17.7°	
Operation	Focus	Manual w/Lock		Manual w/Lock	
	Zoom	Manual w/Lock		Manual w/Lock	
	Iris	Manual w/Lock	DC Auto Iris	Manual w/Lock	DC Auto Iris
Focusing Range		1m-∞		0.3m-∞	
Operating Temperature		-20 - +60℃		-20 - +60℃	

*1 Imager Size 6.8mm x 5.1mm
*2 Imager Size 6.4mm x 4.8mm



*Angle of view images are illustrative examples.

Flat-Field IR Mega-Pixel Lens 〈M13VM288IR/M13VG288IR/M13VP288IR〉

Full HD 3MP IR

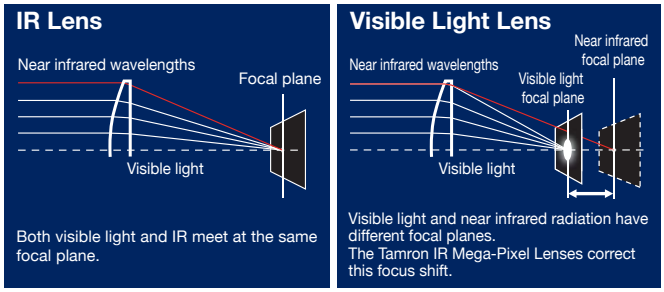
High Performance At 3 Mega-Pixel / Full HD Mega-Pixel Resolution In The Near Infrared Spectrum

Near infrared radiation refracts differently from visible light, causing blurring in an image captured in the near infrared spectrum. Tamron IR Mega-Pixel Lenses utilize cutting-edge optical design technology and advanced low dispersion glass to converge the focal points of visible light and near infrared radiation, providing 3 mega-pixel image quality 24-hours a day.

Delivering Exceptional Image Quality And Outstanding Video Surveillance Day Or Night Using State-Of-The-Art Aberration Correction Up To The Near Infrared Spectrum

With conventional lenses, image blurring occurs in surveillance camera video footage shot under near infrared illumination because the optimum focus point changes as a result of the difference between the refractive indices of near infrared and visible light, which also affects their wavelengths (see figure at right). The Tamron IR Mega-Pixel Lens Series features the latest optical design formulas and low dispersion glass technologies that resolve this focus point discrepancy. This eliminates image degradation, even in black and white mode, and delivers 3 mega-pixel quality image for 24-hours surveillance at any time of day regardless of the lighting conditions.

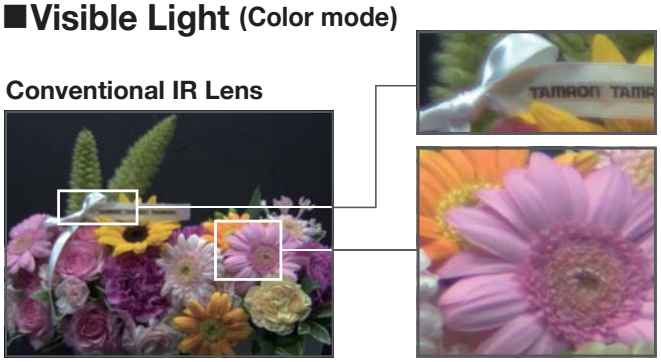
■Comparison of a Visible Light Lens and an IR Lens



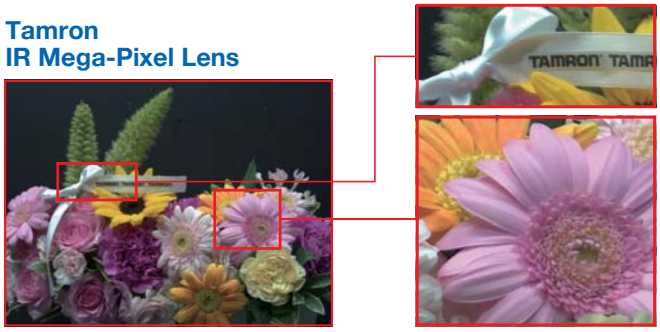
Delivering Exceptional Image Quality In Visible Light And Near Infrared Conditions

■Visible Light (Color mode)

Conventional IR Lens

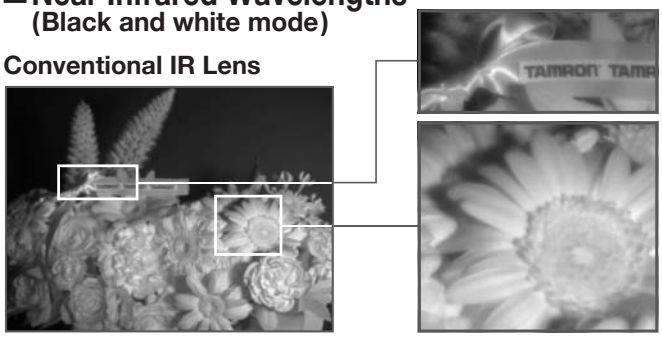


Tamron IR Mega-Pixel Lens

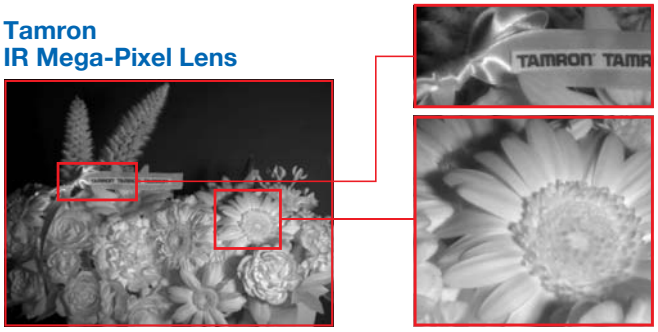


■Near Infrared Wavelengths (Black and white mode)

Conventional IR Lens



Tamron IR Mega-Pixel Lens



*All images appearing on this page taken from actual mega-pixel surveillance camera and CCTV/IP lenses.

Model M13VM288IR/M13VG288IR/M13VP288IR 2.8-8mm F/1.2

Full HD 3MP IR

3 Mega-Pixel Quality That Meets Or Exceeds Full HD 1080P In Both The Visible And Near Infrared Spectrums

Versatile Zoom Range From 2.8 To 8mm

With a maximum angle of view of 100.1°, this lens can image an entire room when installed in the corner.

Superb Picture Quality

Designed to minimize color aberrations, ghost and flare for top picture quality.

Designed For Compatibility With Current Camera Technology

Internal components in the vicinity of the imager are designed to minimize protrusion from the lens mount face for full compatibility with nearly all surveillance cameras on the market.

F/1.2 Fast Aperture Allows Surveillance Under Extreme Low-Light Conditions With Mega-pixel Resolution

Flat-Field Mega-Pixel Lens

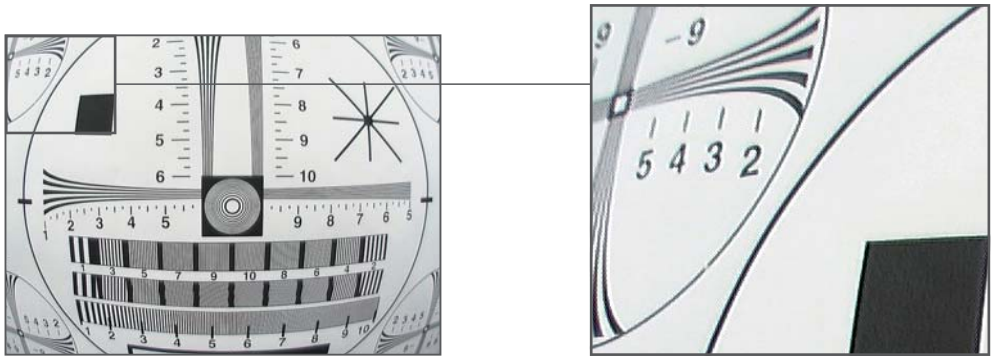
Delivering Uniformly High Resolution Image From Corner To Corner

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 of image, 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 Lens 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.

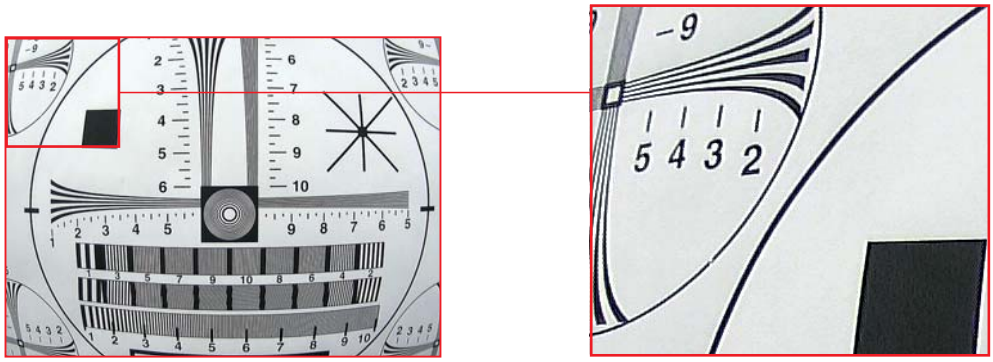
Consistent Screen Wide High Resolution And High Contrast Image Quality

■Wide Angle

Normal Lens

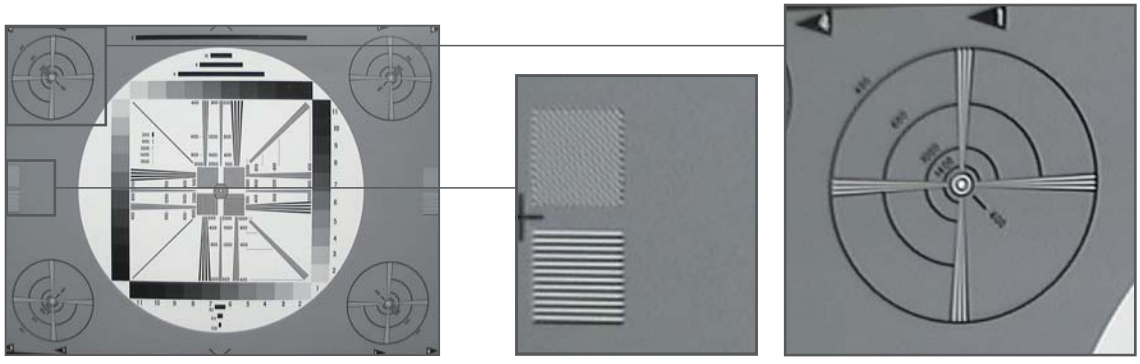


Tamron Mega-Pixel Lens

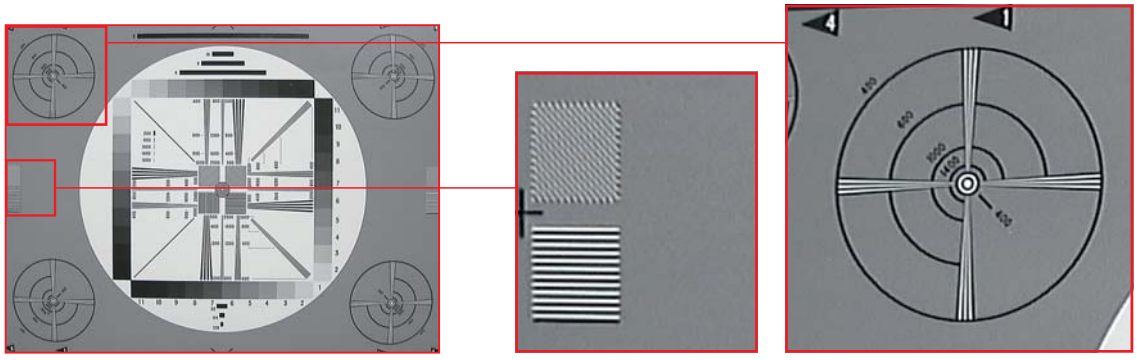


■Tele Angle

Normal Lens



Tamron Mega-Pixel Lens



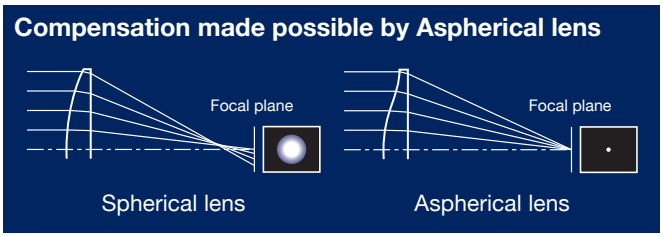
* Image taken at maximum aperture.
** Images shown are all shot using actual mega-pixel cameras and CCTV/IP lenses.

Key Mega-pixel Technologies

Key Technologies Supporting With Mega-Pixel Compatibility

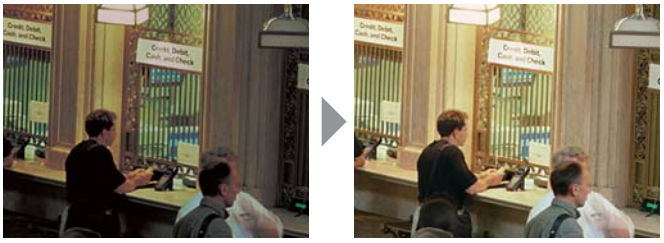
〈M13VM288IR/M13VG288IR/M13VP288IR, M13VM246/M13VG246, M13VM308/M13VG308, M13VM550/M13VG550〉

Each lens in Tamron's Mega-Pixel Vari-Focal Lens Series uses Aspherical elements to minimize optical aberrations and ensure 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 application that use high quality mega-pixel cameras.



Wide Dynamic Range 〈M13VM308/M13VG308〉

The fast aperture of F/1.0 makes it possible to obtain vivid color images even in dim lighting conditions such as dark rooms and corridors, or in the early morning or evening hours when the ambient light would ordinarily be sufficient to capture high-quality images. A fast lens is able to gather a large amount of light, thereby enhancing the sensitivity of the camera.



■F/1.4 ■F/1.0

F/1.0 lens has two times light gathering power compared to F/1.4 making a 1 lux camera sensitivity into a 0.5 lux sensitivity.

Multiple-Layer Coatings

Multi-coating is applied to internal and external lens surfaces to minimize ghosting and flare in backlit situations. The result is consistently sharp contrast and excellent image quality even unfavorable lighting conditions.

Slip-Mount Mechanism

Each lens is equipped with a slip-mount mechanism that allows rotational adjustment of the lens after it is mounted on a camera. This allows optimal positioning of the auto-iris actuator and cable during installation.

Compact Design

Mega-pixel resolution is achieved while maintaining the compactness of conventional lenses.

P-Iris 〈M13VP288IR〉

By using a stepper motor to control the iris, this lens is capable of adjusting the aperture at a position that does not cause diffraction, enabling an appropriate level of exposure by utilizing the camera shutter speed.*1 The result is that high quality, high contrast images can be recorded, even in bright outdoor areas. This fine tuning control will allow the user to acquire the best image quality delivering good depth of field at most installations.

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

Locking Mechanism For Each Control Ring

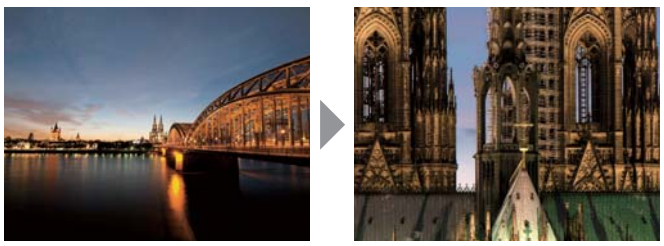
Each control ring for zoom, focus, and iris size* can be independently locked to prevents setting displacement after installation.
(*Manual iris only)

Precision Manufacturing

Each component in our Flat-Field Mega-Pixel Lenses is produced and assembled using the most advanced precision manufacturing techniques to prevent image degradation due to local blur and focus shift.

Diverse Optical Lineup

The Tamron Flat-Field Mega-Pixel Lens Series includes a broad range of lenses that offer the ideal solution for a variety of high resolution network surveillance applications from single camera use situations such as monitoring a building entrance or elevator lobby, to remote external surveillance applications such as outdoor security, traffic monitoring, or surveillance of large retail stores. This extensive lineup includes 2.4mm ultra wide angle, 8mm standard focal length, and 50mm ultra telephoto lenses, accommodating a wide range of applications.

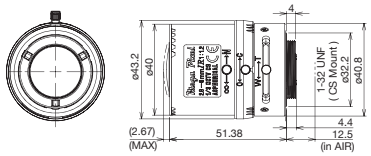


■2.4mm
(111.3° horizontal angle of view)

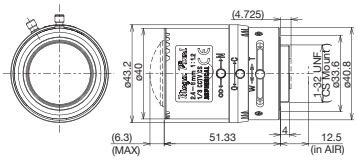
■50mm
(5.5° horizontal angle of view)

Dimensions

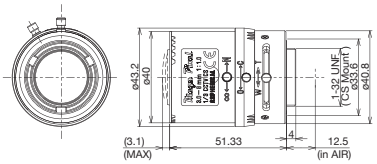
M13VM288IR



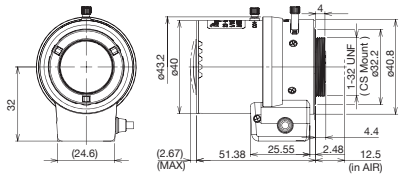
M13VM246



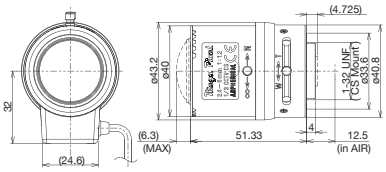
M13VM308



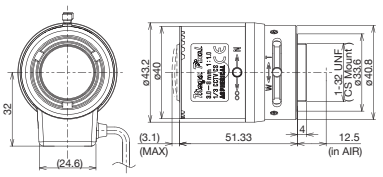
M13VG288IR



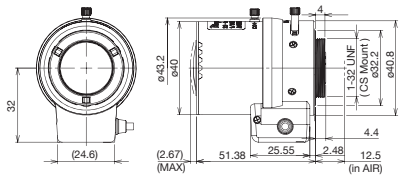
M13VG246



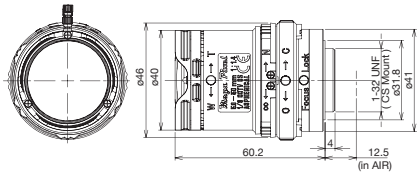
M13VG308



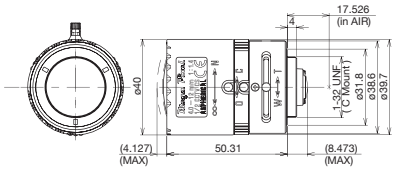
M13VP288IR



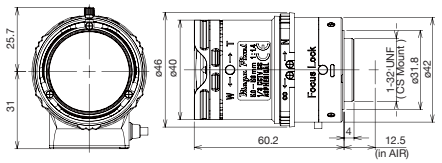
M13VM550



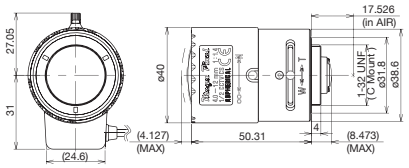
M12VM412



M13VG550



M12VG412



Environmental policy

Environmentally Friendly Design

Tamron employs an environmentally-friendly design approach that requires all lens componets, as well as packing materials and all peripheral elements to be free from any substances that could have an adverse impact on our environment. All of Tamron's manufacturing plants implement thorough environmental assessments when procuring materials and components to ensure that no such harmful substances are used.

Strict Chemical Substances Management System

Tamron has established a strict internal regime to monitor all chemical substances used to manufacture our lenses, and is fully compliant with RoHS, REACH and WEEE. We will continue our efforts to develop safe products that bring our customers peace of mind in addition to our high standard of quality.

⚠ **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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ISO9001&ISO14001REGISTERED FIRM DNV AS REGION JAPAN

Quality Assurance Activities: At Tamron, quality management activities are performed in compliance with ISO9001:2000 not only to assure product quality but to enhance customer satisfaction.

Environmental Protection: We recognize the significance of our social responsibilities. Tamron promotes corporate activities that protect the earth's environment through the establishment of a quality assurance system that is compliant with ISO14001.

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Specifications subject to change without notice 2011,11

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