Optimal Performance in Various Environments

Kowa CCTV Lenses

Crystal Clear Optics

Kowa Zoom Lenses

BEARING CAM Focus System
Increases Image Stability

3 CAM High Performance Reliability Durability DESIGN

New Technology
Bearing CAM Focus System

Conventional zoom lenses commonly employ a helicoid system for the focus mechanism, which is essentially an internal screw type device that allows the user to twist the lens into focus. However, one of the main problems with a helicoid system is that environmental factors such as cold temperatures can make the focus torque too heavy for any parts to move freely without strong force.

To help prevent such problems from occurring, Kowa developed a "**3-CAM**" system for use in all of its vari-focal and zoom lenses. Kowa's innovative 3-CAM design utilizes guide pins to minimize the contact points of all the internal mechanical parts so that they move freely with significantly less friction and torque. In other words, the result you get is a more robust lens with a longer product life since the 3-CAM system reduces wear and tear of all moving parts. The 3-CAM system also increases optical performance by solving the problem of de-centering, decreases internal reflection, and reduces the need for grease on the focus and zoom mechanisms.

In an effort to further improve on the 3-CAM technology, Kowa has designed a "**Bearing CAM**" focus system for the internal moving mechanisms of our zoom lenses. This new Bearing CAM focus system is especially important for long range zoom lenses because the heavy weight and large diameter of such lenses can push down on the internal moving parts. If the pressure on such lenses gets to be too much, the inside barrel can become deformed, thus changing the alignment of the optical path. Kowa's Bearing CAM focus system helps to resolve this issue because it uses dozens of ball bearings to absorb extra pressure and at the same time, allows for a smoother rotation of moving parts. What this translates to is that you get a lens with an even longer product life that is more resilient against frequent focus and zoom movement.

Kowa has released a high definition 2 megapixel 20-750mm **LMZ20750AMPDC-XF** long range zoom lens with the new Bearing CAM focus system.

Ultra High Sensitivity HD Color Camera

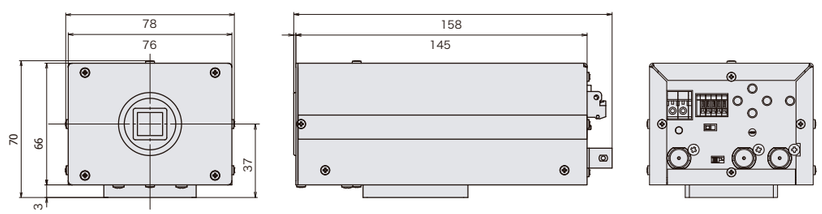
Super Bright Surveillance Camera

Designed for high end surveillance applications where high resolution color images are required, even in very low light areas.
Our 60mm/F0.8 5MP lens is 6 times brighter than any standard 50mm/F2.0 lens in the market.
The SC200PK1C provides an 30fps color image even at 0.005 Lux, the excellent sensitivity of this camera is comparable to the EMCCD, the currently the highest sensitive CCD type camera in the market.
Therefore the combination of our 60mm/F0.8 5MP lens and the SC200PK1C provides the excellent bright color image in low light conditions.

0.005 Lux
Color
2Megapixel Camera

SC200PK1C
2/3" CMOS 2MP Color 0.005 Lux

LMZ20750 Zoom Lens at 900m Distance under 0.35 Lux Light Condition

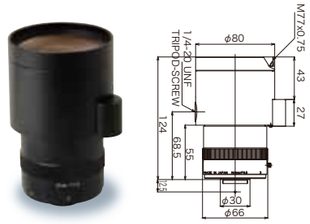


SPECIFICATION **SC200PK1C**

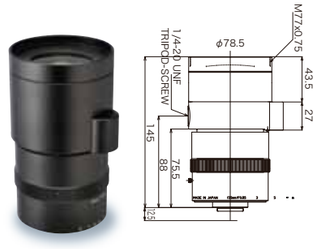
Imaging Device	2/3" CMOS	Iris Control	DC
Valid Pixels	Approx 2M pixels	Day & Night	IR Cut Filter ON/OFF
Pixel Size	5.0 μm	Video Output	HD:HD-SDI / SD:NTSC, PAL
Scanning Method	Progressive	Output Format	1920x1080 1280 x 720 29.97 30 60 25 50
Minimum Illumination	0.005Lux (F1.4) 30fps		
S/N	More than 50dB	Remote Control	RS-485
Synchronization	Internal/External	Input Voltage	DC12V
Gain	0—72dB	Power Consumption	Lower than 7W
Shutter Type	Rolling Shutter	Size (mm)	78(W)x66(H)x146(D)
Lens Mount	CS	Weight	600g

Suggested Megapixel Lenses for SC200PK1C

Low light level lenses



LM60JS5MA
1" 60mm/F0.8



LM35JS5MA
1" 35mm/F0.85

LM25JS5MA
1" 25mm/F0.85

Long range zoom lenses

LMZ1236AMPDC-XF
30x Series
1/1.8" 12-360mm/F2.6

LMZ20750AMPDC-XF
37.5x Series
1/1.8" 20-750mm/F4.6-F7.0(Tele)

New **Day & Night**

LMZ11176AMPDC-IR
16x Series
2/3" 11-176mm/F1.6

Day & Night

LMZ20550AMPDC-IR
27.5x Series
1/1.8" 20-550mm/F4.6

Day & Night

LMZ25300AMPDC-IR
12x Series
1" 25-300mm/F2.8

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)			Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
						1"	2/3"	1/1.8"	Iris	Zoom	Focus					
LM60JS5MA	1"	60	0.8—360	3	CS	12.8	8.8	—	DC	—	Manual	5MP	—	M77x0.75	78.5x91.5x124	1.000
LM35JS5MA	1"	35	0.85—360	3	CS	21.6	14.9	—	DC	—	Manual	5MP	—	M77x0.75	78.5x91.5x145	1,200
LM25JS5MA	1"	25	0.85—360	3	CS	29.0	20.0	—	DC	—	Manual	5MP	—	M77x0.75	78.5x91.5x116.6	800
LMZ1236AMPDC-XF	1/1.8"	12-360	2.6—360	1.8	C	—	40.0 - 1.4	29.4-1.05	DC	Motor (P)	Motor (P)	2MP	—	M86x1.0	100x100x257	1,720
LMZ20750AMPDC-XF	1/1.8"	20-750	4.6—360	5	C	—	24.2 - 0.7	17.8-0.5	DC	Motor (P)	Motor (P)	2MP	—	M112x1.0	130x130x342	3,500
LMZ11176AMPDC-IR	2/3"	11-176	1.6—32	5	C	—	43.3 - 2.9	—	DC	Motor (P)	Motor (P)	2MP	○	M86x1.0	109x109x211.5	2,850
LMZ25300AMPDC-IR	1"	25-300	2.8—360	2	C	28.6-2.5	19.9 - 1.7	—	DC	Motor (P)	Motor (P)	2MP	○	M86x1.0	100x100x297.5	1,950
LMZ20550AMPDC-IR	1/1.8"	20-550	4.6—360	5	C	—	24.2 - 0.9	17.9-0.64	DC	Motor (P)	Motor (P)	2MP	○	M112x1.0	130x138x342	3,400

Long Range Megapixel Zoom Lenses

Powerful motorized zoom lenses designed for long range surveillance which provides crisp and sharp image over the range. Also provide very bright image even at tele-end. Utilizing Kowa's advanced technology "3-CAM Design" and XD (eXtra low Dispersion) glass.

Motorized Zoom Lens Configuration

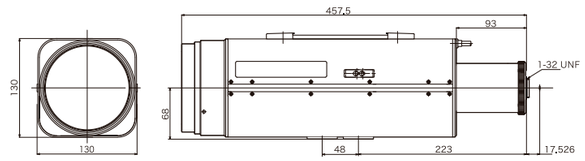
- AM Video Iris 2 Motors
- AMP Video Iris 2 Motors Preset
- AMDC DC-Iris 2 Motors
- AMPDC DC-Iris 2 Motors Preset
- M3 3 Motors
- M3P 3 Motors Preset

LMZ1000-XF

AMDC AMPDC

50x Series

1/2" 20-1000mm / F3.5-F8.9 (Tele)

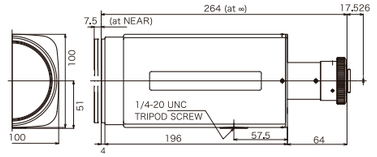


LMZ1236-XF

AMDC AMPDC M3 M3P

30x Series

1/1.8" 12-360mm / F2.6

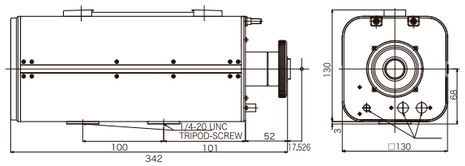


LMZ20750-XF

AMDC AMPDC

37.5x Series

1/1.8" 20-750mm / F4.6-F7.0 (Tele)

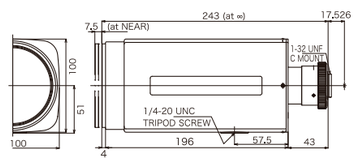


LMZ0824-XF

AMDC AMPDC M3 M3P

30x Series

1/1.8" 8-240mm / F1.7



Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMZ1000AMPDC-XF	1/2"	20-1000	3.5—720	5	C	17.8—0.38	DC	Motor (P)	Motor (P)	2MP	—	M114x0.75	139x130x450	5,500
LMZ20750AMPDC-XF	1/1.8"	20-750	4.6—360	5	C	17.8—0.5	DC	Motor (P)	Motor (P)	2MP	—	M112x1.0	130x130x342	3,500

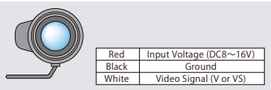
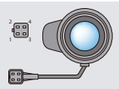
LMZ2EX (Exclusive 2x Extender)

Model	Focal Length	Mount	Size(mm)	Weight
LMZ 2 EX	2 times	C	ϕ50x7.1mm	50g

＊Corresponded for 1/2 or less C-mount lenses

Technical Data

Wiring Diagram
Auto Iris Lenses

Control System	Video Type / with AI amp.	DC Type / without AI amp.
Input Voltage	DC8～16V (Max.40mA)	—
Input Signal	Video Signal (V or VS)	—
Sensitivity Adjustment	V Signal Level 0.5—1.0V p-p	—
Input Impedance	High Impedance	—
Iris Response Time	Approx 2 Second	—
Metering Method	Peak-average adjustable method	—
Operation Temperature	−10℃～+50℃	−10℃～+50℃
Connection		

Red	Input Voltage (DC8～16V)
Black	Ground
White	Video Signal (V or VS)

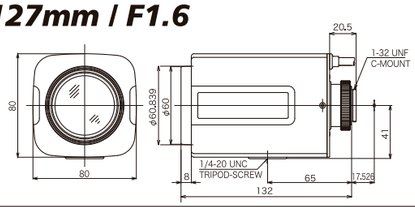
Pin No.		
1	Green	Control —
2	Yellow	Control +
3	Red	Drive +
4	Black	Drive —

LMZ7527

AM AMP AMDC AMPDC

17x Series

1/2" 7.5-127mm / F1.6



Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMZ1236AMPDC-XF	1/1.8"	12-360	2.6—360	1.8	C	29.4—1.05	DC	Motor (P)	Motor (P)	2MP	—	M86x1.0	100x100x257	1,720
LMZ0824AMPDC-XF	1/1.8"	8-240	1.7—360	1.8	C	43.5—1.56	DC	Motor (P)	Motor (P)	2MP	—	M86x1.0	100x100x256	1,700
LMZ7527AMPDC	1/2"	7.5-127	1.6—360	1.5	C	45.6—2.9	DC	Motor (P)	Motor (P)	2MP	—	M58x0.75	80x80x132	580

Day & Night Megapixel Zoom Lenses

At over 5 megapixels with a large format and IR-Corrected lenses which are designed to produce crisp and bright images no matter how dark or bright the surrounding environment may be. These lenses are ideal for ITS, airport, railway, harbor, and other high end surveillance applications.

Motorized Zoom Lens Configuration

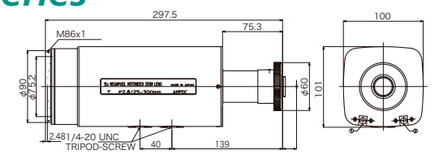
- AM Video Iris 2 Motors
- AMP Video Iris 2 Motors Preset
- AMDC DC-Iris 2 Motors
- AMPDC DC-Iris 2 Motors Preset
- M3 3 Motors
- M3P 3 Motors Preset

LMZ25300-IR

AMDC AMPDC M3 M3P

12x Series

1" 25-300mm / F2.8



Day & Night

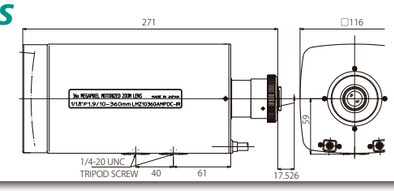
LMZ10360-IR

AMDC AMPDC

36x Series

1/1.8" 10-360mm / F1.9

New



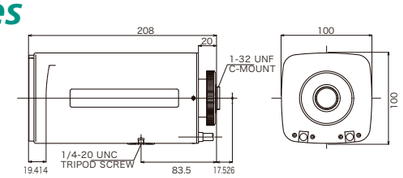
Day & Night

LMZ16160-IR

AMDC AMPDC M3 M3P

10x Series

1" 16-160mm / F1.9



Day & Night

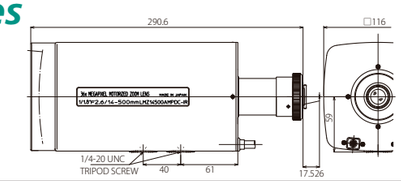
LMZ14500-IR

AMDC AMPDC

36x Series

1/1.8" 14-500mm / F2.9

New



Day & Night

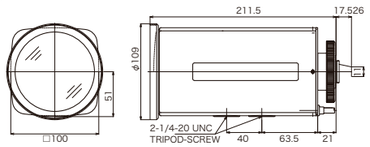
LMZ11176-IR

AMDC AMPDC M3 M3P

16x Series

2/3" 11-176mm / F1.6

New



Day & Night

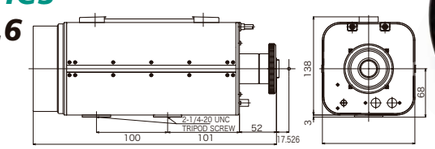
LMZ20550-IR

AMDC AMPDC

27.5x Series

1/1.8" 20-550mm / F4.6

BEARING CAM Focus System Increases Image Stability



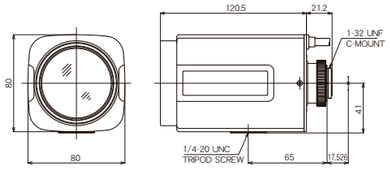
Day & Night

LMZ1177-IR

AMDC AMPDC M3 M3P

7x Series

2/3" 11-77mm / F1.6



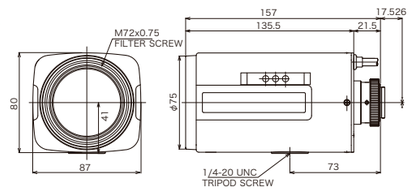
Day & Night

LMZ0812-IR

AM AMP AMDC AMPDC M3 M3P

15x Series

1/2" 8-120mm / F1.8



Day & Night

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMZ25300AMPDC-IR	1"	25-300	2.8—360	5	C	28.6—2.5	DC	Motor (P)	Motor (P)	5MP	○	M86x1.0	100x101x297.5	1,950
LMZ16160AMPDC-IR	1"	16-160	1.9—22	1.7	C	42.7—4.6	DC	Motor (P)	Motor (P)	5MP	○	M89x1.0	100x100x208	1,350
LMZ11176AMPDC-IR	2/3"	11-176	1.6—32	5	C	43.3—2.9	DC	Motor (P)	Motor (P)	2MP	○	M86x1.0	109x109x211.5	2,850
LMZ1177AMPDC-IR	2/3"	11-77	1.6—360	1.5	C	43.3—6.6	DC	Motor (P)	Motor (P)	5MP	○	M67x0.75	80x80x120.5	760

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMZ10360AMPDC-IR	1/1.8"	10-360	1.9—360	10	C	39.1—1.16	DC	Motor (P)	Motor (P)	MP	○	M112x1.0	116x116x271	2,680
LMZ14500AMPDC-IR	1/1.8"	14-500	2.9—360	10	C	28.1—0.83	DC	Motor (P)	Motor (P)	MP	○	M112x1.0	116x116x290.6	2,720
LMZ20550AMPDC-IR	1/1.8"	20-550	4.6—360	5	C	17.9—0.64	DC	Motor (P)	Motor (P)	2MP	○	M86x1.0	130x138x342	3,400
LMZ0812AMPDC-IR	1/2"	8-120	1.8—360	1.5	C	43.2—3.1	DC	Motor (P)	Motor (P)	5MP	○	M72x0.75	87x80x157	780

High Resolution Zoom Lenses

Motorized Zoom Lens Configuration

- AM Video Iris 2 Motors
- AMP Video Iris 2 Motors Preset
- AMDC DC-Iris 2 Motors
- AMPDC DC-Iris 2 Motors Preset
- M3 3 Motors
- M3P 3 Motors Preset

LMZ750-XF
25x Series

1/2" 30-750mm / F4.6

AM AMP AMDC AMPDC M3 M3P

LMZ375-XF
25x Series

1/2" 15-375mm / F2.3

AM AMP AMDC AMPDC M3 M3P

LMZ123-XF
25x Series

1/2" 12-300mm / F1.8

AM AMP AMDC AMPDC

LMZ112
18x Series

1/2" 11-200mm / F1.9

AM AMP AMDC AMPDC

LMZ300
30x Series

1/3" 5.5-165mm / F1.8

AM AMP AMDC AMPDC

LMZ200
20x Series

1/3" 5.6-112mm / F1.6

AM AMP AMDC AMPDC M3 M3P

LMZ110
15x Series

1/3" 6-90mm / F1.6

AM AMP AMDC AMPDC M3 M3P

LMZ111
10x Series

1/3" 6-60mm / F1.6

AM AMP AMDC AMPDC M3 M3P

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMZ750AMPDC-XF	1/2"	30-750	4.6—720	2.5	C	11.8—0.5	DC	Motor (P)	Motor (P)	–	–	–	122x122x313	2,720
LMZ375AMPDC-XF	1/2"	15-375	2.3—360	2.5	C	23.2—0.99	DC	Motor (P)	Motor (P)	–	–	–	122x122x261	2,580
LMZ123AMPDC-XF	1/2"	12-300	1.8—1000	2.5	C	29.4—1.24	DC	Motor (P)	Motor (P)	–	–	–	122x122x258	2,520
LMZ112AMPDC	1/2"	11-200	1.9—360	1.5	C	32.1—1.9	DC	Motor (P)	Motor (P)	–	–	M72x0.75	87x80x170.5	755
LMZ300AMPDC	1/3"	5.5-165	1.8—360	1.8	CS	47.6—1.7	DC	Motor (P)	Motor (P)	–	–	M72x0.75	87x80x167	880
LMZ200AMPDC	1/3"	5.6-112	1.6—360	1.5	CS	47.6—2.6	DC	Motor (P)	Motor (P)	–	–	M55x0.75	69x79x119.5	570
LMZ110AMPDC	1/3"	6-90	1.6—360	1.2	CS	44.2—3.1	DC	Motor (P)	Motor (P)	–	–	M55x0.75	69x79x116.5	550
LMZ111AMPDC	1/3"	6-60	1.6—360	1.2	CS	44.2—4.7	DC	Motor (P)	Motor (P)	–	–	M55x0.75	69x79x116.5	550

P-Iris Day & Night Megapixel Lenses

Kowa's P-Iris (precise iris) lenses utilize stepper motors to allow the user to set the ideal iris position.
Pictures will be sharper and have better contrast, resolution and depth of field.

5Megapixel Day & Night Fixed Focal Lenses

Day & Night

LM16JC5MM-IR
2/3" 16mm / F1.4

LM25JC5MM-IR
2/3" 25mm / F1.4

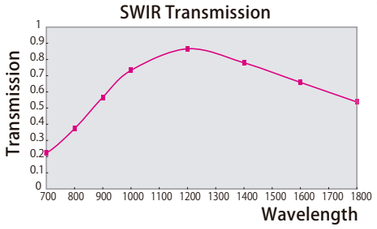
LM35JC5MM-IR
2/3" 35mm / F2.0

Remote F-number Adjustment

- *Better Depth of Field*
- *Ability to Freeze Iris Position for Triggered Capture*
- *Prevents Diffraction of Image*
- *Improved Optical Performance*
- *Eliminates the Need for an ND Filter*

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LM16JC5MM-IR	2/3"	16	1.4—360	0.5	C	30.9	P-Iris	–	Manual	5MP	○	M30.5x0.5	37x44x55.4	100
LM25JC5MM-IR	2/3"	25	1.4—360	0.3	C	20.1	P-Iris	–	Manual	5MP	○	M30.5x0.5	37x44x57.6	110
LM35JC5MM-IR	2/3"	35	2.0—360	0.5	C	13.9	P-Iris	–	Manual	5MP	○	M35.5x0.5	37x44x52.8	100

SWIR Zoom Lenses



LMZ25300-SW
12x Series

1" 25-300mm / F2.8

LMZ20750-SW
37.5x Series

1/1.8" 20-750mm / F4.6-F7.0(Tele)

LMZ16160-SW
10x Series

1" 16-160mm / F1.9

LMZ1177-SW
7x Series

2/3" 11-77mm / F1.6

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMZ25300M3P-SW	1"	25-300	2.8—32	2	C	28.6—2.5	Motor(P)	Motor(P)	Motor(P)	–	–	M86x1.0	100x100x297.5	1,950
LMZ16160M3P-SW	1"	16-160	1.9—22	1.7	C	42.7—4.6	Motor(P)	Motor(P)	Motor(P)	–	–	M89x1.0	100x100x208	1,350
LMZ20750AMPDC-SW	1/1.8"	20-750	4.6—360	5	C	17.8—0.5	DC	Motor(P)	Motor(P)	–	–	M112x1.0	130x130x342	3,500
LMZ1177M3P-SW	2/3"	11-77	1.6—16	1.5	C	43.3—6.6	Motor(P)	Motor(P)	Motor(P)	–	–	M67x0.75	80x80x142	760

DC-Iris Day & Night Megapixel Lenses

5Megapixel Day & Night Fixed Focal Lenses

Day & Night

LM16JC5MA-IR 2/3" 16mm / F1.4

LM25JC5MA-IR 2/3" 25mm / F1.4

LM35JC5MA-IR 2/3" 35mm / F2.0

3Megapixel Day & Night Fixed Focal Lenses

Day & Night

LMVZ3109A-IR 1/2.7" 3.1-9mm / F1.3

LMVZ7550A-IR 1/2.7" 7.5-50mm / F1.5

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LM16JC5MA-IR	2/3"	16	1.4–360	0.5	C	30.9	DC	–	Manual	5MP	○	M30.5x0.5	37x44x55.4	100
LM25JC5MA-IR	2/3"	25	1.4–360	0.3	C	20.1	DC	–	Manual	5MP	○	M30.5x0.5	37x44x57.6	110
LM35JC5MA-IR	2/3"	35	2.0–360	0.5	C	13.9	DC	–	Manual	5MP	○	M35.5x0.5	37x44x52.8	100
LMVZ3109A-IR	1/2.7"	3.1-9(2.9x)	1.3–360	0.5	CS	99.4–34.8	DC	Manual	Manual	3MP	○	–	36.5x47.1x52.1	70
LMVZ7550A-IR	1/2.7"	7.5-50(2x)	1.5–360	0.5	CS	38.0–6.2	DC	Manual	Manual	3MP	○	–	47.5x53.6x68.4	TBA

Other Varifocal and Fixed Focal Lenses

*(1) Available while stocks last

Day & Night Varifocal Lenses

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Mega	IR Correct	Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus					
LMVZ990-IR	1/2"	9.0-90 (10x)	1.8–16	0.3	C	41.1–4.2	Manual	Manual	Manual	–	○	M43x0.75	φ45x93	194
LMVZ990A-IR	1/2"	9.0-90 (10x)	1.8–360	0.3	C	41.1–4.2	DC	Manual	Manual	–	○	M43x0.75	45x53.5x93	194

Megapixel Varifocal Lenses

LMVZ4411		1/1.8"	4.4-11 (2.5x)	1.6–16	0.5	C	76.6–36.7	Manual	Manual	Manual	2MP	–	M43x0.75	φ45x56.5	125
LMVZ166HC		1"	16-64 (4x)	1.8–16	0.5	C	45.9–11.7	Manual	Manual	Manual	2MP	–	M58x0.75	φ60x124	370

High Resolution Varifocal Lenses

LMVZ41	*(1)	1/2"	4.0-10 (2.5x)	1.8–C	0.3	CS	94.8–37.3	Manual	Manual	Manual	–	–	–	φ38x48	90
LMVZ41A	*(1)	1/2"	4.0-10 (2.5x)	1.8–360	0.3	CS	94.8–37.3	DC	Manual	Manual	–	–	–	36.5x44x48	94
LMVZ655	*(1)	1/2"	6.5-52 (8x)	1.8–C	0.2	C	41.2–5.4	Manual	Manual	Manual	–	–	M43x0.75	φ46x73.5	163
LMVZ655A	*(1)	1/2"	6.5-52 (8x)	1.8–360	0.2	C	41.2–5.4	DC	Manual	Manual	–	–	M43x0.75	46x51x73.6	163
LMVZ164	*(1)	1/3"	1.6-3.4 (2.1x)	1.4–C	0.2	CS	180.0–84.3	Manual	Manual	Manual	–	–	–	φ42x52.1	98
LMVZ164A	*(1)	1/3"	1.6-3.4 (2.1x)	1.4–360	0.2	CS	180.0–84.3	DC	Manual	Manual	–	–	–	39.5x45.8x52.1	105
LMVZ256	*(1)	1/3"	2.5-6.0 (2.4x)	1.4–C	0.2	CS	107.6–45.6	Manual	Manual	Manual	–	–	–	φ42x47.4	83
LMVZ256A	*(1)	1/3"	2.5-6.0 (2.4x)	1.4–360	0.2	CS	107.6–45.6	DC	Manual	Manual	–	–	–	39.5x45.8x47.6	90
LMVZ540	*(1)	1/3"	5-40 (8x)	1.6–C	0.1	CS	53.6–6.5	Manual	Manual	Manual	–	–	M40.5x0.5	φ42x72.5	134
LMVZ540A	*(1)	1/3"	5-40 (8x)	1.6–360	0.1	CS	53.6–6.5	DC	Manual	Manual	–	–	M40.5x0.5	42x48x72.5	133
LMVZ580	*(1)	1/3"	5.5-82.5 (15x)	1.8–C	0.2	CS	50.7–3.1	Manual	Manual	Manual	–	–	M46x0.75	φ48x82.5	183
LMVZ580A	*(1)	1/3"	5.5-82.5 (15x)	1.8–360	0.2	CS	50.7–3.1	DC	Manual	Manual	–	–	M46x0.75	48x52x82.5	181
LMVZ510A	*(1)	1/3"	5-100 (20x)	1.6–360	0.3	CS	52.7–2.8	DC	Manual	Manual	–	–	M46x0.75	48x55x93	190

Fixed Focal Lenses

LM2.3PB	*(1)	1/3"	2.3	1.4–360	0.2	CS	116.1	DC	–	Manual	–	–	–	39.2x48.6x41	80
LM3PB	*(1)	1/3"	2.8	1.4–360	0.2	CS	97.4	DC	–	Manual	–	–	M35.5x0.5	39.2x48.6x39	69
LM4NCR		1/2"	3.5	1.4–C	0.2	C	103.6	Manual	–	Manual	–	–	–	φ35x31	56
LM5NCR		1/2"	4.5	1.4–C	0.2	C	79.0	Manual	–	Manual	–	–	M30.5x0.5	φ35x32	54
LM6NCR		1/2"	6	1.4–C	0.2	C	57.3	Manual	–	Manual	–	–	M30.5x0.5	φ35x39.5	72
LM12NCR		1/2"	12	1.4–C	0.3	C	30.7	Manual	–	Manual	–	–	M30.5x0.5	φ35x30	53
LM25JCR	*(1)	2/3"	25	1.6–C	0.5	C	21.1	Manual	–	Manual	–	–	M30.5x0.5	φ35x26	54

FA Industrial Lenses

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus			
8Megapixel Fixed Focal												
LM8XC	4/3"	8.5	2.8–22	0.1	C	93.5	Manual	–	Manual	M72x0.75	φ74x82.5	245
LM12XC	4/3"	12	2.0–22	0.1	C	74.9	Manual	–	Manual	M55x0.75	φ57x85	270
LM16XC	4/3"	16	2.0–22	0.1	C	60.6	Manual	–	Manual	M40.5x0.5	φ45x79.5	250
LM25XC	4/3"	25	2.0–16	0.15	C	40.9	Manual	–	Manual	M40.5x0.5	φ45x89	250
LM35XC	4/3"	35	2.0–16	0.2	C	29.6	Manual	–	Manual	M37.5x0.5	φ45x74	210
LM50XC	4/3"	50	2.0–22	0.3	C	20.6	Manual	–	Manual	M37.5x0.5	φ45x74	220
4Megapixel Fixed Focal												
LM6HC	1"	6	1.4–16	0.1	C	96.8	Manual	–	Manual	–	φ54x56.2	215
LM8HC	1"	8	1.4–16	0.1	C	79.7	Manual	–	Manual	M55x0.75	φ57x58	200
LM12HC	1"	12.5	1.4–16	0.3	C	55.6	Manual	–	Manual	M35x0.5	φ42x52	150
LM16HC	1"	16	1.4–16	0.3	C	44.3	Manual	–	Manual	M35.5x0.5	φ42x52.9	140
LM25HC	1"	25	1.4–16	0.3	C	29.3	Manual	–	Manual	M35.5x0.5	φ42x43	125
LM35HC	1"	35	1.4–16	0.3	C	20.9	Manual	–	Manual	M35.5x0.5	φ42x43	130
LM50HC	1"	50	1.4–16	0.5	C	14.5	Manual	–	Manual	M40.5x0.5	φ47.5x48	200
LM75HC	1"	75	1.8–16	1	C	9.7	Manual	–	Manual	M46x0.75	φ48x57	180
6Megapixel Fixed Focal												
LM12SC	1"	12	1.8–16	0.1	C	55.9	Manual	–	Manual	M40.5x0.5	φ43x84.0	255
LM16SC	1"	16	1.8–22	0.1	C	44.0	Manual	–	Manual	M34x0.5	φ43x80.0	240
LM25SC	1"	25	1.8–16	0.15	C	28.9	Manual	–	Manual	M34x0.5	φ43x89.0	245
LM35SC	1"	35	2.0–16	0.2	C	20.8	Manual	–	Manual	M34x0.5	φ43x74.0	200
LM50SC	1"	50	2.0–22	0.3	C	14.6	Manual	–	Manual	M34x0.5	φ43x78.5	210
10Megapixel Fixed Focal												
LM5JC10M	2/3"	5	1.8–16	0.1	C	82.2	Manual	–	Manual	M46x0.75	φ48x57.1	120
LM8JC10M	2/3"	8.5	1.8–22	0.1	C	54	Manual	–	Manual	M34x0.5	φ36x56	115
LM12JC10M	2/3"	12	1.8–11	0.1	C	39.1	Manual	–	Manual	M25.5x0.5	φ33x52.5	105
LM16JC10M	2/3"	16	1.8–16	0.1	C	30	Manual	–	Manual	M25.5x0.5	φ33x47.5	90
LM25JC10M	2/3"	25	1.8–16	0.1	C	20	Manual	–	Manual	M25.5x0.5	φ33x45.5	95
LM35JC10M	2/3"	35	2.0–16	0.1	C	14.3	Manual	–	Manual	M34x0.5	φ43x49	160
LM50JC10M	2/3"	50	2.8–16	0.1	C	10.1	Manual	–	Manual	M30.5x0.5	φ38x77	170
5Megapixel Fixed Focal												
LM12JC5M2	2/3"	12	1.4–16	0.1	C	38.4	Manual	–	Manual	M30.5x0.5	φ38.5x61.7	160
LM16JC5M2	2/3"	16	1.4–16	0.1	C	29.9	Manual	–	Manual	M30.5x0.5	φ38.5x63.3	160
LM25JC5M2	2/3"	25	1.4–16	0.1	C	19.9	Manual	–	Manual	M30.5x0.5	φ38.5x59.9	140
LM35JC5M2	2/3"	35	1.6–16	0.18	C	14.3	Manual	–	Manual	M35.5x0.5	φ38.5x63.6	150
Megapixel Fixed Focal												
LM3NCM	1/2"	3.5	2.4–14	0.1	C	82.4	Manual	–	Manual	M40.5x0.5	φ42x38.2	75
LM4NCM	1/2"	4.4	1.6–16	0.1	C	70.2	Manual	–	Manual	M43xP0.75	φ45x57.3	150
LM6NCM	1/2"	6	1.2–16	0.1	C	56.2	Manual	–	Manual	M30.5x0.5	φ32x45.8	88
LM5JCM	2/3"	5	2.8–16	0.15	C	82.4	Manual	–	Manual	M40.5x0.5	φ42x38.2	85
LM8JCM	2/3"	8	1.4–16	0.12	C	56.5	Manual	–	Manual	M27x0.5	φ34x41.6	83
LM12JCM	2/3"	12	1.4–16	0.15	C	38.3	Manual	–	Manual	M27x0.5	φ34x37	75
LM16JCM	2/3"	16	1.4–16	0.2	C	30.0	Manual	–	Manual	M25.5x0.5	φ33x36.5	81
LM25JCM	2/3"	25	1.4–16	0.2	C	19.6	Manual	–	Manual	M27x0.5	φ33x39.5	89
LM35JCM	2/3"	35	2.0–16	0.2	C	14.4	Manual	–	Manual	M27x0.5	φ34x36.5	92
LM50JCM	2/3"	50	2.8–22	0.2	C	9.6	Manual	–	Manual	M27x0.5	φ34x55	92
Megapixel SWIR Fixed Focal												
LM8HC-SW	1"	8	1.4–16	0.1	C	79.7	Manual	–	Manual	M55x0.75	φ57 x 58	200
LM12HC-SW	1"	12.5	1.4–16	0.3	C	55.6	Manual	–	Manual	M27x0.5	φ43 x 52	150
LM16HC-SW	1"	16	1.4–16	0.3	C	44.3	Manual	–	Manual	M35.5x0.5	φ43 x 52.9	140
LM25HC-SW	1"	25	1.4–16	0.3	C	29.3	Manual	–	Manual	M35.5x0.5	φ43 x 43	125
LM35HC-SW	1"	35	1.4–16	0.3	C	20.9	Manual	–	Manual	M35.5x0.5	φ43 x 43	130
LM50HC-SW	1"	50	1.4–16	0.5	C	14.5	Manual	–	Manual	M40.5x0.5	φ49 x 48	200
Large Format NIR												
LM50-IR	φ43.3	50	1.9–16	0.5	F	40.2x27.2	Manual	–	Manual	M52xP0.75	φ58.5x105.2	605
LM65-IR	φ43.3	65	1.9–16	0.7	F	30.7x23.4	Manual	–	Manual	M67xP0.75	φ69x105.1	650
Line Scan												
LM28CLS (3CCD)	φ30	28	2.8–22	0.5	F	–	Manual	–	Manual	M72x0.75	φ75 x 108	482
LM35CLS (3CCD)	φ30	35	2.8–22	0.5	F	–	Manual	–	Manual	M62x0.75	φ65 x 108	480
LM50CLS (3CCD)	φ30	50	2.8–22	0.3	F	–	Manual	–	Manual	M52x0.75	φ58 x 71.4	358
LM28LF	φ43.3	28	2.8–16	0.3	F	–	Manual	–	Manual	M72x0.75	φ75 x 98	500
LM35LF	φ43.3	35	2.8–16	0.26	F	–	Manual	–	Manual	M52x0.75	φ54 x 71	420
LM50LF	φ43.3	50	2.8–16	0.26	F	–	Manual	–	Manual	M52x0.75	φ54 x 77	460

FA Industrial Lenses

Model	Image Size	Focal Length (mm)	Iris Range (F)	M.O.D. (m)	Mount	H.Angle of View (°)	Operation			Filter Size	Size(DxHxL) (mm)	Weight (g)
							Iris	Zoom	Focus			
High Resolution Fixed Focal												
LM6JC	2/3"	6	1.4—16	0.1	C	81.9	Manual	—	Manual	—	ϕ30 x 32.8	63
LM8JC	2/3"	8	1.4—16	0.15	C	64.2	Manual	—	Manual	M27x0.5	ϕ30 x 30	60
LM12JC	2/3"	12	1.4—16	0.1	C	42.5	Manual	—	Manual	M27x0.5	ϕ30 x 31.5	63
LM16JC	2/3"	16	1.4—16	0.12	C	30.5	Manual	—	Manual	M27x0.5	ϕ30 x 28	55
LM25JC	2/3"	25	1.6—16	0.15	C	21.0	Manual	—	Manual	M27x0.5	ϕ30 x 28.5	58
LM35JC	2/3"	35	1.6—16	0.2	C	14.4	Manual	—	Manual	M30x0.5	ϕ32 x 36.5	85
LM50JC	2/3"	50	2.0—22	0.2	C	10.1	Manual	—	Manual	M30x0.5	ϕ32 x 39.5	88
LM75JC	2/3"	75	2.5—22	0.2	C	6.7	Manual	—	Manual	M34x0.5	ϕ36 x 51	105
LM100JC	2/3"	100	2.8—32	0.2	C	5.0	Manual	—	Manual	M48.5x0.5	ϕ40.5 x 70	150
LM4NCL	1/2"	3.5	1.4—16	0.2	C	103.6	Manual	—	Manual	—	ϕ31 x 30.5	73
LM5NCL	1/2"	4.5	1.4—16	0.2	C	79.0	Manual	—	Manual	—	ϕ31 x 29.5	71
LM6NCL	1/2"	6	1.4—16	0.2	C	57.3	Manual	—	Manual	M25.5x0.5	ϕ31 x 34	60
LM12NCL	1/2"	12	1.4—16	0.3	C	30.7	Manual	—	Manual	M25.5x0.5	ϕ31 x 29.5	70
NF-Mount												
LM3NF	1/3"	2.7	1.8—16	0.1	NF	100.8	Manual	—	Manual	—	ϕ21 x 27	26
LM5NF	1/3"	4.5	1.8—11	0.1	NF	59.2	Manual	—	Manual	—	ϕ21 x 31	35
LM9NF	1/3"	9	1.8—11	0.1	NF	30.2	Manual	—	Manual	—	ϕ21 x 34	40
Macro Zoom												
LMZ50M	1/3"	8.5-90	2.5—C	0.15	C	31.3—3.2	Manual	Manual	Manual	M48x0.75	ϕ60 x 130	437
LMZ68M	1/2"	8-48	1.0—C	0.01	C	43.6—7.7	Manual	Manual	Manual	M46x0.75	ϕ48 x 97.3	280
LMZ69M	2/3"	11.5-69	1.4—C	0.01	C	41.9—7.3	Manual	Manual	Manual	M46x0.75	ϕ48 x 102.7	300
LMZ45T3	2/3"	18-108	2.5—C	0.13	C	27.3—4.7	Manual	Manual	Manual	M52x0.75	ϕ62 x 171.7	595
Ruggedized Megapixel (JCM-V)												
LM8JCM-V	2/3"	8	1.4—C	0.1	C	56.5	Manual	—	Manual	M27x0.5	ϕ33 x 41.6	88
LM12JCM-V	2/3"	12	1.4—C	0.15	C	38.3	Manual	—	Manual	M27x0.5	ϕ33 x 37.0	75
LM16JCM-V	2/3"	16	1.4—C	0.2	C	30.0	Manual	—	Manual	M27x0.5	ϕ33 x 36.5	77
LM25JCM-V	2/3"	25	1.4—C	0.2	C	19.6	Manual	—	Manual	M27x0.5	ϕ33 x 39.5	83
LM35JCM-V	2/3"	35	2.0—C	0.2	C	14.4	Manual	—	Manual	M27x0.5	ϕ33 x 37.8	73
LM50JCM-V	2/3"	50	2.8—C	0.2	C	9.6	Manual	—	Manual	M27x0.5	ϕ33 x 56.2	85
Ruggedized Megapixel (HC-V)												
LM8HC-V	1"	8	1.4—C	0.1	C	79.4	Manual	—	Manual	M55x0.75	ϕ58 x 58	—
LM12HC-V	1"	12.5	1.4—C	0.3	C	55.6	Manual	—	Manual	M35.5x0.5	ϕ43 x 51.5	—
LM16HC-V	1"	16	1.4—C	0.3	C	44.3	Manual	—	Manual	M35.5x0.5	ϕ43 x 53	—
LM25HC-V	1"	25	1.4—C	0.3	C	29.3	Manual	—	Manual	M35.5x0.5	ϕ43 x 43	—
LM35HC-V	1"	35	1.4—C	0.3	C	20.9	Manual	—	Manual	M35.5x0.5	ϕ43 x 44.1	—
LM50HC-V	1"	50	1.4—C	0.5	C	14.5	Manual	—	Manual	M40.5x0.5	ϕ43 x 48	—

Telecentric Lenses

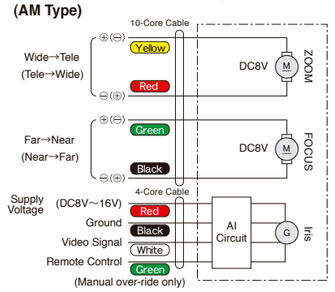
Model	Magnification	Image Size	Shooting Magnification	Objective N.A	W.D (mm)	Shooting Range(mm)	TV Distortion (%)	Back Focus in Air(mm)	Mount	Resolution	Size (mm)	Weight (g)
2/3" Telecentric Macro Zoom												
LM50TC	0.3-1.0x	6.6x8.8 (ϕ11)	0.3x 1.0x	0.038 0.100	193.4 81.8	29.5x22.2 (2/3") 8.8x6.6 (2/3")	-0.19 -0.1	22.0	C	120 lp/mm	ϕ56 x 115.7	317
4/3" Telecentric Macro Zoom												
LM11138TC	2.0x	13.8x18.4 (ϕ23)	2.0x	0.2	80.6	9.20x6.90(4/3")	0.1	14.7	C	120 lp/mm	ϕ64 x 151.0	—
LM1119TC	0.5-1.0x	13.8x18.4 (ϕ23)	0.5x 1.0x	0.05-0.007 0.1-0.014	80 81.8	36.8x27.7 (4/3") 18.4x13.8 (4/3")	0.1 0.1	14.7	C	120 lp/mm	ϕ82 x 151.5	1000
2/3" Telecentric 5 Megapixel Plus Series												
LM1120TC	3.45-4.4x	6.6x8.8 (ϕ11)	3.45x 4.0x 4.4x	0.2 0.2 0.2	65.9 65.9 65.9	1.9x2.6(2/3") 1/7x2.2(2/3") 1.5x2.0(2/3")	0.015 0.003 -0.002	14.7	C	120 lp/mm	ϕ57 x 180	—
LM1121TC	1.725-2.2x	6.6x8.8 (ϕ11)	1.725x 2.0x 2.2x	0.043 0.032 0.026	114.8 111.4 109.4	5.1x3.8 (2/3") 4.4x3.3 (2/3") 4.0x3.0 (2/3")	0.011 0.004 0.001	14.7	C	120 lp/mm	ϕ48 x 147.5	420
LM1122TC	1.15-1.47x	6.6x8.8 (ϕ11)	1.15x 1.3x 1.47x	0.047 0.060 0.077	111.6 111.6 111.6	7.6x5.7 (2/3") 6.6x5.0 (2/3") 6.5x4.5 (2/3")	-0.015 -0.001 0.011	14.7	C	120 lp/mm	ϕ50 x 123.9	330
LM1123TC	0.69-0.88x	6.6x8.8 (ϕ11)	0.69x 0.8x 0.88x	0.080 0.097 0.130	111.0 111.0 111.0	12.7x9.6 (2/3") 11.0x8.2 (2/3") 10.0x7.5 (2/3")	-0.001 -0.009 0.005	14.7	C	120 lp/mm	ϕ50 x 121.5	290

Technical Data

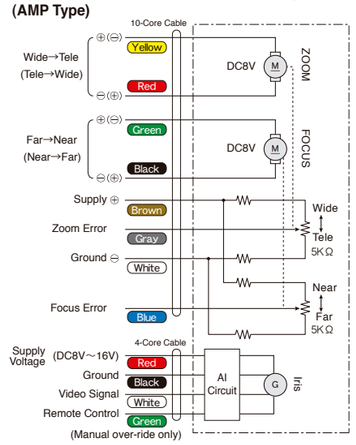
Wiring Diagram for Motorized Zoom Auto Iris Lenses

N.B.
The following are wiring diagrams of our standard models. For other detailed information, see the instruction manual in individual box.

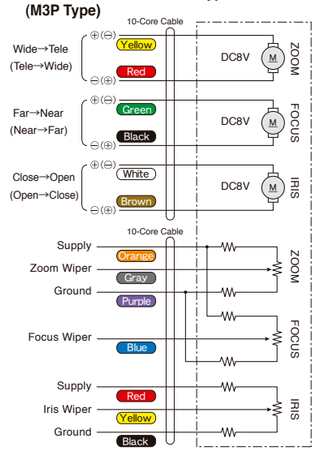
■Auto iris with Motorized Zoom, Focus (AM Type)



■AI, Motorized Zoom with Preset on Zoom, Focus (AMP Type)



■Motorized Zoom 3 Motor Type (M3P Type)



Zoom/Focus Motor Electrical Information

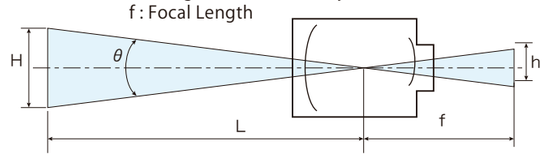
	Z/F	Z/F	Z/F	Z/F
Input Voltage	DC6V-12V	DC6V-12V	DC6V-12V	DC6V-12V
Current Consumption	Max 60mA	Max 60mA	Max 60mA	Max 60mA
Speed (at DC8V)	approx 7sec	approx 10sec	approx 14sec	approx11/28sec
Model No	LMZ111	LMZ112	LMZ123	LMZ1000
	LMZ110	LMZ300	LMZ0824	LMZ20750
	LMZ200	LMVZ16160-IR	LMZ1236	LMZ750
	LMZ7527	LMZ0812-IR		LMZ375
	LMZ1177-IR	LMZ25300-IR		LMZ20550-IR

Selection Guide for CCTV Lenses

1.Angle of View and Field of View

(A)The angle of view can be obtained by following formula.
$\theta = 2\tan^{-1} h/2f$
(B)The Field of View can be obtained by following formula.
H=h L/f

θ : Angle of View
h : Image Size
f : Focal Length
H: Field of View
L: Object Distance

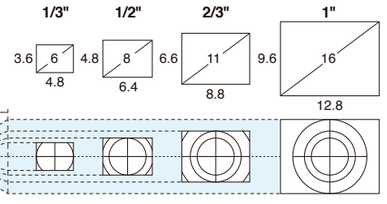


2.F-Number

The F-number is an index of the amount of light that passes through a lens. The smaller the number, the greater the amount of light. The relationship between the F-Number, focal length, and effective diameter can be calculated by the following formula. F-number=f/A Where f=focal length, and A=effective diameter

3.Image Format Size (unit:mm)

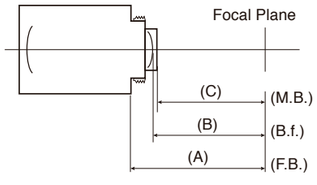
○Image sensor sizes are in a ratio of 1 : 0.69 : 0.5 : 0.38 i.e. 1/2" format is 50% of 1" format, 1/2" format is 75% of 2/3" format, 1/3" format is 75% of 1/2" format.
○Even when the same lens is used, angles of view vary in terms of ratio between image sensor sizes. The smaller the format, the narrower the angle of view for any given lens.
○When using a 1/2" lens for a 1/3" camera, the correlation list the right may help to select a 1/2" lens with an angle of view similar to that of a 1/3" lens.



Focal length of 1/2" lens	Focal length of 1/3" lens
f=4mm	f=3mm(2.8mm)
f=6mm	f=4.5mm
f=12mm	f=9mm(8mm)

4.Flange Back & Back Focal Length

(A)Flange Back. The distance from a basic plane of a mount to a Focal Plane. The Flange Back of each mount is standardized as follows: C mount : 17.526mm CS mount : 12.5mm
(B)Back Focal Length. The distance from a center of a rear lens to a Focal Plane. When a lens is attached to a camera, the back focal length may be a standard to judge whether an end of rear lens hits any mechanical parts inside a camera.
(C)Mechanical Back Focal Length. The distance from any closest parts of a lens to a Focal Plane. When a lens is attached to a camera, the Mechanical Back Focal Length may be astandard to judge whether any rear parts of lens hits any mechanical parts inside a camera.



5.C Mount and CS Mount

Compatibility

	C Mount Camera	CS Mount Camera
C Mount Lens	OK	OK
CS Mount Lens	NO	OK

When using a C mount lens for a CS mount camera, attach a C/CS mount adapter (thickness 5mm) between the lens and camera.

C / CS MOUNT LENS (unit:mm)