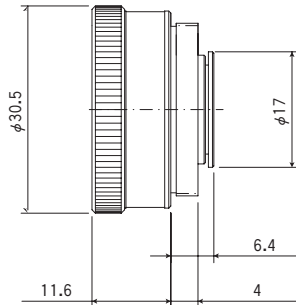


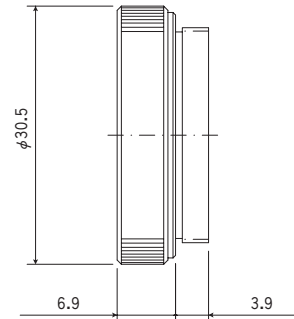
## Accessory

### Extender

**2-EX (C80001)**



**S2-EX (C80034)**



#### Specifications

	2-EX (C80001)	S2-EX (C80034)
Magnification of Focal Length	2X	2X
Flange Back Length	17.526mm	12.5mm
Weight	40g	27g
Compatibility	C-Mount	CS-Mount

#### Note

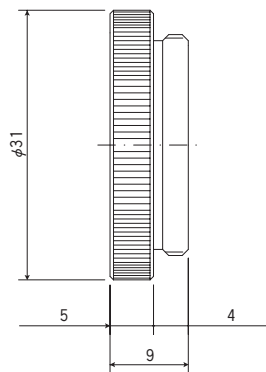
- 1) According to the doubled focal length, the angle of view gets half and F No. will be double.
- 2) Minimum object distance and zoom ratio remains the same.

### Mount Adapter

#### C-CS-A

C-CS Mount Adapter (5mm Ring)

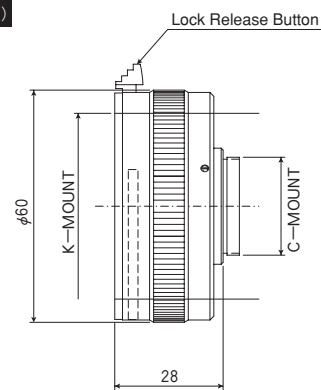
**C-CS-A (C80035)**



#### KC-Mount

PENTAX Bayonet Mount for 35mm Photo Lens

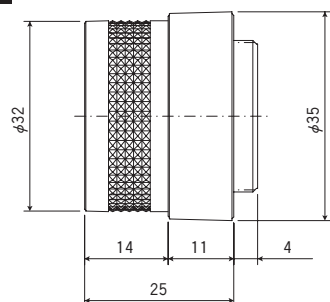
**KC-MOUNT (C80020)**



### Dummy Lens

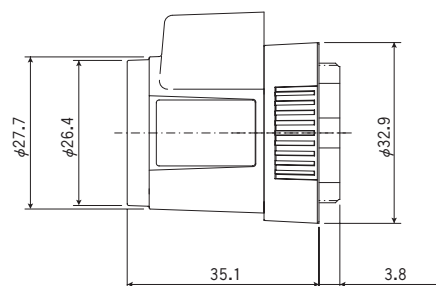
Monofocal type

**DM-163 (C80039)**



Vari-Focal type

**DM-E01 (C80040)**

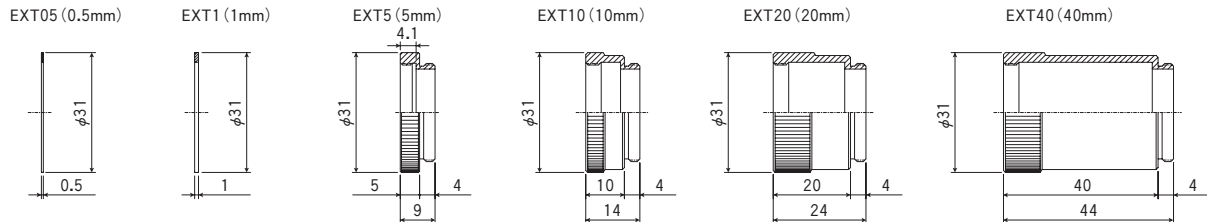


## Accessory

### Extension Tube Set (Macro Ring)

Extension Tube Set (Macro Ring) is inserted in between the lens and camera to shift the focus point further than the mechanical limit for close-up focus.

#### EX-C6 (C90100)



#### Specifications

Model No.	EXT-0.5	EXT-1	EXT-5	EXT-10	EXT-20	EXT-40
Length (mm)	0.5	1	5	10	20	40
Max. Diameter	31mm					

#### Note

Extension Tube is not suitable for zoom lens. Please refer to Page 37 for the principles.

### Close-Up Lens

Close-Up Lens is effective to come closer to an object than the minimum object distance of a lens.

#### Specifications

Model No.	1	2	3
Close-Up No.	No. 1	No. 2	No. 3
Dioptre	+1	+2	+3
Focusing Range (Inf.)	1000mm	500mm	333mm

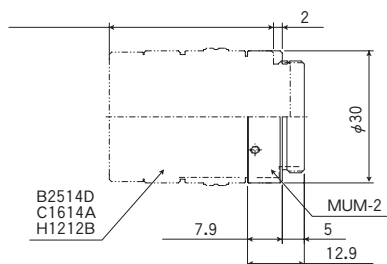
#### Note

Regardless of the focal length of a lens as long as focus is set to infinity, focus is obtained at a point equal to the distance from the tip of the lens to the focal length of the close-up lens.

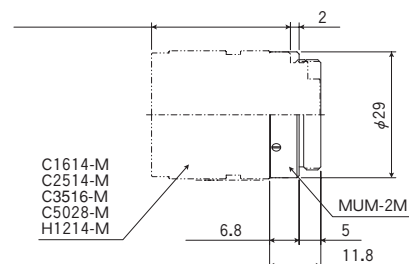
### Macro Focus Mount

Macro Focus Mounts extend the flange back length by 2mm by replacing the original C-mount of lens.

#### MUM-2 (C80038)



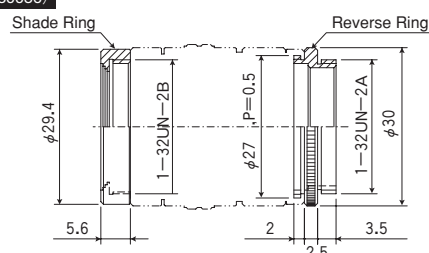
#### MUM-2M (C80057)



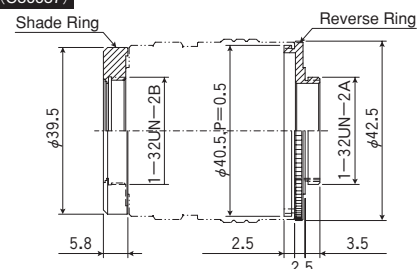
### Reverse Ring

When the magnification is more than 1:1 (the image sensor is bigger than the object), attaching the lens reversely improves image quality. Reverse Ring is used to assist when attaching the lens reversely.

#### RR-27 (C80036)



#### RR-40.5 (C80037)



## Technical Information

### Connection for Auto-Iris

Wiring Diagram	Model
	DC Iris (EIAJ Standard 4-Pin connector)
	Video Iris 1 (EIAJ Standard 4-Pin connector)
	Video Iris 2
	Video Iris 3
	Manual Override

### Wiring Diagram for Motorized Zoom Lens

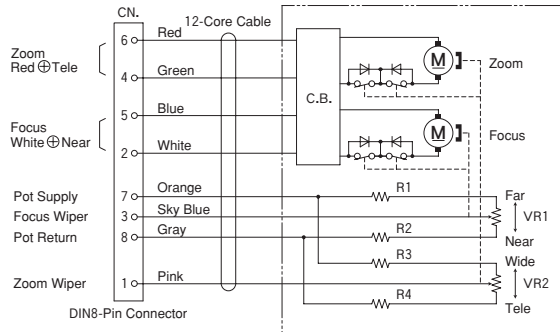
Type	Auto-Iris & Motorized Zoom lenses	Full Motorized Zoom lenses
Type 1 (DC6V) Type 5 (DC12V)		
Type 2 (DC±12V)		
Type 3 (DC±6V)		

## Technical Information

### Wiring Diagram for P type zoom lenses

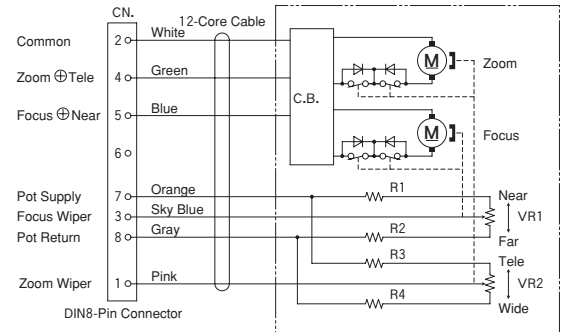
■ Motorized Zoom and Focus with Pre-Set ■ Auto-Iris

#### Type 1 (DC6V) / Type 5 (DC12V)



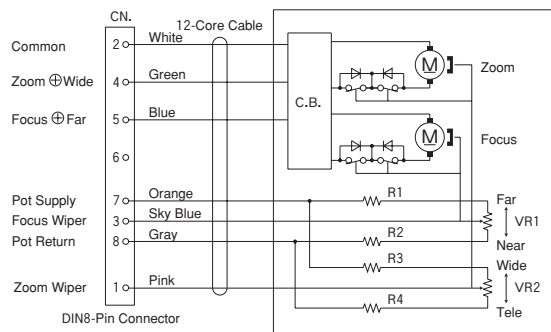
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

#### Type 2 (DC±12V)



R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

#### Type 3 (DC±6V)



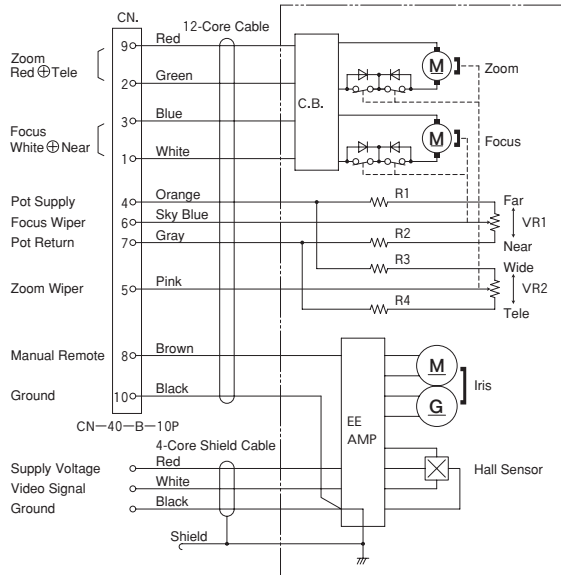
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

## Technical Information

### Wiring Diagram for F type zoom lenses

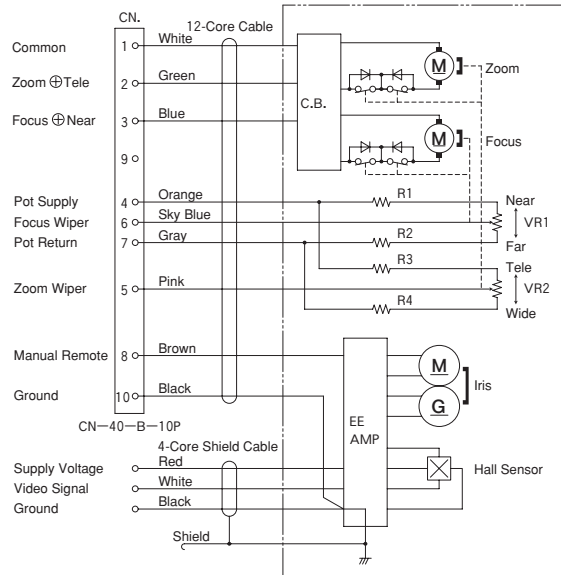
■ Motorized Zoom and Focus with Pre-Set ■ Auto-Iris with Manual Override

**Type 1 (DC6V) / Type 5 (DC12V)**



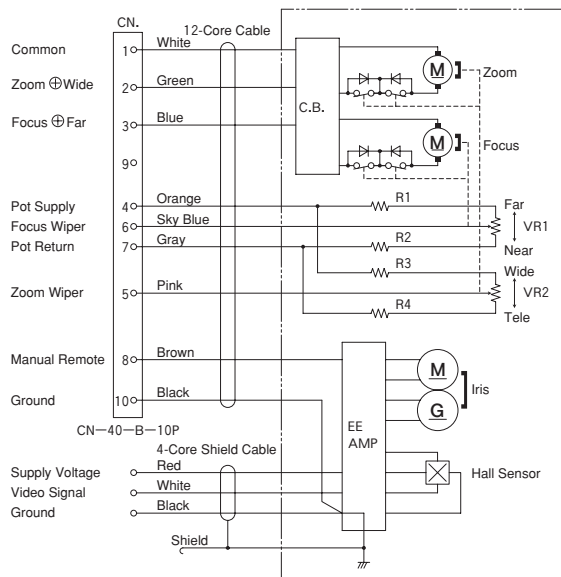
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 2 (DC±12V)**



R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 3 (DC±6V)**



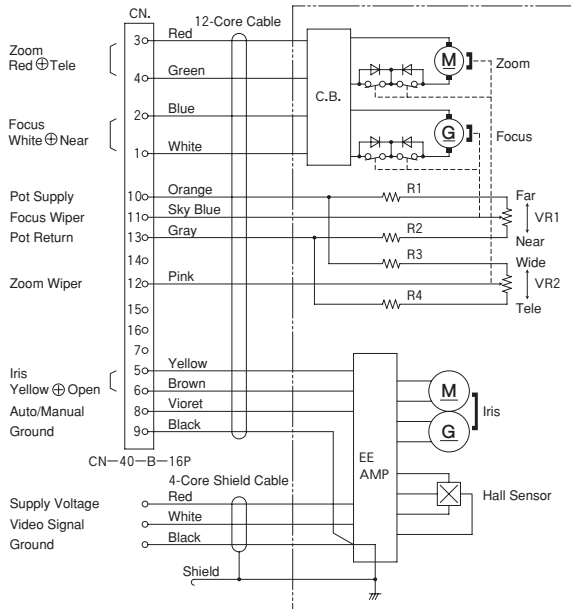
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

## Technical Information

### Wiring Diagram for F type zoom lenses (with D/A converter)

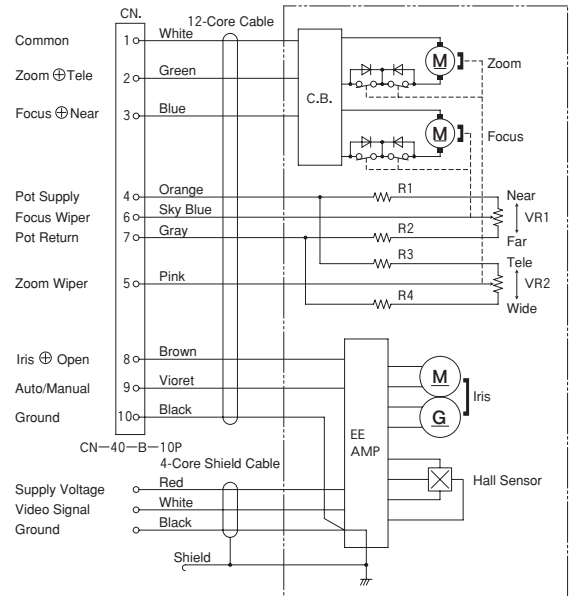
■ Motorized Zoom and Focus with Pre-Set ■ Auto-Iris with Manual Override  
 \*D/A converter is option for F type of zoom lenses.

**Type 1 (DC6V) / Type 5 (DC12V)**



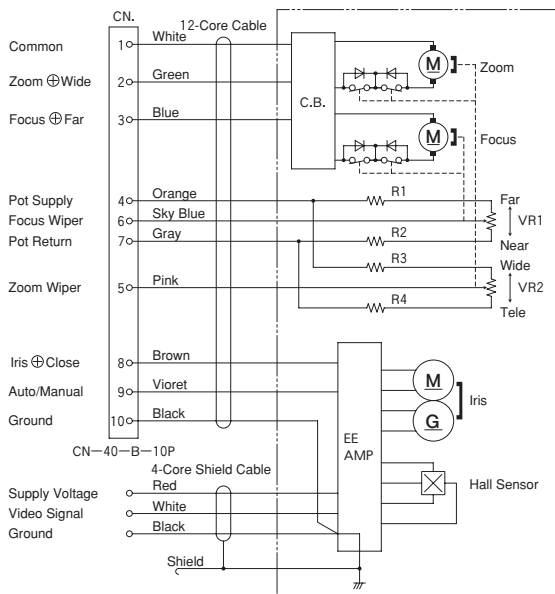
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 2 (DC±12V)**



R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 3 (DC±6V)**



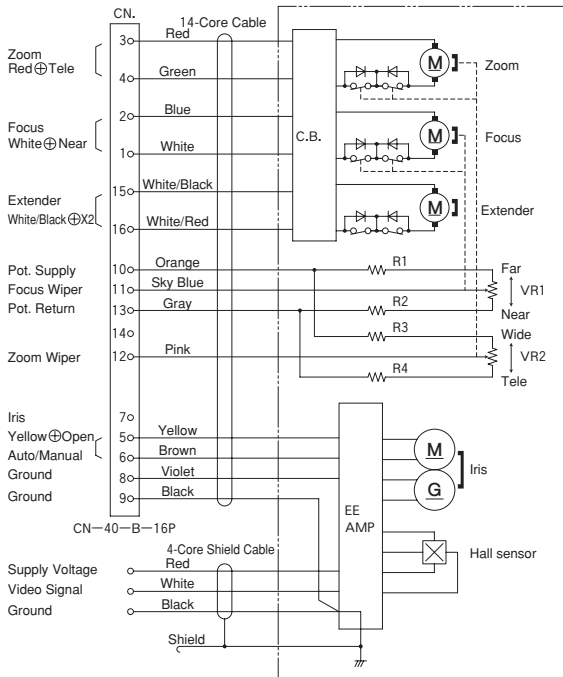
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

## Technical Information

### Wiring Diagram for H55ZME-F (Built-In 2x Extender)

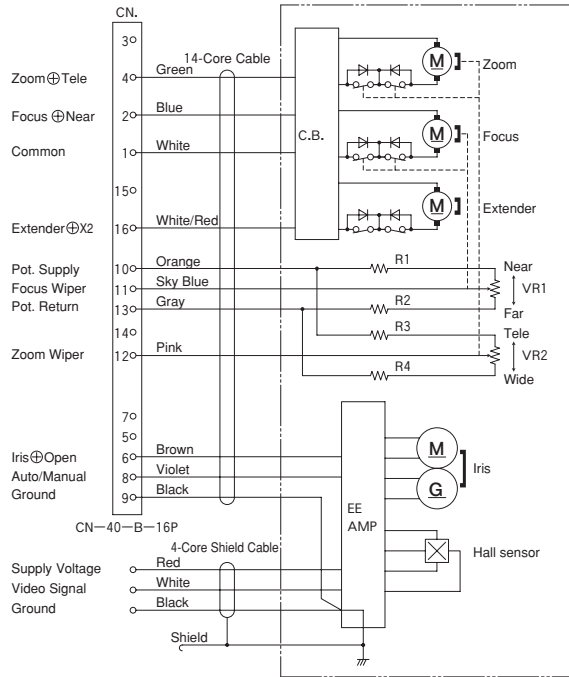
Motorized Zoom and Focus with Pre-Set 
  Auto-Iris with Manual Overried 
  Built-In Motorized 2x Extender  
 \*D/A converter is the standard for H55ZME-F.

**Type 5 (DC12V) with D/A converter**



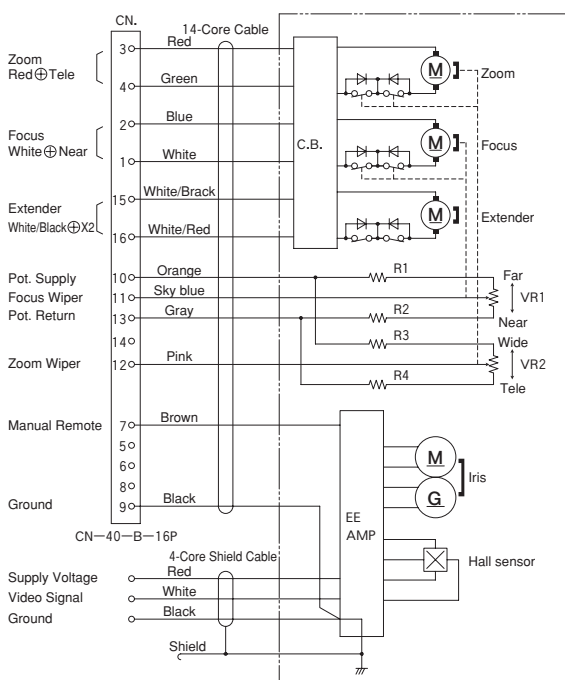
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 2 (DC±12V) with D/A converter**



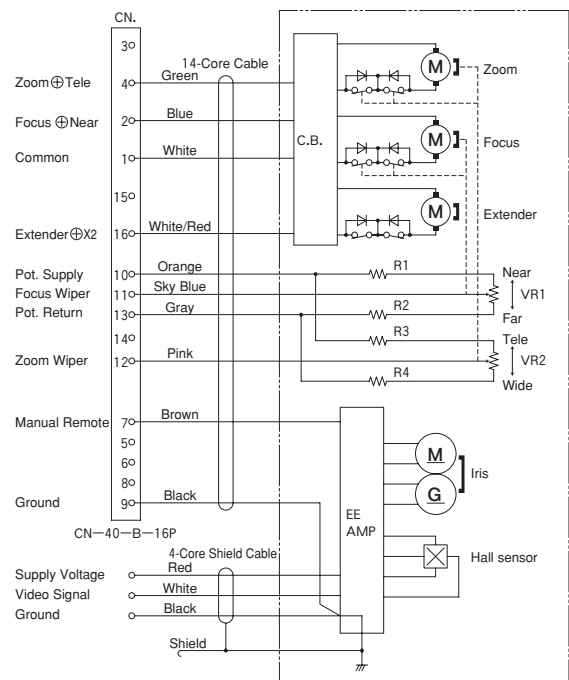
R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 5 (DC12V)**



R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

**Type 2 (DC±12V)**

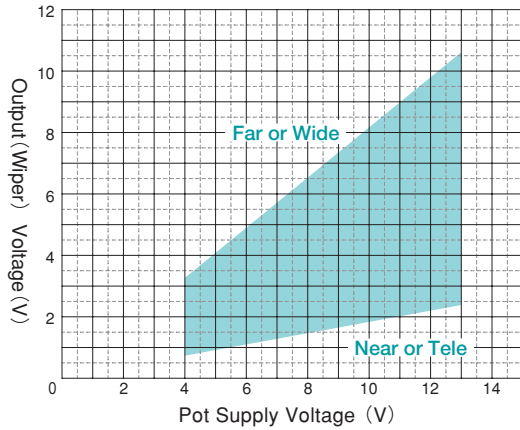


R1, R2, R3, R4	1KΩ±1% 0.1W
VR1, VR2	5KΩ±15% 0.2W

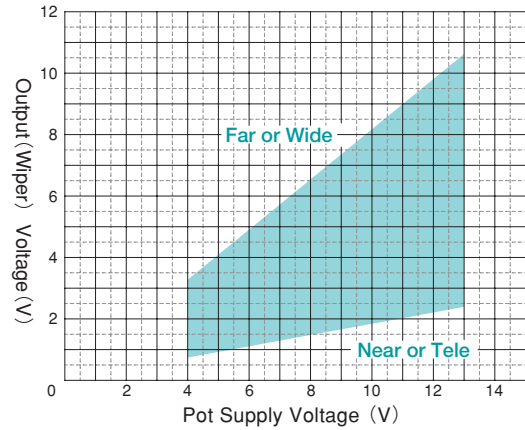
## Technical Information

### Pot (Pre-Set) Supply Output range Characteristics

Type 1 & 3

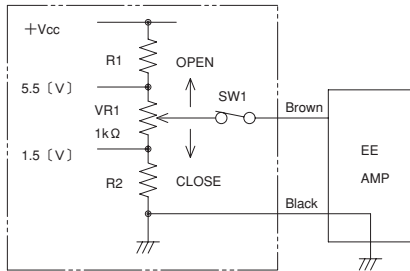


Type 2 & 3



### Manual Override (without D/A converter)

Manual Override (without D/A converter) and "ALC" can be controlled remotely as per the following schematic diagram.



SW (Switch)	IRIS MODE
Open or Ground	Auto
Close	Manual Remote

Input Voltage (Vcc) (V)	Resistor (R1) (KΩ)	Resistor (R2) (KΩ)
13	1.8	0.33
12.5	1.6	0.33
12	1.5	0.33
11.5	1.3	0.33
10.5	1.3	0.33
10	1.2	0.33
9.5	1	0.33
9	0.91	0.33
8.5	0.82	0.33
8	0.68	0.33
7.5	0.58	0.33
7	0.47	0.33
6.5	0.33	0.33
6	0.22	0.33
5.5	0.1	0.33
5	0	0.33

\*Vcc represents supply voltage from a lens controller.

### Video Iris and DC Iris

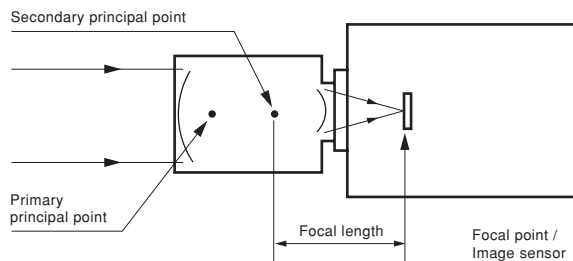
Auto Iris offers DC Driven and Video Driven types. Video Driven Iris is equipped with an amplifier inside and is operated by Video Signal and DC Power Supply from the camera. DC Driven Iris is not equipped with an amplifier and is operated by DC Power Supply (Driving and Damping) controlled by the circuit inside the camera.

## Technical Information

CCTV is widely accepted as an important and valuable tool in many areas. Manual iris lenses for constant, stable lighting conditions and auto iris lenses for variable lighting conditions. Select the best suited lens for optimum performance in each application.

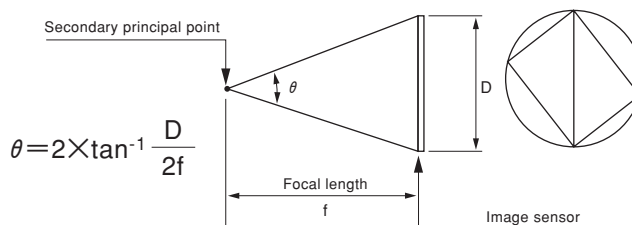
### ■ Focal Length

Rays from infinitely distance objects are condensed internally in the lens at a common point on the optical axis. The point at which the image sensor of the CCTV camera is positioned, is called a focal point. By virtue of design, lenses have 2 principal points, a primary principal point & a secondary principal point, the distance between the secondary principal point and the focal point (image sensor) determines the focal length of the lens.



### ■ Angle of View

The angle formed by the 2 lines from the secondary principal point to the image sensor is called the angle of view. Therefore, the focal length of the lens is fixed regardless of the image format size of the CCTV camera. Conversely, the angle of view varies in accordance with the image size. The focal lengths in the catalog are nominal and the angles of view calculated by the formula referring to the focal lengths are approximate.



$$\theta = 2 \times \tan^{-1} \frac{D}{2f}$$

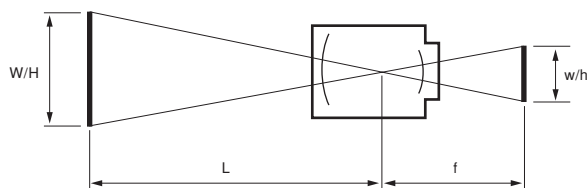
### ■ F-Number

The F number is the index for the amount of light that passes through a lens. The smaller the number, the greater the amount of light. The F number is a ratio between focal length and effective aperture as follows.

$$\text{F Number} = \frac{f}{D} \quad \begin{matrix} f = \text{focal length} \\ D = \text{effective diameter} \end{matrix}$$

### ■ Field of View

The field of view varies along with the focal length of the lens as follows.



$$\frac{w}{W} = \frac{h}{H} = \frac{f}{L}$$

- W : width of object
- H : height of object
- w : width of format
  - 1/2 format = 6.4mm, 1/3 format = 4.8mm,
  - 1/4 format = 3.6mm
- h : height of format
  - 1/2 format = 4.8mm, 1/3 format = 3.6mm,
  - 1/4 format = 2.7mm
- f : focal length
- L : object distance

Example : Full image of 4.5m-high object on a TV monitor camera: 1/3 format, Object distance: 10m  
 H = 4.5m = 4,500mm    L = 10m = 10,000mm

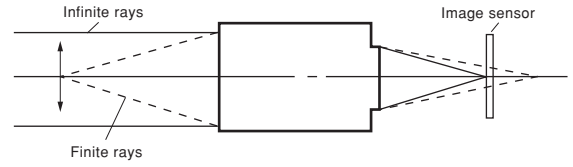
$$\frac{h}{H} = \frac{f}{L} \longrightarrow \frac{3.6}{4,500} = \frac{f}{10,000} \longrightarrow f = 8\text{mm}$$

## Technical Information

### Close-Up Application

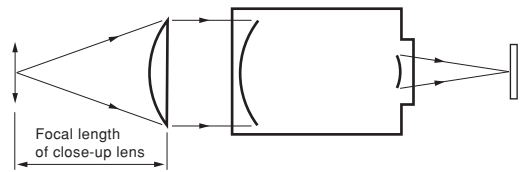
#### 1) Extension Tube (Macro Ring)

When the rays originate from a finite object distance, the rays are condensed at a point further than the focal point, while the rays from infinite distance are condensed at the actual focal point. The focus adjustment moves the lens barrel toward the object to shift the focusing point at the image sensor. However, the amount of focusing adjustment is mechanically limited as seen by the minimum object distance. Extension Tube (Macro Ring) is inserted in between the lens and camera to shift the focus point further than the mechanical limit for close-up focus.



#### 2) Close-Up Lens

The close-up lens has a positive meniscus lens as a supplementary lens. Generally, 3 types of close-up lenses are available, close-up lens No.1, 2 & 3 have 1,000mm (1,000mm/1), 500mm (1,000mm/2), 333mm (1,000mm/3) respectively. When an object is placed at the focal point of the close-up lens, the rays from the object are converted by the close-up lens to be parallel rays against the optical axis as seen on the right.



This lens is effective when wishing to come closer to an object than the min. object distance of a lens, or taking close-up pictures of small objects.

### Depth of Field

When an object is focused, it is typically observed that the area in front and behind the object is also in focus. The range in focus is called Ådepth of fieldÅh. When the background is extended to infinity, the object distance (focusing distance) is called Åhyper focal distanceÅh. Depth of field is calculated by using the following formula.

$$H = \frac{f^2}{C \times F}$$

$$T1 = \frac{B(H+f)}{H+B}$$

$$T2 = \frac{B(H-f)}{H-B}$$

F = F No.

H = hyper focal distance

f = focal length

B = object distance (measured from image sensor)

T1 = near limit

T2 = far limit

C = circle of least confusion

1/2 format = 0.015mm, 1/3 format = 0.011mm,

1/4 format = 0.008mm

Depth of field increases when:

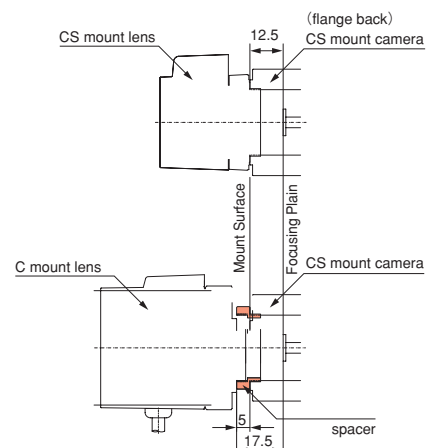
\*Focal length is shorter

\*F-number is larger (F/1.4 < F/5.6)

\*Object distance is longer

### CS and C mount

CS mount as present CCTV market standard is specially designed for CCTV camera lens developed by PENTAX. This is to minimize the size and to improve the performance of lens by shortening the flange back by 5mm comparing to C mount. C and CS mount lenses are available in the present market, and CS mount is only applicable to CS mount camera. C mount lens is applicable not only to C mount camera but also to CS mount camera by using 5mm Adapter Ring (as C-CS-A).



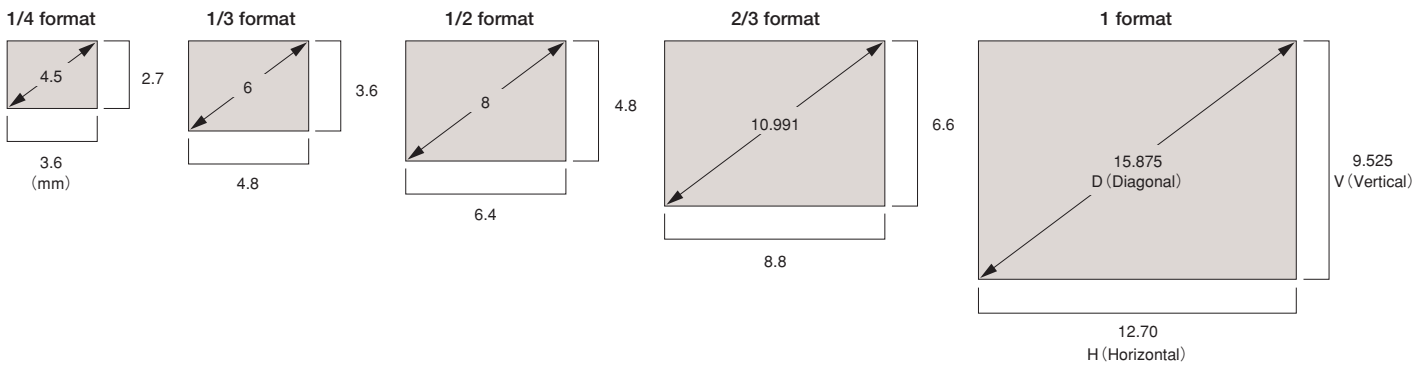
Angle View

Unit : Degrees

Model	1/4 format : Angle of view (°)			1/3 format : Angle of view (°)			1/2 format : Angle of view (°)			2/3 format : Angle of view (°)			1 format : Angle of view (°)		
	D	H	V	D	H	V	D	H	V	D	H	V	D	H	V
H416	60.14	47.87	35.76	81.05	64.27	47.87	110.21	86.77	64.27	—	—	—	—	—	—
H612A	40.93	32.97	24.84	53.68	43.55	32.97	68.89	56.93	43.55	—	—	—	—	—	—
H1212B	21.18	16.93	12.70	28.28	22.60	16.93	37.83	30.18	22.60	—	—	—	—	—	—
C418DX	51.78	41.68	31.40	68.14	55.11	41.68	88.66	72.37	55.11	115.94	96.36	74.46	—	—	—
C815B	29.92	24.02	18.07	39.57	31.87	24.02	51.85	42.09	31.87	67.87	56.49	43.34	—	—	—
B1214D-2	20.21	16.21	12.19	26.78	21.53	16.21	35.32	28.51	21.53	47.48	38.65	29.37	65.08	53.95	41.59
B1218A	20.61	16.53	12.42	27.35	21.97	16.53	36.13	29.12	21.97	48.73	39.56	30.01	67.20	55.49	42.61
C1614A	15.86	12.70	9.54	21.09	16.91	12.70	27.99	22.48	16.91	38.19	30.72	23.17	—	—	—
B2514D	10.29	8.23	6.17	13.71	10.97	8.23	18.27	14.62	10.97	25.10	20.10	15.08	36.10	28.95	21.74
B2518	10.27	8.23	6.18	13.66	10.95	8.23	18.11	14.55	10.95	24.64	19.87	15.00	34.79	28.24	21.44
B5014A	5.16	4.13	3.10	6.87	5.50	4.13	9.14	7.32	5.50	12.52	10.04	7.55	17.93	14.41	10.85
B7514C	3.44	2.75	2.06	4.59	3.67	2.75	6.13	4.90	3.67	8.45	6.75	5.05	12.30	9.78	7.30
H1214-M	20.54	16.49	12.39	27.17	21.88	16.49	35.69	28.91	21.88	—	—	—	—	—	—
C1614-M	16.05	12.86	9.66	21.32	17.11	12.86	28.25	22.72	17.11	38.28	30.97	23.41	—	—	—
C2514-M	10.29	8.24	6.18	13.70	10.97	8.24	18.21	14.60	10.97	24.89	20.00	15.05	—	—	—
C3516-M	7.58	6.07	4.55	10.10	8.09	6.07	13.43	10.76	8.09	18.39	14.76	11.10	—	—	—
C5028-M	5.15	4.12	3.09	6.86	5.50	4.12	9.14	7.32	5.50	12.53	10.05	7.55	—	—	—
C7528-M	3.54	2.83	2.13	4.71	3.77	2.83	6.28	5.03	3.77	8.61	6.90	5.18	—	—	—
H2520-UVM	10.30	8.24	6.18	13.71	10.98	8.24	18.24	14.62	10.98	—	—	—	—	—	—
B2528-UV	10.40	8.30	6.20	13.90	11.10	8.30	18.90	14.80	11.10	25.50	20.40	15.30	37.20	29.68	22.20
B7838-UV	3.30	2.70	2.00	4.40	3.50	2.70	5.90	4.70	3.50	8.10	6.50	4.90	11.80	9.50	7.10
TS212E	88.60	71.54	54.09	117.79	94.28	71.54	—	—	—	—	—	—	—	—	—
TS412E	60.35	49.18	37.36	76.71	63.89	49.18	—	—	—	—	—	—	—	—	—
TS812E	31.27	25.05	18.80	41.34	33.33	25.05	—	—	—	—	—	—	—	—	—
HS316E	66.63	53.50	40.23	88.02	70.96	53.50	115.18	93.58	70.96	—	—	—	—	—	—
HS614E	41.90	33.83	25.55	54.61	44.52	33.83	69.24	57.79	44.52	—	—	—	—	—	—
HS1214E	20.65	16.52	12.39	27.54	22.03	16.52	36.74	29.38	22.03	—	—	—	—	—	—
H416E	60.14	47.87	35.76	81.05	64.27	47.87	110.21	86.77	64.27	—	—	—	—	—	—
H612E	40.93	32.97	24.84	53.68	43.55	32.97	68.89	56.93	43.55	—	—	—	—	—	—
H1212E	21.18	16.94	12.70	28.28	22.60	16.93	37.83	30.19	22.60	—	—	—	—	—	—
C814E	31.21	25.10	18.91	41.11	33.22	25.10	53.57	43.67	33.22	70.08	58.25	44.94	—	—	—
B1214E	20.22	16.22	12.19	26.80	21.55	16.22	35.35	28.54	21.55	47.55	38.69	29.40	65.22	54.04	41.64
C1614E	15.87	12.72	9.55	21.11	16.92	12.72	28.02	22.50	16.92	38.25	30.76	23.19	—	—	—
B2514E	10.29	8.23	6.17	13.71	10.97	8.23	18.27	14.62	10.97	25.09	20.09	15.08	36.08	28.94	21.73
B5018E	5.16	4.13	3.10	6.87	5.50	4.13	9.14	7.32	5.50	12.51	10.04	7.55	17.89	14.40	10.85
B7518AE	3.42	2.74	2.05	4.56	3.65	2.74	6.08	4.87	3.65	8.35	6.69	5.02	12.03	9.64	7.23
TS420PE	64.14	51.24	38.39	86.17	68.47	51.24	—	—	—	—	—	—	—	—	—
H620PE	40.26	32.44	24.46	52.86	42.82	32.44	68.66	56.12	42.82	—	—	—	—	—	—
TS2V114E	180-83.11	180-64.89	107.98-47.84	180-118.31	180-89.55	180-64.89	—	—	—	—	—	—	—	—	—
TS2V214AED	90.54-44.13	72.26-35.35	54.08-26.54	121.44-58.68	96.70-47.04	72.26-35.35	—	—	—	—	—	—	—	—	—
TS2V314CED	76.79-33.20	60.52-26.54	44.86-19.90	106.05-44.33	82.41-35.42	60.52-26.54	—	—	—	—	—	—	—	—	—
TS3V310	87.06-33.06	68.98-26.44	51.30-19.84	118.46-44.08	93.22-35.26	68.98-26.44	—	—	—	—	—	—	—	—	—
TS3V310ED	87.06-33.06	68.98-26.44	51.30-19.84	118.46-44.08	93.22-35.26	68.98-26.44	—	—	—	—	—	—	—	—	—
TS4V214ED	89.21-22.53	71.82-18.05	54.07-3.55	115.04-29.30	93.29-23.50	70.58-17.70	—	—	—	—	—	—	—	—	—
TS10V518AED	47.25-5.18	37.80-4.14	28.35-3.11	63.00-6.90	50.00-5.52	37.80-4.14	—	—	—	—	—	—	—	—	—
HS2V616ED	44.22-21.57	34.98-17.23	26.03-12.91	60.60-28.86	47.38-23.02	34.98-17.23	86.44-38.80	65.29-30.82	47.38-23.02	—	—	—	—	—	—
TS6ZE	38.70-6.97	31.26-5.59	23.60-4.20	50.39-9.23	41.12-7.43	31.26-5.59	—	—	—	—	—	—	—	—	—
H6Z810	30.99-5.50	24.92-4.42	18.76-3.33	40.75-7.27	32.99-5.86	24.92-4.42	52.74-9.52	43.26-7.73	32.99-5.86	—	—	—	—	—	—
H6ZBE	30.98-5.50	24.92-4.42	18.76-3.33	40.74-7.27	32.98-5.86	24.92-4.42	52.72-9.52	43.24-7.73	32.98-5.86	—	—	—	—	—	—
C6Z1218	20.06-3.43	16.07-2.75	12.06-2.06	26.66-4.57	21.38-3.66	16.07-2.75	35.34-6.07	28.41-4.87	21.38-3.66	47.99-8.30	38.76-6.67	29.28-5.02	—	—	—
C6ZE	20.04-3.43	16.05-2.75	12.05-2.06	26.63-4.57	21.36-3.66	16.05-2.75	35.30-6.07	28.38-4.87	21.36-3.66	47.94-8.30	38.72-6.67	29.25-5.02	—	—	—
TS6ZME	38.70-6.97	31.26-5.59	23.60-4.20	50.39-9.23	41.12-7.43	31.26-5.59	—	—	—	—	—	—	—	—	—
TS10ZME	41.57-4.49	33.77-3.62	25.61-2.73	53.36-5.88	44.07-4.78	33.77-3.62	—	—	—	—	—	—	—	—	—
TS15ZAME	40.89-2.90	32.96-2.33	24.86-1.76	53.59-3.80	43.48-3.08	32.96-2.33	—	—	—	—	—	—	—	—	—
TS20ZAME	28.35-1.43	22.61-1.15	16.93-0.87	38.16-1.90	30.28-1.53	22.61-1.15	—	—	—	—	—	—	—	—	—
HS6ZME	30.81-5.46	24.81-4.39	18.70-3.30	40.42-7.23	32.78-5.82	24.81-4.39	52.07-9.48	42.88-7.69	32.78-5.82	—	—	—	—	—	—
H6ZBME	30.98-5.50	24.92-4.42	18.76-3.33	40.74-7.27	32.98-5.86	24.92-4.42	52.72-9.52	43.24-7.73	32.98-5.86	—	—	—	—	—	—
HS10ZME	32.46-3.52	26.15-2.83	19.71-2.12	42.50-4.65	34.52-3.75	26.15-2.83	54.43-6.09	45.05-4.95	34.52-3.75	—	—	—	—	—	—
H10ZME	32.85-3.54	26.45-2.84	19.93-2.13	43.04-4.69	34.94-3.77	26.45-2.84	55.25-6.18	45.63-4.99	34.94-3.77	—	—	—	—	—	—
H15ZAME	30.84-2.19	24.76-1.76	18.62-1.32	40.78-2.90	32.85-2.34	24.76-1.76	53.64-3.81	43.37-3.09	32.85-2.34	—	—	—	—	—	—
H20ZAME	21.50-1.10	17.17-0.88	2.86-0.66	28.81-1.46	22.95-1.17	17.17-0.88	38.89-1.94	30.78-1.56	22.95-1.17	—	—	—	—	—	—
H55ZME-F	21.65-0.39	17.17-0.31	12.79-0.23	29.47-0.52	23.18-0.42	17.17-0.31	40.84-0.69	31.65-0.56	23.18-0.42	—	—	—	—	—	—
H55Z (w/2x)	10.68-0.20	8.53-0.16	6.39-0.12	14.29-0.26	11.40-0.21	8.53-0.16	19.20-0.35	15.27-0.28	11.40-0.21	—	—	—	—	—	—
H18ZME-F	32.00-1.79	25.67-1.43	19.29-1.07	42.38-2.39	34.10-1.91	25.67-1.43	55.69-3.20	45.10-2.55	34.10-1.91	—	—	—	—	—	—
C6Z1218M3	20.06-3.43	16.08-2.75	12.06-2.06	26.66-4.57	21.40-3.66	16.07-2.75	35.34-6.07	28.44-4.87	21.38-3.66	47.99-8.30	38.82-6.67	29.28-5.02	—	—	—
C6ZAME	20.04-3.43	16.07-2.75	12.05-2.06	26.63-4.57	21.36-3.66	16.05-2.75	35.30-6.07	28.38-4.87	21.36-3.66	47.94-8.30	38.72-6.67	29.25-5.02	—	—	—
QD222E	110.64	88.20	65.94	—	—	—	—	—	—	—	—	—	—	—	—
QD320E	88.44	69.14	51.04	—	—	—	—	—	—	—	—	—	—	—	—
QD420E	65.40	51.86	38.64	—	—	—	—	—	—	—	—	—	—	—	—
QD2V2214AE	117.81-57.16	93.36-45.75	69.49-34.35	—	—	—	—	—	—	—	—	—	—	—	—
QD2V2814AE	95.18-44.84	74.62-35.87	55.21-26.91	—	—	—	—	—	—	—	—	—	—	—	—
QD2V214BE-DN	117.19-57.32	92.84-45.88	69.12-34.44	—	—	—	—	—	—	—	—	—	—	—	—
QD2V2814BE-DN	95.29-44.82	74.67-35.86	55.24-26.90	—	—	—	—	—	—	—	—	—	—	—	—
QD3ZMED	92.20-35.80	73.40-28.70	54.70-21.60	—	—	—	—	—	—	—	—	—	—	—	—
TD3V314E-DN	86.51-33.08	68.67-26.48	51.16-19.87	117.20-44.04	92.52-35.28	68.67-26.48	—	—	—	—	—	—	—	—	—

Angle of View

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