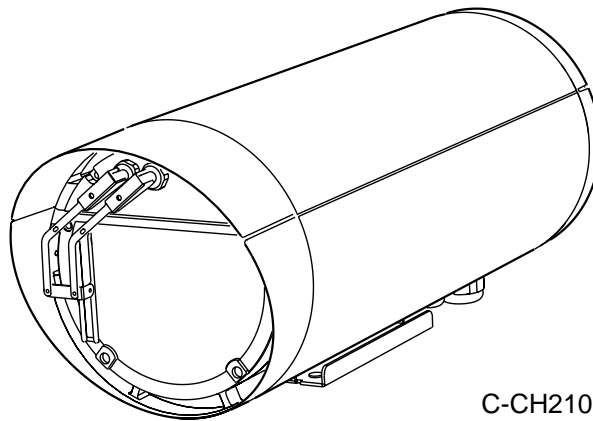




## INSTRUCTION MANUAL

# OUTDOOR CAMERA HOUSING

**C-CH200**  
**C-CH200FH**  
**C-CH210FH**



C-CH210FH

Thank you for purchasing TOA's Outdoor camera housing. Please carefully follow the instructions in this manual in order to ensure long, trouble-free use of your camera housing.

TOA Corporation

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# 1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this manual section carefully before use.
- Make sure to observe the instructions in this section as the conventions of safety symbols and messages regarded as very important are included.
- Please keep this instruction manual handy for future reference.

## Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your equipment, read this manual first so you are thoroughly aware of the potential safety hazards as well as understand the safety symbols and messages.



## WARNING

Indicates a potentially hazardous situation which could result in death or serious personal injury if ignored or mishandled.

## When Installing the Camera Housing

- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- To prevent lightning strikes, install the unit at least five meters away from a lightning rod, and yet within the protective range (angle of 45°) of the lightning conductor. Lightning strikes may cause a fire, electric shock or personal injury.
- Leave the installation of the unit to your TOA dealer because the installation requires expert knowledge. If an inexperienced installer installs the unit, the unit may fall, possibly causing personal injury.
- Avoid installing the unit in vibratory locations. Mounting screws and bolts loosen, which causes the unit to fall off, possibly resulting in personal injury.
- When installing the unit in snowy areas, take appropriate measures so that snow does not pile up on the unit. The weight of snow causes the unit to fall off, possibly resulting in personal injury.
- Be sure to install the unit with two or more persons. If it is handled by a single person, the unit may fall or topple over, causing personal injury.
- Install the unit only with the specified method. Failure to follow this instruction may cause extreme force to be applied to the unit and the unit to fall, resulting in personal injury.



## **WARNING**

Indicates a potentially hazardous situation which could result in death or serious personal injury if ignored or mishandled.

### **When Installing the Camera Housing**

- Use nuts and bolts that are appropriate for the ceiling's or wall's structure and composition. Failure to do so may cause the unit to fall, resulting in personal injury.
- Tighten each nut and bolt securely. Ensure that there are no loose joints after installation to prevent accidents that could result in personal injury.
- Use the specified type of pan/tilt head, housing fixing stand and wall mounting bracket. If the unit is installed in combination with equipment not specified, the unit may fall, possibly resulting in personal injury.
- Avoid installing the unit in locations exposed to sea breeze or corrosive gas. The unit's mount may be subject to corrosion, which could cause the unit to fall, possibly resulting in personal injury.

### **When Using the Camera Housing**

- Should the following irregularities be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause a fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit.
  - If water or other foreign objects get into the unit.
  - If you drop the unit onto the floor or the unit's case breaks.
  - If the power supply cord is damaged (exposure of cable core, disconnection, etc.).
  - If no picture is displayed on the monitor.
- Never open or remove the unit's case to prevent a fire or electric shock, as there are high voltage components inside the unit. Refer all servicing to your nearest TOA dealer.



## **CAUTION**

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

### **When using the Camera Housing**

- Do not place heavy objects on the unit as this may cause the unit to topple over or fall down and personal injury could result.
- Be sure to use a dedicated power supply device. Using other devices may cause a fire.



## CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

### When using the Camera Housing

- Do not stand or sit on, nor hang down from the unit as this may cause the unit to topple over or fall down, possibly resulting in personal injury.
- Keep cable wiring as far away as possible from the unit's heater (C-CH200FH and C-CH210FH only). Also, do not insert the flammable into the unit. A fire or electric shock may result.
- Do not touch the unit's heater (C-CH200FH and C-CH210FH only) as this could lead to a burn.
- Avoid touching the sharp edge of the case as this could result in personal injury.
- Have the unit periodically checked by the dealer from where it was purchased. Should the mounting bracket corrode or structurally deteriorate, the mounted unit could fall down, possibly resulting in personal injury.

## 2. GENERAL DESCRIPTION

TOA's C-CH200, C-CH200FH, and C-CH210FH camera housings are designed to house a video camera, single-focus lens, zoom lens and other components to protect them from the direct sunlight, wind and rain when they are installed outdoors.

The C-CH200FH comes with a heater and a fan, while the C-CH210FH is equipped with a heater, a fan, a defroster and a wiper.

## 3. HANDLING PRECAUTIONS

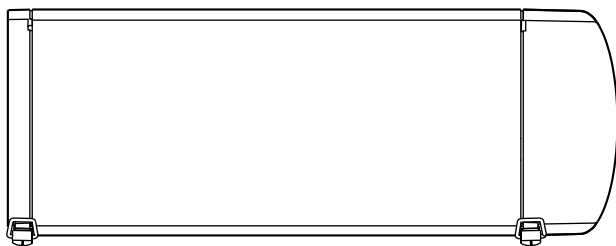
- To clean the case and panel, use a cloth dampened in a neutral detergent. Never use benzene, thinner, chemically-treated towel or other volatiles, because their use may damage the unit's finish.
- Take care not to pinch the wiper when opening and closing the case.
- The wiper blade will wear out over years of use, so be sure to replace it periodically.
- Only use the wiper as needed on rainy days, since dry operation can cause the blade to wear out quickly and stick to the front glass.
- About General Maintenance Parts

The following parts are replaceable general maintenance parts. Their life expectancy varies depending on the environment and conditions of their use. Replace such parts referring to the following guidelines on their life expectancies. Please note that replacement of such maintenance parts is not covered by warranty.

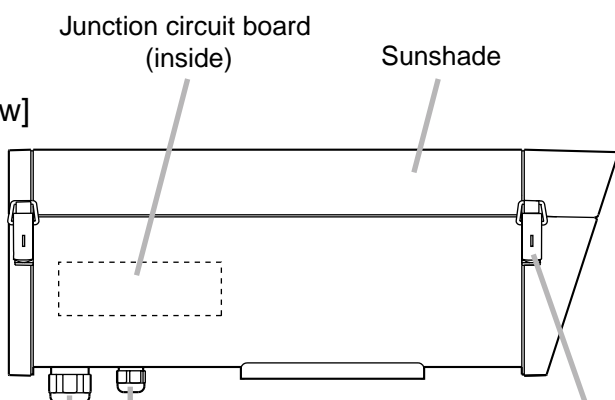
- Wiper blade (C-CH210FH): Approximately 12 months
- Micro-switch (C-CH210FH): 200,000 times
- Motor for wiper (C-CH210FH): 8,000 hours
- Fan (C-CH200FH and C-CH210FH): 50,000 hours

## 4. NOMENCLATURE

[Top view]



[Side view]

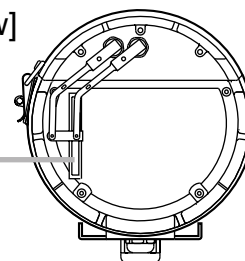


Cable entry bushing  
(Applicable cable diameter: Ø 5 – 9.5 mm)

Cable entry bushing  
(Applicable cable diameter: Ø10 – 17 mm)

Snap fastener  
Used to open or close the sunshade.

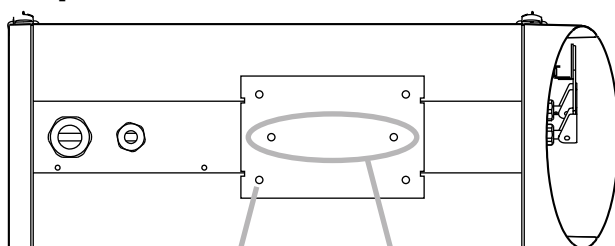
[Front view]



Wiper  
(C-CH210FH only)

**Note:** Take care not to pinch the wiper when opening and closing the sunshade.

[Bottom view]

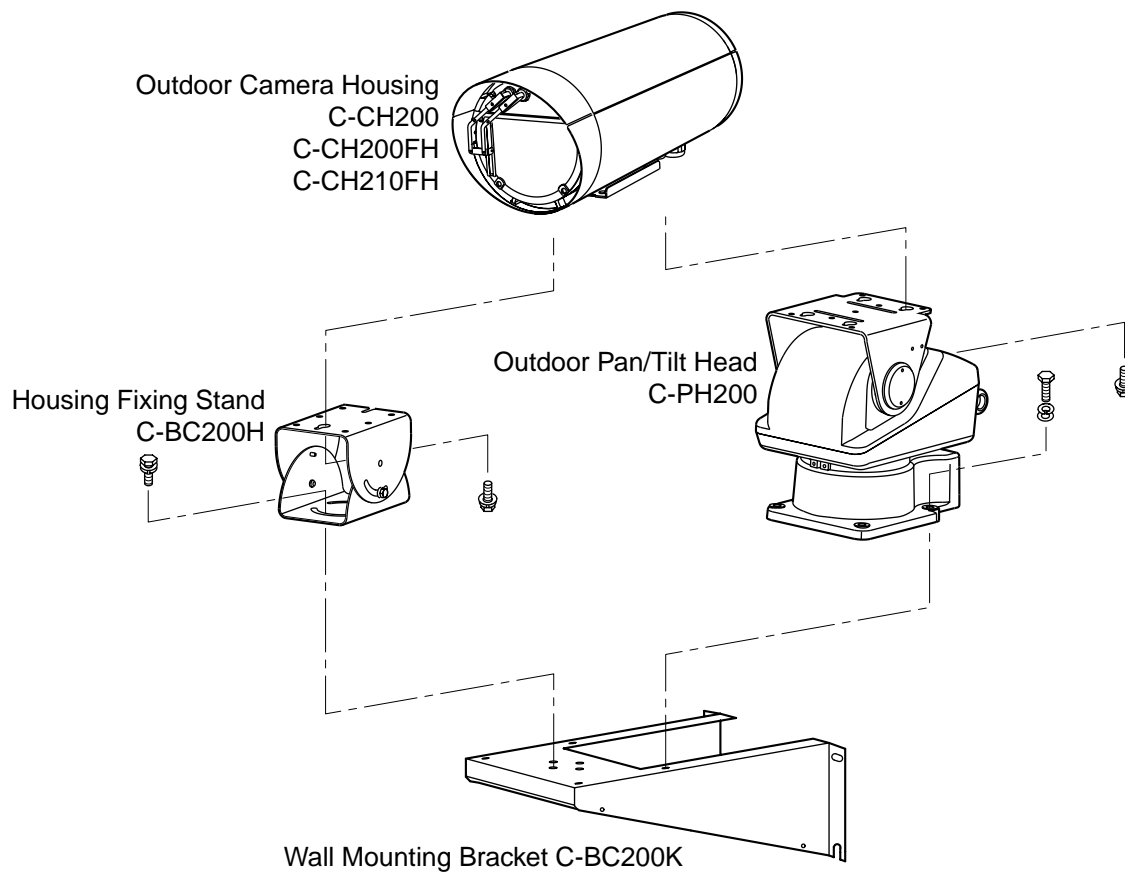


Housing mounting hole  
(for outdoor pan/tilt head)

Housing mounting hole  
(for Housing Fixing Stand)

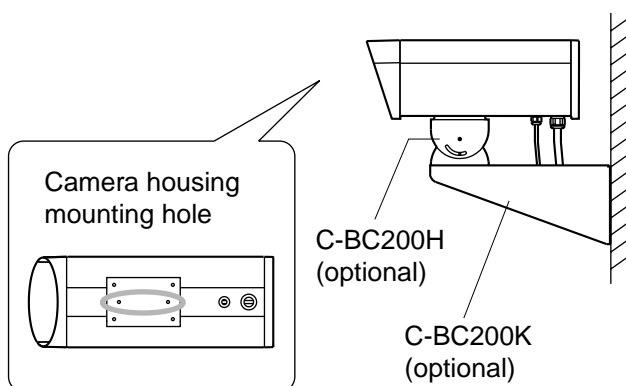
## 5. INSTALLATION

The housing can be mounted on a wall by way of an optional mounting bracket or pan/tilt head. Use the housing mounting holes when mounting.



### 5.1. Installation Examples

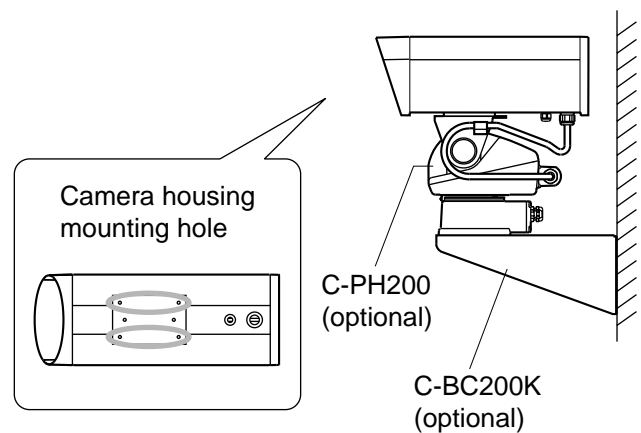
#### 5.1.1. When using the C-BC200H Housing Fixing Stand:



Bolts to be used for installation:

M6 x 12 hexagonal head bolt with washer  
2 pieces (accessory)

#### 5.1.2. When using the C-PH200 Outdoor Pan/Tilt Head:



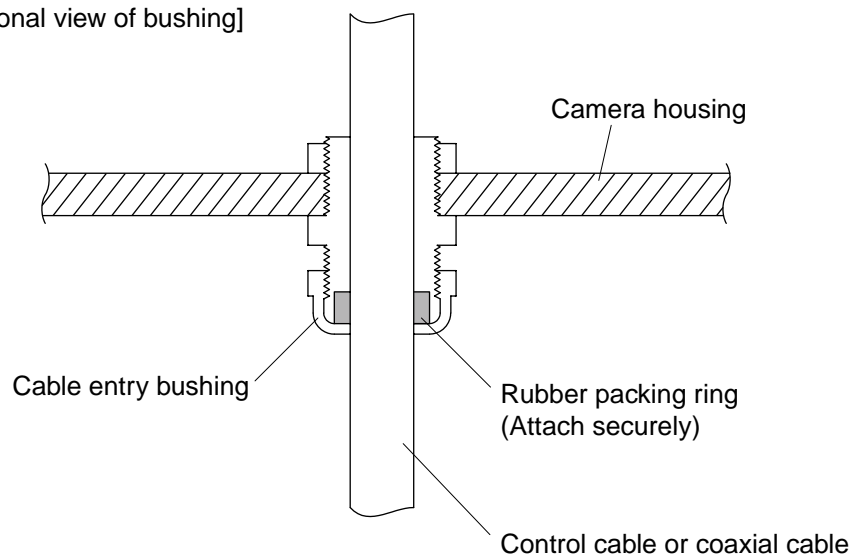
Bolts to be used for installation:

M6 x 12 hexagonal head bolt with washer  
4 pieces (accessory)

## 6. CABLE ROUTING

1. From the two cable entry bushings provided on the housing's bottom surface, select the one that is appropriate for the diameter of cable to be used (control cable or coaxial cable).
2. Remove the selected bushing's cap, and rubber membrane attached to prevent the entries of water and dust.
3. Run the cable through the cap to route the cable to the inside of the housing through the bushing.
4. Rotating the bushing cap, adjust the bushing diameter so that no gap is created at the cable entry area of the bushing.

[Cross-sectional view of bushing]



### Note

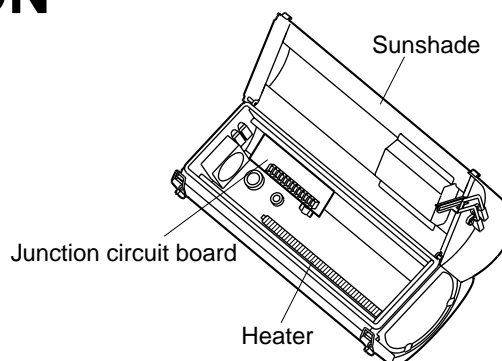
- Be sure to attach the rubber packing ring after routing the cable through the bushing.
- If a gap is created at the cable entry area of the bushing, wrap the self-adhesive type butyl rubber tape around the cable to prevent rainwater from entering.
- Check to be sure that the routed cable is securely fixed by lightly pulling it.

## 7. CABLE WIRING

### 7.1. External Control Cable and Housing Terminal Block Wiring

#### CAUTION

- Keep wiring as far away as possible from a heater. (C-CH200FH and C-CH210FH only.) Failure to do so may cause a fire or electric shock.
- Do not touch a heater because fingers may be burned. (C-CH200FH and C-CH210FH only.)
- Be sure to use the optional CC-5941B 24 VAC adapter for the 24 VAC power supply. Using adapters other than the dedicated type could lead to a fire.

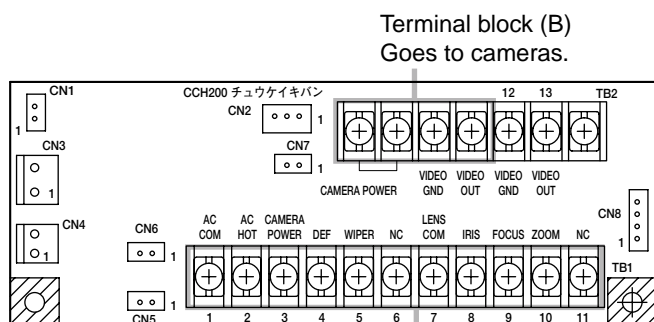


**Note:** Make sure that the power is switched ON after wiring completion.

The junction circuit board shown at right is exposed if the sunshade is opened.

#### Note

Do not connect the AC input to the Video output. If connected by mistake, the camera will fail.



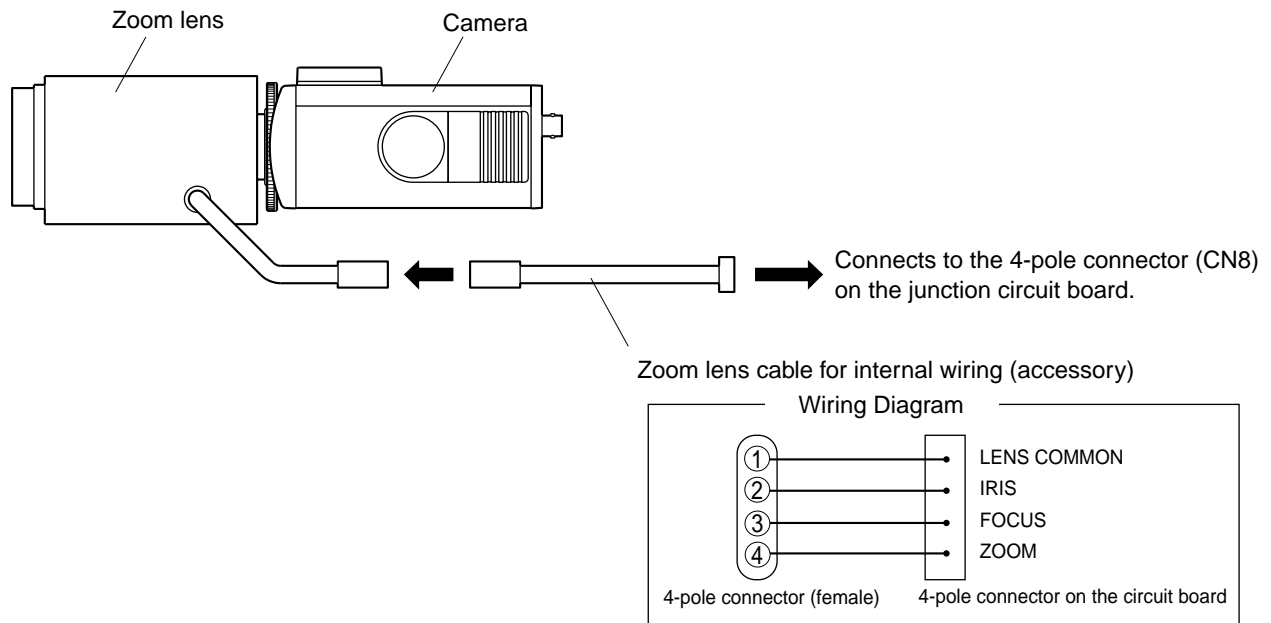
Terminal block (A) is set as shown in the following table. Perform wiring by selecting combinations of equipment to be used.

Terminal Block			When directly connecting to the remote control units and relay boxes			When using the C-PH200 Outdoor Pan/Tilt Head		
No.	Indication	Application	C-CH200	C-CH200FH	C-CH210FH	C-CH200	C-CH200FH	C-CH210FH
1	AC COM	24VAC input (common)	○ <sup>*1</sup>	○	○	Connect the housing cable supplied with the C-PH200 to each terminal.  <b>Note</b> The number of the housing cable lead wire matches the terminal number the lead wire is connected to.		
2	AC HOT	24VAC input		○	○			
3	CAMERA POWER	Camera power 24 VAC	○ <sup>*1</sup>	○ <sup>*1</sup>	○ <sup>*1</sup>			
4	DEF	Defroster			○			
5	WIPER	Wiper			○			
6	NC	Not connected (unused)						
7	LENS COM	Lens common	○ <sup>*2</sup>	○ <sup>*2</sup>	○ <sup>*2</sup>			
8	IRIS	Iris	○ <sup>*2</sup>	○ <sup>*2</sup>	○ <sup>*2</sup>			
9	FOCUS	Focus	○ <sup>*2</sup>	○ <sup>*2</sup>	○ <sup>*2</sup>			
10	ZOOM	Zoom	○ <sup>*2</sup>	○ <sup>*2</sup>	○ <sup>*2</sup>			
11	NC	Not connected (unused)						
12	VIDEO GND	Video output (coaxial shield)	○	○	○			
13	VIDEO OUT	Video output (coaxial core)	○	○	○			

<sup>\*1</sup> It is convenient to make a connection by way of Terminal block (B) when using the 24 VA camera.

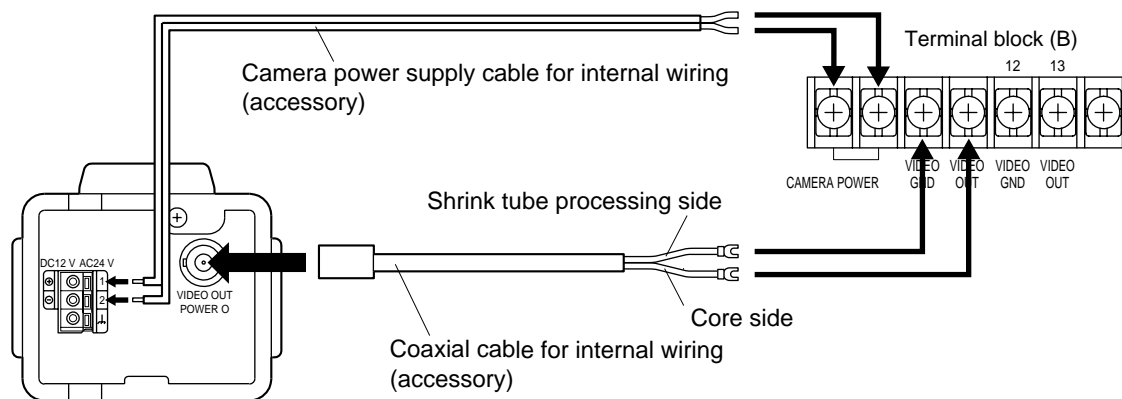
<sup>\*2</sup> Connect when using a zoom lens. When using an auto-iris motorized zoom lens, terminal 8 (IRIS) is not used.

## 7.2. Zoom Lens Wiring

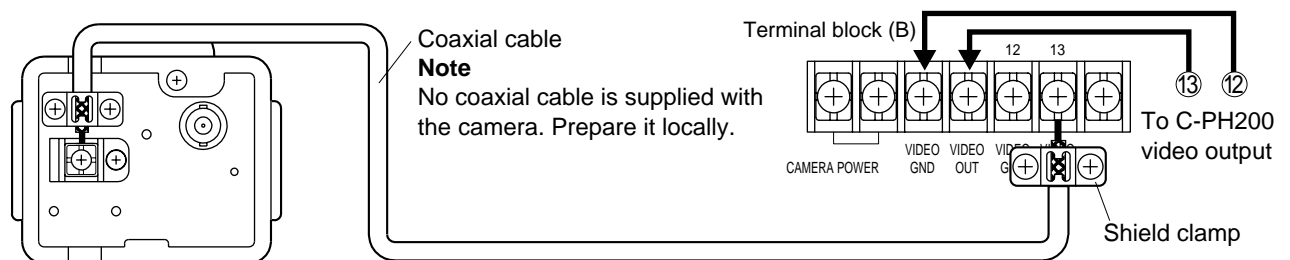


## 7.3. Camera Wiring

### 7.3.1. 24 VAC Camera



### 7.3.2. Coaxial Single-cable Camera (when using the C-PH200 Outdoor Pan/tilt Head)

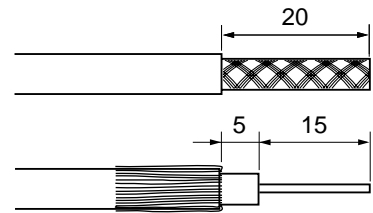


## 7.4. Coaxial Cable End Processing

Process the coaxial cable end as follows:

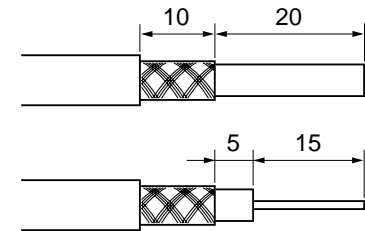
### 3C-2V Cable

1. Strip the cable sheath 20 mm from the cable end.
2. Bend back braided copper shields over the cable sheath, then remove the insulating material 15 mm from the cable end.



### 5C-2V Cable

1. Strip the cable sheath 30 mm from the cable end, and braided copper shields 20 mm.
2. Remove the insulating material 15 mm from the cable end.

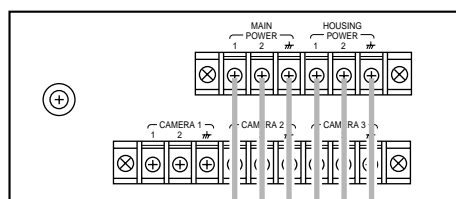


## 8. CONNECTION EXAMPLES

### 8.1. Connections to the CC-5011B Direct Control System Remote Controller

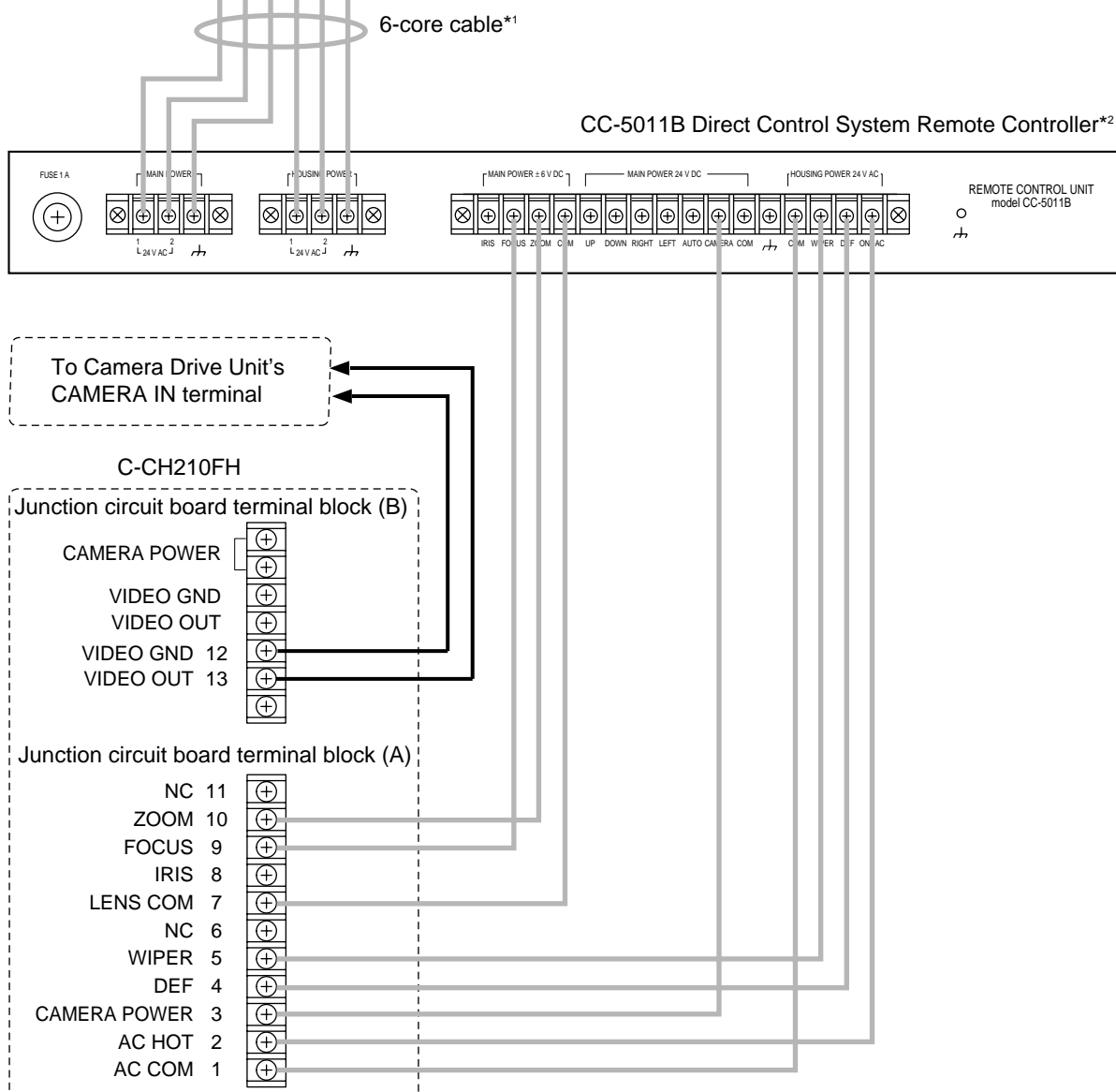
#### 8.1.1. When connecting the C-CH210FH directly to the CC-5011B:

CC-5941B 24 VAC Adapter



#### Note

Note correct polarity when connecting the dedicated AC adapter. Reversed polarity connections will cause damage to equipment.



#### Note

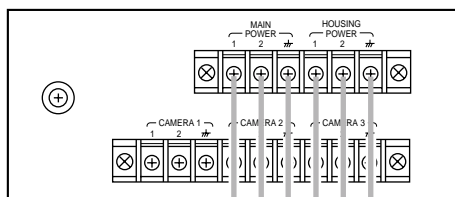
Take care not to connect the AC input to the video output. If connected by mistake, the camera will fail.

\*1 Use cables with diameter of over 1 mm when connecting the CC-5941B to the CC-5011B.

\*2 For how to mount the C-5011B, refer to its instruction manual.

## 8.1.2. When using the C-PH200 Outdoor Pan/tilt Head:

CC-5941B 24 VAC Adapter

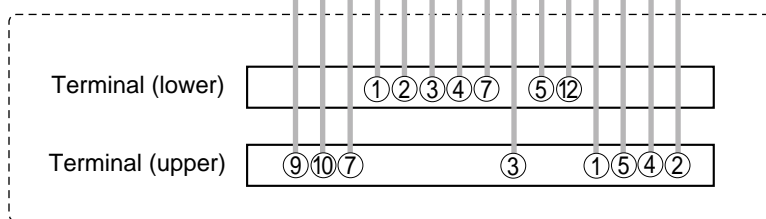
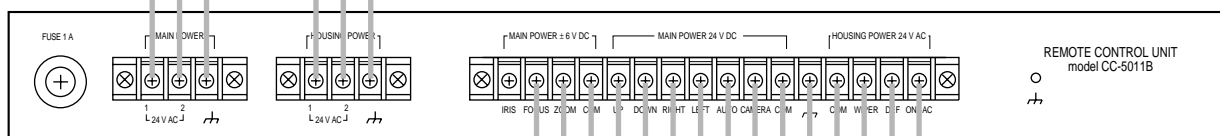


### Note

Note correct polarity when connecting the dedicated AC adapter. Reversed polarity connections will cause damage to equipment.

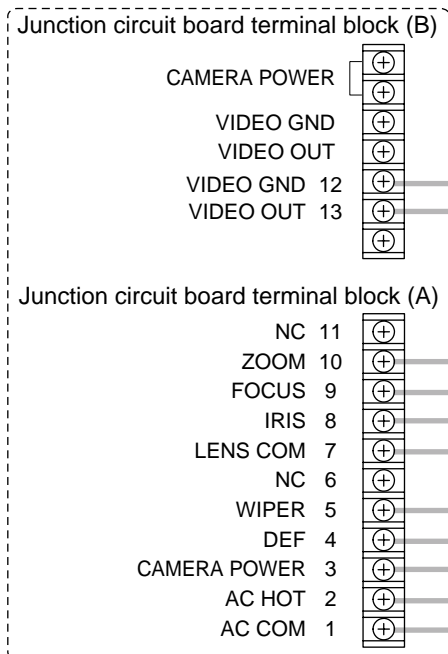
6-core cable\*1

CC-5011B Direct Control Remote Controller\*2

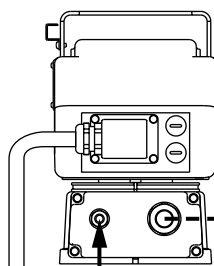


Inside of C-PH200

C-CH210FH



C-PH200 Outdoor-use Pan/tilt Head\*\*



To VIDEO terminal

Housing cable

### Note

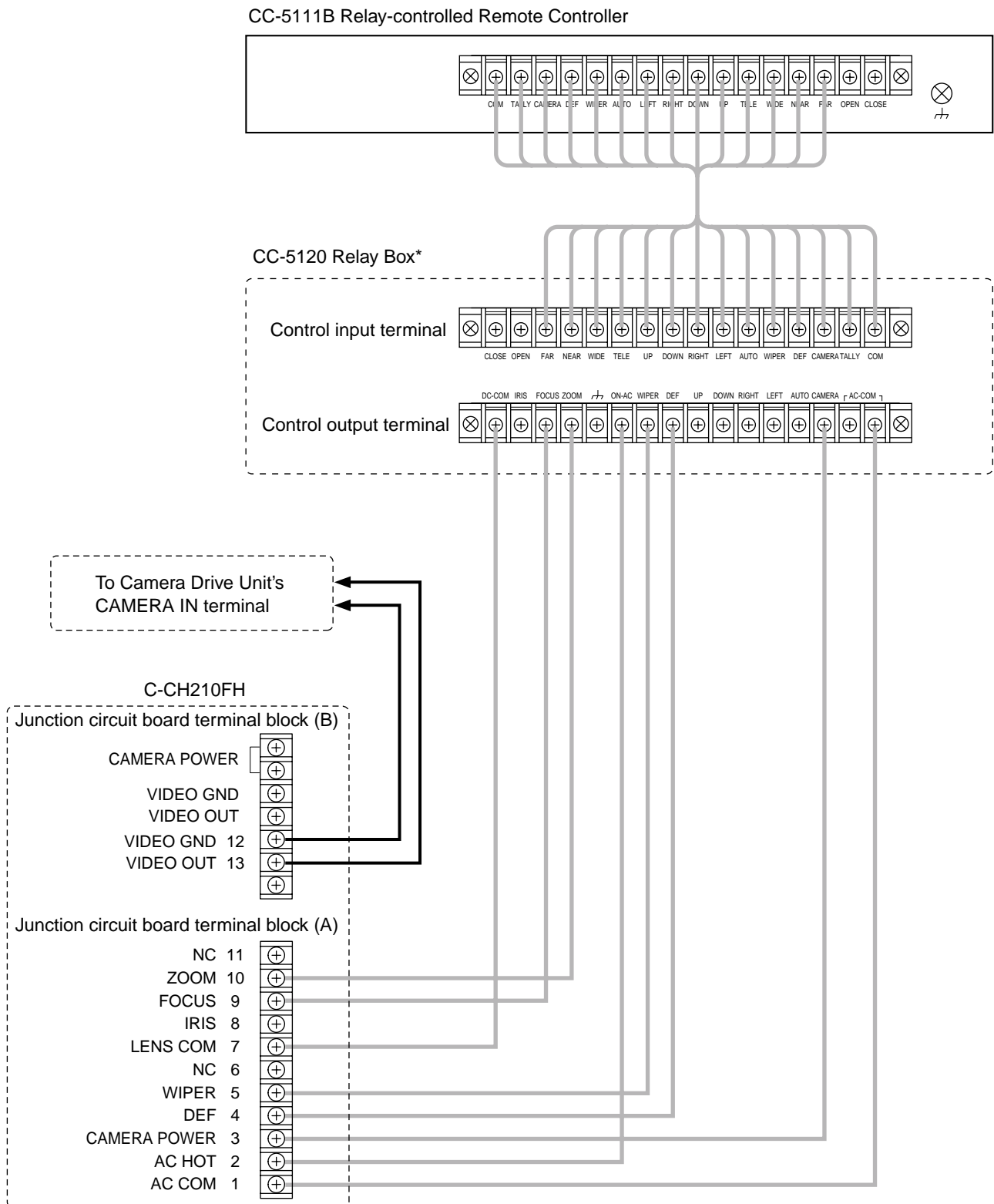
Take care not to connect the AC input to the video output. If connected by mistake, the camera will fail.

\*1 Use cables with diameter of over 1 mm when connecting the CC-5941B to the CC-5011B.

\*2 For how to mount the C-PH200 and the CC-5011B, refer to their respective instruction manuals.

## 8.2. Connections to the CC-5120 Relay Box

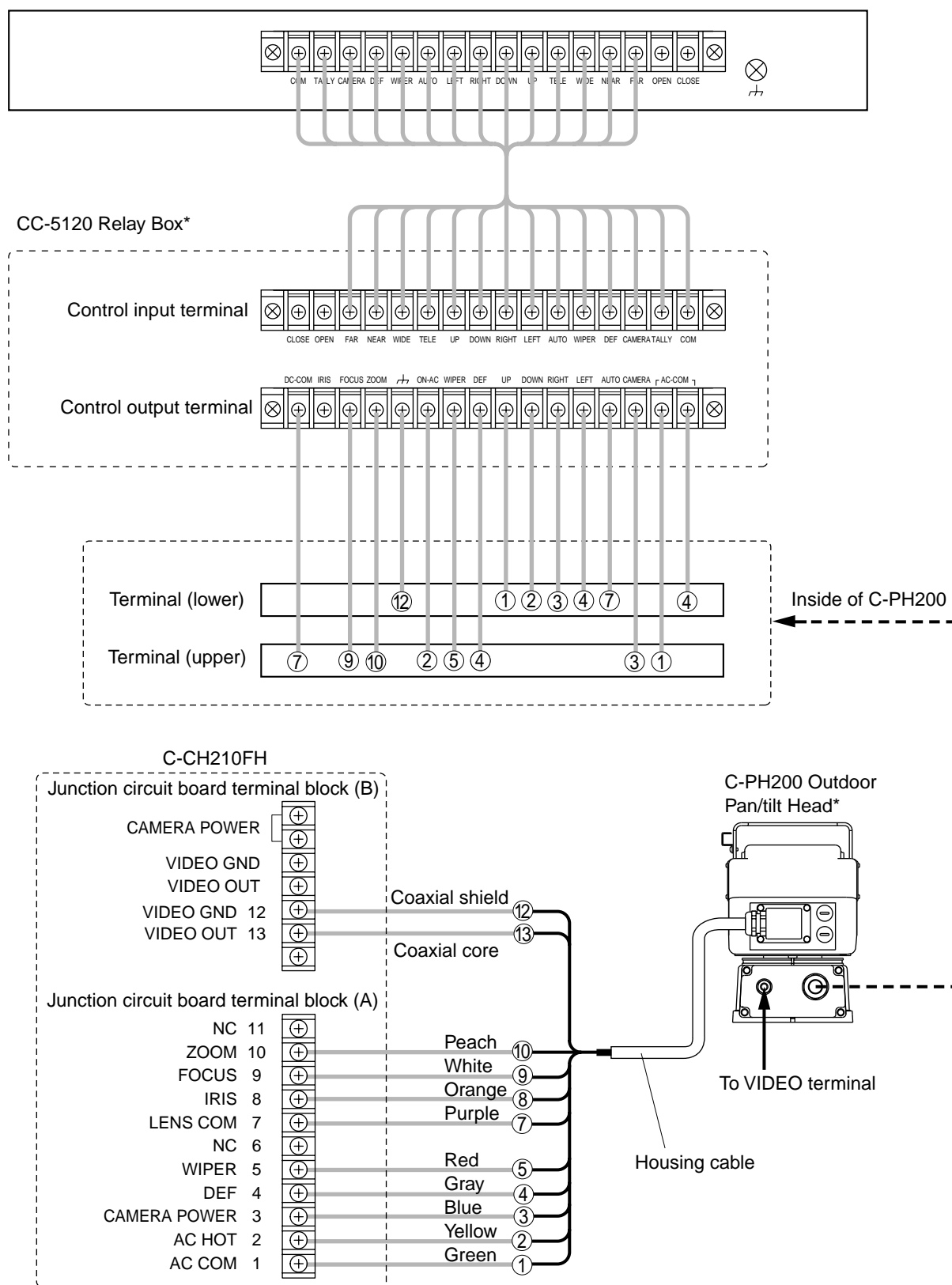
### 8.2.1. When connecting the C-CH210FH directly to the CC-5120:



\* For how to mount the CC-5120, refer to its instruction manual.

### 8.2.2. When using the C-PH200 Outdoor Pan/tilt Head

## CC-5111B Relay-controlled Remote Controller



### Note

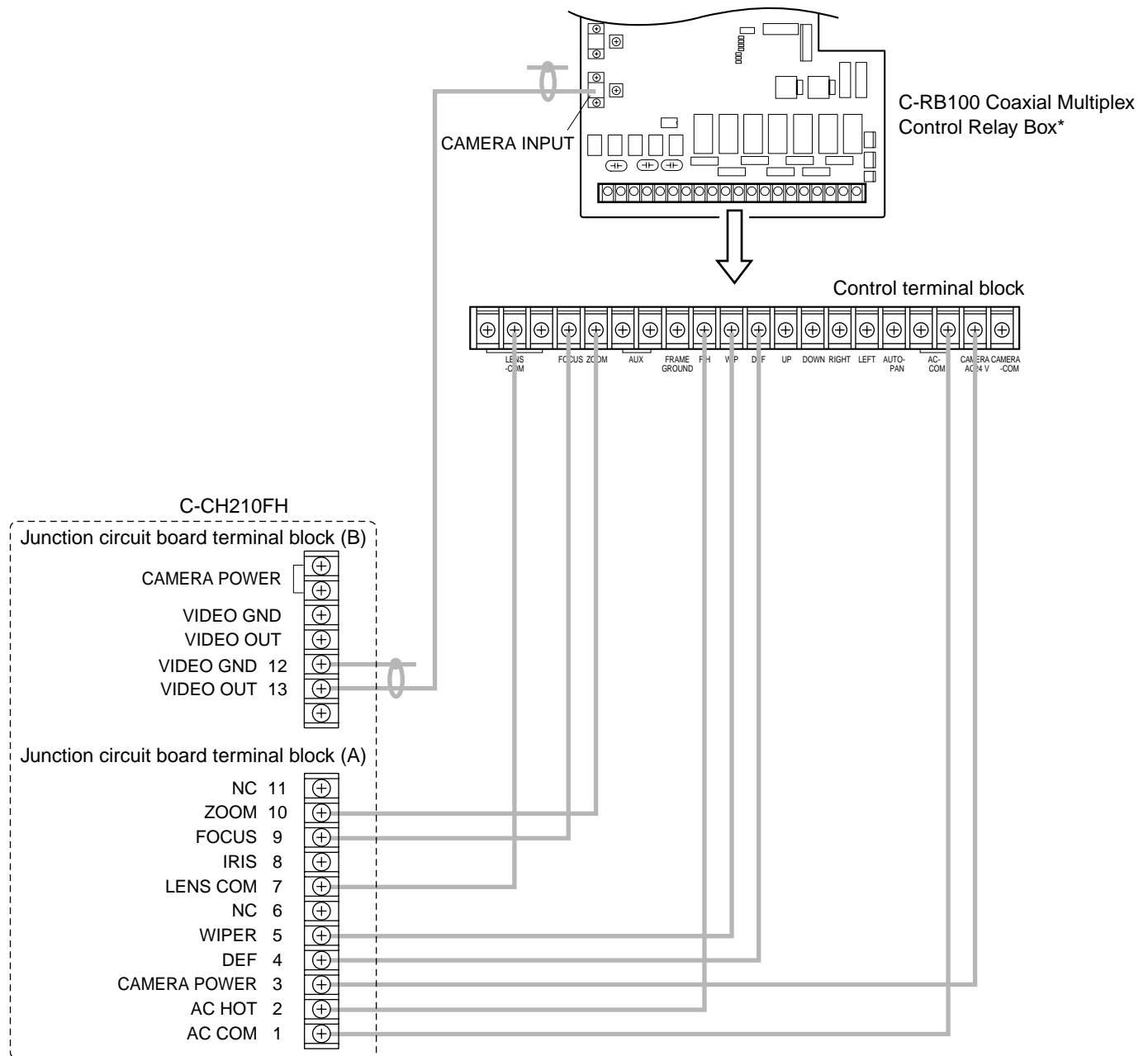
Take care not to connect the AC input to the video output.  
If connected by mistake, the camera will fail.

\* For how to mount the C-PH200 and the CC-5120, refer to their respective instruction manuals.

## 8.3. Connections to the C-RB100 Coaxial Multiplex Control Relay Box

### 8.3.1. When connecting the C-CH210FH directly to the C-RB100:

When using the 100 VAC camera, connect the camera power supply directly to the 100 VAC wall outlet. (Power cannot be supplied from the C-RB100 to the 100 VAC camera.)



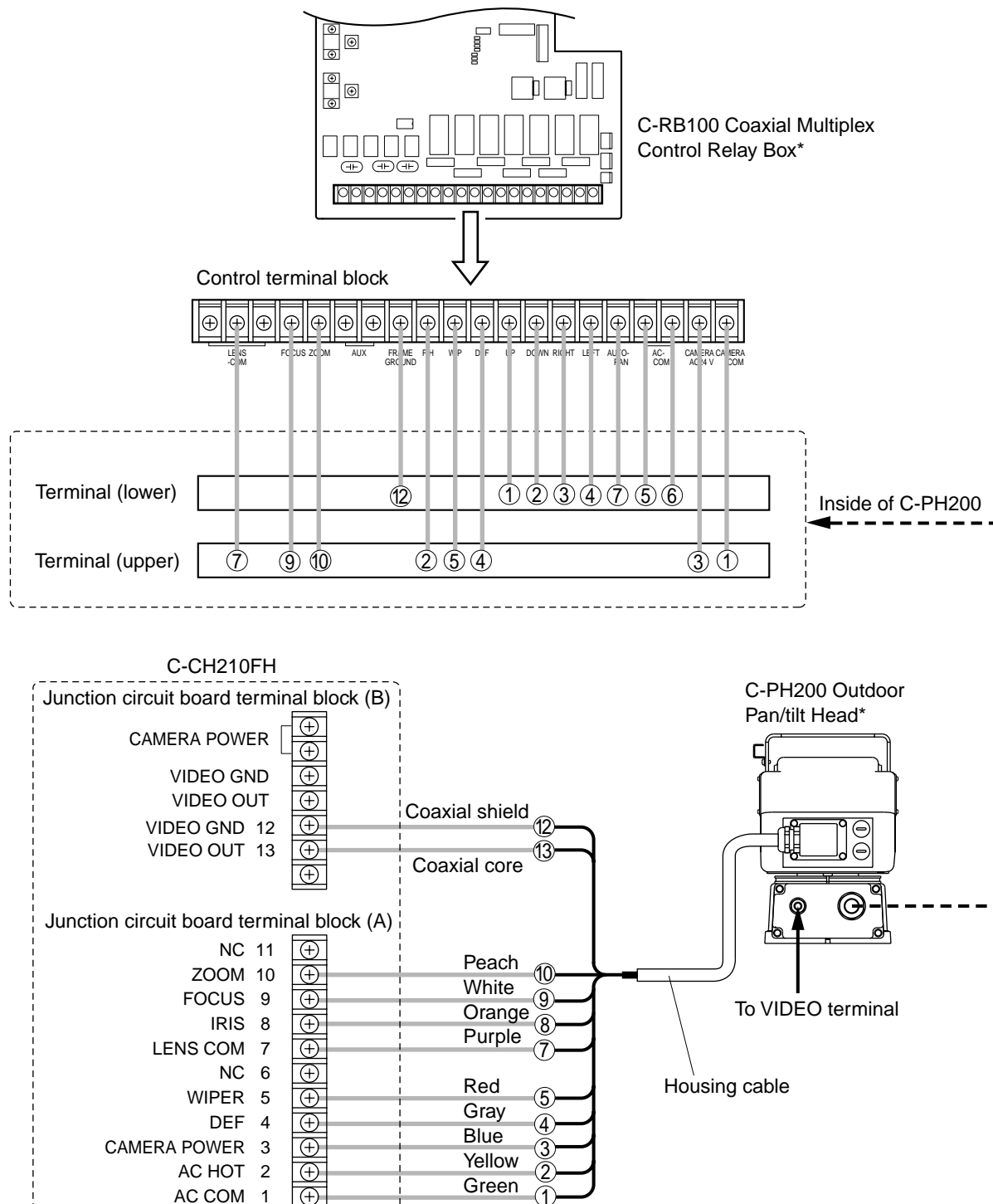
#### Note

Take care not to connect the AC input to the video output. If connected by mistake, the camera will fail.

\* For how to mount the C-RB100, refer to its instruction manual.

### 8.3.2. When using the C-PH200 Outdoor Pan/tilt Head:

- When using the 100 VAC camera, it is not connected to ① and ② on the C-PH200's terminal block (upper). Connect the camera power supply directly to the 100 VAC wall outlet. (Power to the 100 VAC camera cannot be supplied from the C-RB100.)
- If no motorized zoom lens is used, leave ⑦ through ⑩ on the C-PH200's terminal block (upper) unconnected



### Note

Take care not to connect the AC input to the video output.  
If connected by mistake, the camera will fail.

\* For how to mount the C-PH200 and the C-RB100, refer to their respective instruction manuals.

## 9. CAMERA AND ZOOM LENS INSTALLATION

1. Remove the camera mounting plate from the camera housing. To remove, loosen two butterfly bolts and pull them forward.

2. Mount the camera to the camera mounting plate, and the zoom lens to the zoom lens mounting plate using the supplied nuts and bolts.

**Note:** The zoom lens mounting plate is supplied attached to the camera mounting plate.

[Bolts to be used]

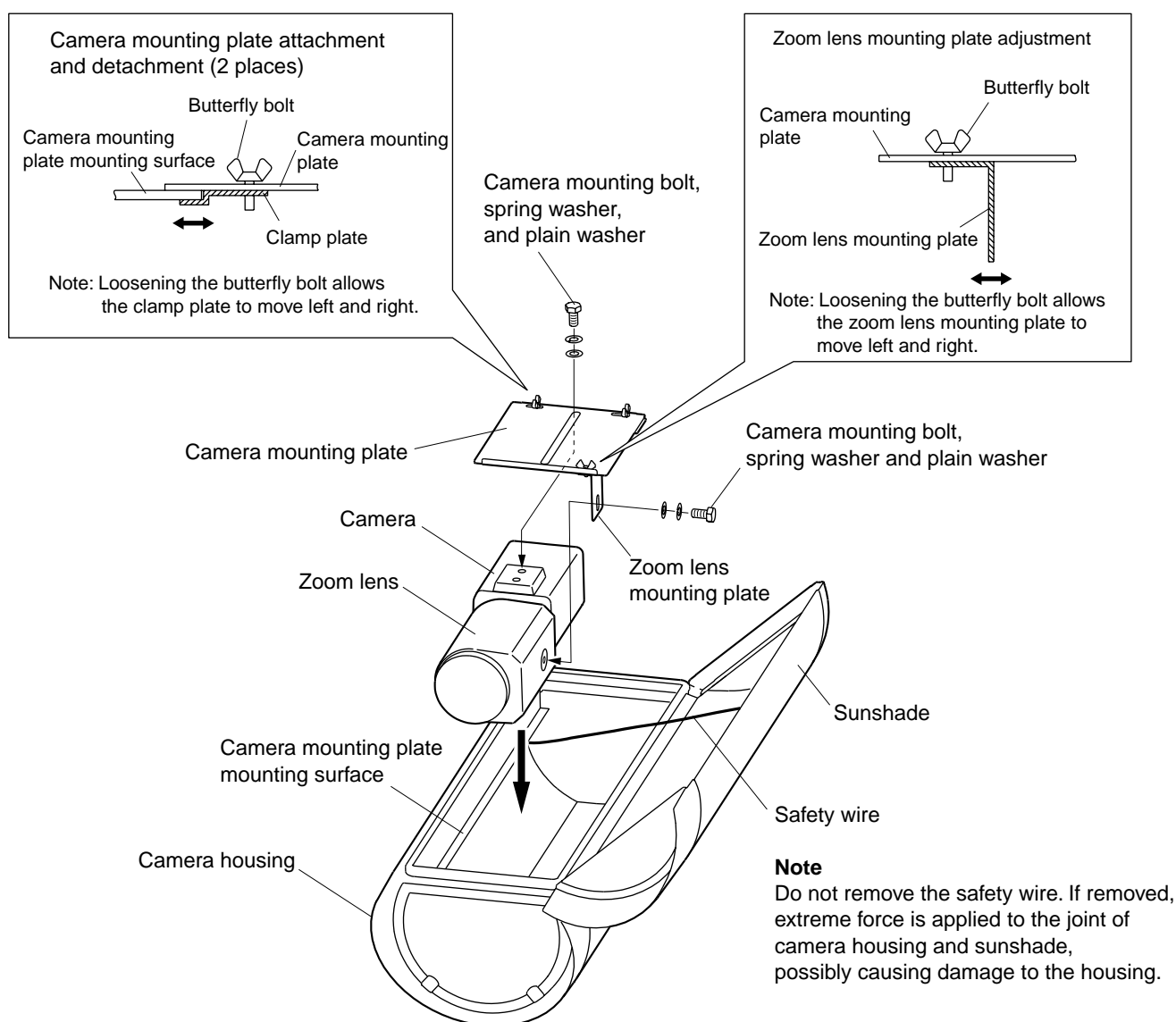
- U1/4x10 camera mounting bolt ..... 1 (accessory)
- U1/4 plain washer ..... 1 (accessory)
- U1/4 spring washer ..... 1 (accessory)

3. Perform wiring for the camera. (Refer to p. 10.)

4. Mount the camera and the zoom lens to the camera housing.

Place the camera mounting plate mounting surface between the camera mounting plate and the clamp plate (2 places).

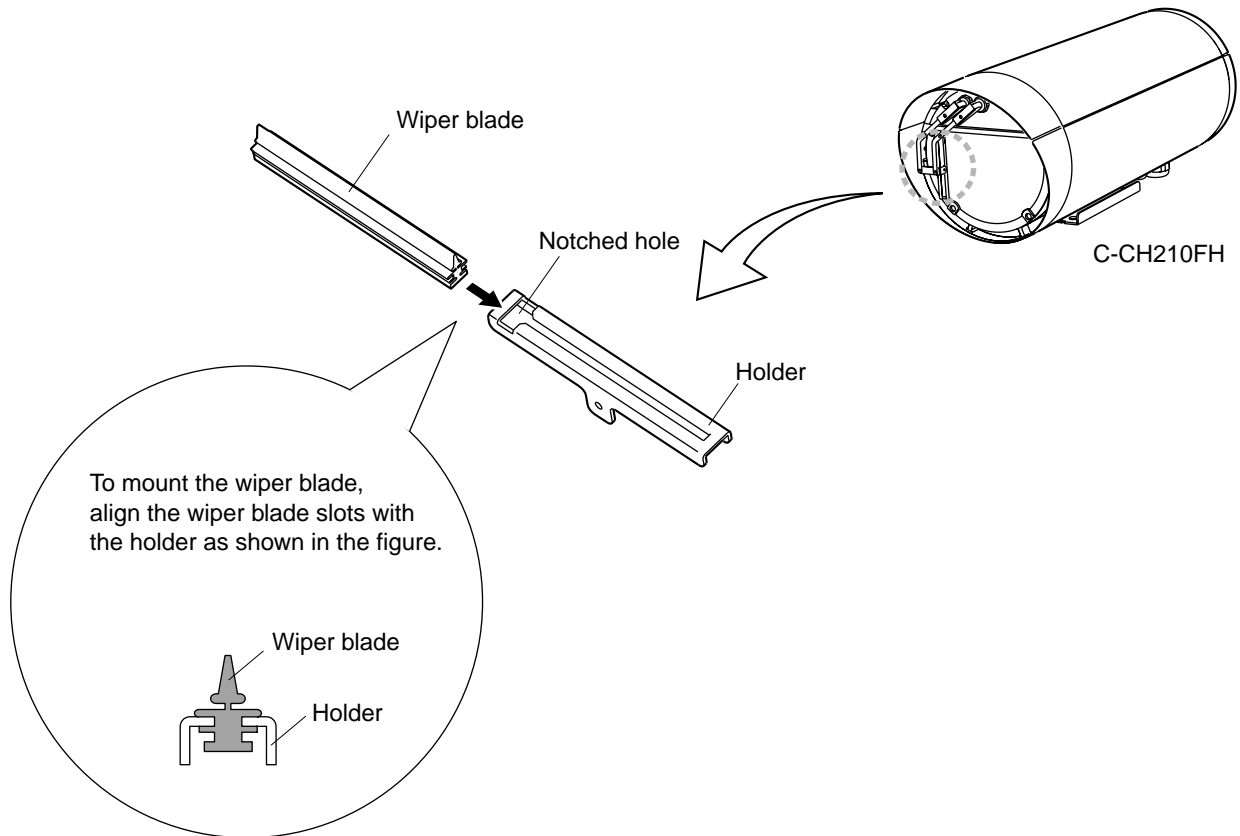
Push the two butterfly nuts away from you and retighten them to clamp the mounting surface.



## 10. WIPER BLADE REPLACEMENT (C-CH210FH ONLY)

Because the wiper blade will wear out over years of use, replace it periodically.

1. Pull the worn wiper blade out of the holder's notched hole.
2. Insert a new wiper blade (service part code 102-15-420-30) into the holder's notched hole to mount it.



### Note

Only use the wiper as needed on rainy days, since dry operation can cause the blade to wear out quickly and stick to the front glass.

## 11. SPECIFICATIONS

Model No.	C-CH200	C-CH200FH	C-CH210FH
Power Source	—	24 V AC, 50/60 Hz	
Current Consumption	—	Fan : 4.6 W Heater : 19 W	Fan : 4.6 W Heater : 19 W Defroster : 5 W Wiper : 2.3 W
Fan/heater Operating Temperature	—	Fan : Turns on at over approx. 26°C Heater : Turns on at under approx. 10°C	Fan : Turns on at over approx. 26°C Heater : Turns on at under approx. 10°C Defroster : Turns on at under approx. 30°C Turns off at over approx. 50°C
Operating Temperature	−10 to +45°C	−20 to +45°C*	
Operating Humidity	30% to 98% RH		
Applications	Indoors and outdoors (except seaside and industrial districts where the unit is subject to corrosion, and heights that expose the unit to strong wind pressure)		
Waterproof/Dustproof Capability	IP54		
Finish	Unit : Aluminum extrusion, off white, paint Panel : Die-cast aluminum, off white, paint		
Dimensions	195 (W) x 207 (H) x 500 (D) mm		
Weight	5.2 kg	5.4 kg	6.0 kg
Applicable Camera	C-CC300A series, C-CC150A, C-CB20LA		
Applicable Lens	All lenses except ultra-wide angle lenses and special lenses		

\* In the case of the C-CH210FH, if its wiper driving section is frozen, the wiper does not correctly work.

**Note:** Specifications and external view of the camera housing are subject to change without notice.

### • Accessory

Coaxial cable for internal wiring .....	1
Zoom lens cable for internal wiring .....	1
Camera power supply cable (for 24 V) for internal wiring .....	1
M6 x 12 hexagonal head bolt with washer .....	4
U1/4 x 10 camera mounting bolt .....	2
U1/4 spring washer .....	2
U1/4 plain washer .....	2

### • Optional Components

Housing Fixing Stand	: C-BC200H
Wall Mounting Bracket	: C-BC200K
Outdoor Pan/tilt Head	: C-PH200

