

Thank you for your purchase of this product.

- \blacksquare Before operating this product, please read this instruction manual carefully.
- After you have read this manual, store it in a safe place for future reference.



PRODUCT FEATURES	EG-2
SAFETY PRECAUTIONS	EG-3
PART NAMES	EG-4
INSTALLATION AND ADJUSTMENT	EG-5
MODEL DESCRIPTION	EG-10
SPECIFICATIONS	EG-11

PRODUCT FEATURES

- High-resolution surveillance camera with a new built-in 1/3-type CCD. It delivers clear images at a horizontal resolution of 700 TVL by using a new high-resolution CCD and image processing technology.
- Integrated varifocal lens allows for versatile application and easy installation.
- Surface or embedded installation.
- Manual pan/tilt/rotation mechanism.
- 12 V DC/24 V AC auto switching power supply.
- The new 12,600 times Wide Dynamic Range (WDR) processing allows sharp images even if the pictures are shot in mixed indoor/outdoor scenes with backlight.
- New Easy Focus function helps adjust the lens focus by edge enhancement, focus level bar, and screen view zoom-up / down.
- The Color Bar Output function enables the checking and adjustment of cable signal levels and monitoring of the image quality.
- The Defog function provides high-quality images with automatically enhanced contrast in an environment with poor visibility, such as fog, mist, rain, and snow.
- The 3D-Digital Noise Reduction (3D-DNR) function realizes low noise and high sensitivity.

 The OSD settings can be dynamically switched using the Profile Switching function. With these functions, two preset profiles can be switched with each other when a Mode Selection terminal has been controlled or Day/Night switching has been made. A combination of profiles can be selected according to surveillance conditions.

 Day/Night function provides a high-sensitivity black and white image in low light conditions (e.g., night time) by automatically switching the camera to black and white mode. The camera is automatically switched to color mode in brighter light conditions (e.g., day time).

 This product offers additional functions such as Stabilizer, Privacy Mask, and Motion Detection functions.

SAFETY PRECAUTIONS

The installation should be made by a qualified service person and should conform to all local codes. For this device provided no power switch, the installation shall be carried out in accordance with the rules of the country or the region in which the equipment is to be installed.

This symbol indicates that there is a possibility of death or damage to operator or others.

- Use only 24V AC power supply marked class 2 or +12V DC regulated power supply marked class 2.
- (2) To prevent fire or electrical shock, UL listed class 2 wiring should be used for the 12V DC or 24V AC input terminal.
- (3) Be sure to connect each lead to the appropriate terminal. Wrong connection may cause malfunction and/or damage to the video camera.
- (4) Never attempt to disassemble or modify the camera.
- (5) If an abnormality should occur, immediately turn off the power and consult your dealer.
- (6) To prevent fire or electric shock, do not expose this product to rain or moisture.

This symbol indicates that there is a possibility of injury or damage to equipment.

(1) Do not attempt to aim the camera at the sun or other extremely bright objects that cause smear to appear irrespective of whether the camera is operating or not. This can damage the CCD (Charge Coupled Device).

- (2) Do not place the camera in the following locations.
 - Locations subject to extremely high or low temperatures. (Operating temperature range: -10°C to +50°C {14°F to 122°F}) (Storage temperature range: -20°C to +60°C {-4°F to 140°F})
 - Locations subject to high levels of humidity and dust. (Operating humidity range: max 85% {No condensation}) (Storage humidity range: max 95% {No condensation})
 Locations where there are large amounts of water vapor and steam.
- (3) Ensure the location selected is sufficiently strong enough to support the weight
- of the camera and is free from vibration.
- (4) When this camera is installed near equipment that emits a strong electromagnetic field, some irregularity such as noise on the monitor screen may happen.
- (5) Do not allow the camera to be subjected to strong impacts or shocks. The camera could be damaged by improper handling or storage.

This device complies with Part 15 of the FCC Rules. Operation is subject to following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada's Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.





INSTALLATION AND ADJUSTMENT

•Attaching the unit

You can use the following three methods to attach the unit. Please use the method that best fits the conditions of the area in which you want to install the unit.

Attaching to the surface of the ceiling or wall



Use this method to attach the unit to the surface of the ceiling or wall (page EG-5).

Embedding in the ceiling or wall



Use this method to attach the unit by embedding it in the ceiling or wall (page EG- 6).

• Be sure to use the adapter ring to attach the camera.

Attaching to a 4S junction box



Use this method to attach the unit when a 4S junction box is available (page EG-7).

• Be sure to use the adapter ring to attach the camera.

Attaching to the surface of the ceiling or wall

This section explains how to install the unit where cables are running through the interior of the ceiling or wall. When running cables on the exterior surface of the ceiling or wall, please drill holes in the ceiling or wall as directed in step 1, then refer to "Running cables on the exterior surface of the ceiling or wall" (page EG-5).

Drilling holes in the ceiling or wall Use the template included to mark out the position on the ceiling or wall where you want to install the unit.

- When running cables through the interior of the ceiling or wall Use the template, and drill three holes. Two for screws (Screw A) used to attach the camera body and one for the cables (Cables).
- When running cables on the exterior surface of the ceiling or wall Use the template, and drill two holes for screws (Screw A) used to attach the camera body.



2 Attaching the camera body Remove the body cover, and attach the camera body to the ceiling or wall. • Please use fixing screws suitable for the material of the ceiling or wall when attaching the camera body. We recommend using screws with a 4mm diameter.



When you finish attaching the camera, refer to page EG-7.



• Attaching to a 4S junction box

Be sure to use the adapter ring to attach the camera body when embedding it in the 4S junction box.

Attaching the adapter ring Attach the adapter ring to the 4S junction box. • Please use screws that are suitable for the 4S junction box.

Attention

• Do not tighten the screws to the extent that the adapter ring is bent.

Attaching the camera body

- ① Remove the surface mount cover from the camera body.
- 2 Remove the body cover, Attach the camera body to the adapter ring.
- Please use the self-tapping screws included. Do not use any other screws.



•Connecting the cables

Connect the power cable.

• While using 12 V DC, connect the positive (+) side to "+12 V DC."

12V DC connection 24V AC connection



Attention

• Be sure to check that the cables are connected correctly before turning the power on. • Turning on the power when the cables are connected with incorrect polarity may damage the camera.

🖌 Important

• While using 24 V AC, use power supply marked "Class 2."

Connect the video cable running from the monitor to the video relay cable.

Connect the video cable running from the monitor to the video relay cable attached to the camera body.



B/W Fix terminal/Mode Selection terminal

This terminal can be used as a B/W Fix terminal and also as a Mode Selection terminal that enables the dynamic switching of OSD settings. The mode selection setting needs to be adjusted beforehand on the OSD setting screen. The picture mode can be fixed at B/W by shorting the two contacts on the B/W Fix terminal. Fixing the picture mode at B/W can prevent the picture from having a phenomenon in which continuous switching occurs between the color mode and B/W mode under infrared illumination. The Mode Selection terminal allows switching between Profile 1/Profile 2 selected on the OSD screen.



Attention

- When using infrared illumination, please make sure to adjust the focal point of the lens in color mode.
- If excessive infrared illumination causes the phenomenon above, set the picture mode at B/W using the BW Fix terminal.

• RS485 communication terminal (with communication function)

The RS485 communication function enables remote operation of the OSD function. * For initial settings of camera for RS485 communication, please see "RS485 Menu" of the separate "OSD Operation Manual."



 While connecting a sineled finite during the first capit for a terminal [B/W Fix terminal, Communication terminal (AWG 16-30)], peel off the cable by 5 mm from the end.

Approximately 5 mm

• Termination resistance switch (with communication function) During the RS485 communication connection, turn on the termination resistance switch of the camera connected at the end of the cable, and turn off all other switches. Adjust the characteristic impedance of the cable used to the same level as that of the termination resistance (120Ω).



• Attaching the service monitor

Use the service monitor cable to check and adjust camera direction, focus, and angle on a service monitor.



The service monitor is not supplied in the cell. Please have one ready.

• Adjusting the camera direction

The camera body is set in a tri-axial mounting allowing movement in the pan, tilt, and rotational planes.

① Adjust the direction of the lens so it faces the subject.



Attention

- Using the camera in a near-horizontal position will show the camera cover on screen.
- Forcibly adjusting the camera to point in directions beyond the limits of the mounting may cause the cable to catch on internal components and damage the camera.

⁽²⁾ When you have finished adjusting the direction of the lens, tighten the locking screw with a screwdriver.



• Adjusting the view angle, focus and iris Move the lever to adjust focus and angle of view.



Easy focus adjustment

Please make sure to adjust focus in a bright light environment. With the OSD screen not displayed, activate the focus adjustment screen by pressing and holding down the Menu Operation Switch in the UP direction (Jump function). You can also activate the focus adjustment screen by selecting "Setup" – "EZ Focus" on the OSD menu. The lens ins is forcibly kept open while this screen is being displayed. The focus can be easily adjusted by using focus adjustment assisting functions such as edge enhancement, focus level bar indication, and screen view zoom-up/down enabled by pressing the Menu Operation Switch in the left/right direction. When the adjustment is completed, close the OSD menu. * For details, please see "EZ Focus Menu" of the separate "OSD Operation Manual."

Attention

Hold the dome cover over the lens and adjust the focus so that the axis of the lens passes through the center of the dome cover, as shown in the right-hand side figure.



Setting the Menu Operation Switch

To adjust settings in the OSD menu, press and hold down the Menu Operation Switch. The OSD menu appears, and here you can adjust various settings using this switch.

- Pressing the switch in the UP/DOWN/ LEFT/RIGHT direction moves the cursor and allows you to select an item.
- Press the Menu Operation Switch to confirm the item you have selected.

* For details, please see the separate "OSD Operation Manual."



• Installation and adjustment complete • Attach the body cover.

the body cover.



② Turn the inner cover. Then align the slit with the lens before attaching the dome cover.



ZC-DWN5212 NX A R

R; RS-485 Communication (Manufacturer's Option)

A; Auto-iris

— NX; NTSC 700TVL resolution

- Lens Focal Length 212; 2.8-12mm / 550; 5-50mm / 840; 8.5-40mm
- _____ N; True Day/Night or None; Digital Day/Night
- W; WDR (Wide Dynamic Range) or None; EDR (Extended Dynamic Range)

ZC-DWN5212NXA ; WDR, True Day/Night, 2.8-12mm ZC-D5550NXA ; EDR, Digital Day/Night, 5-50mm

SPECIFICATIONS

		Digital Day/Night model	True Day/Night model	WDR Digital Day/Night model	WDR True Day/Night model			
Model No.			ZC-D5212NXA	ZC-DN5212NXA	ZC-DW5212NXA	ZC-DWN5212NXA		
Focal length				2.8 mm	- 12 mm			
Max. aperture ratio				1:	1.3			
Iris				F1.3- F360C	(DC auto iris)			
TV system			NTSC					
Scanning system			2 : 1 Interlace					
Image sensor			1/3-type Interline transfer CCD					
Effective pixels			976 (H) x 494 (V)					
Scanning frequency			15.734kHz (H) / 59.94Hz (V)					
Video output			1.0V (p-p) / 75Ω					
Horizontal resolution			700 TVL					
Angle of view	D			121.8°	- 29.6°			
(Wide to Tele)	Н			98.2°	- 23.8°			
	V			73.6° - 17.8°				
Min. Illuminance	50IRE	SENS UP: OFF	0.3 lx (Color) / 0.03 lx (B/W)	0.08 lx (Color) / 0.008 lx (B/W)	0.3 lx (Color) / 0.03 lx (B/W)	0.08 lx (Color) / 0.008 lx (B/W)		
F1.3		SENS UP: ON (x512)	0.0006 lx (Color) / 0.00006 lx (B/W)	0.00016 lx (Color) / 0.000016 lx (B/W)	0.0006 lx (Color) / 0.00006 lx (B/W)	0.00016 lx (Color) / 0.000016 lx (B/W)		
Night mode	30IRE	SENS UP: OFF	0.15 lx (Color) / 0.015 lx (B/W)	0.04 lx (Color) / 0.004 lx (B/W)	0.15 lx (Color) / 0.015 lx (B/W)	0.04 lx (Color) / 0.004 lx (B/W)		
AGC Extreme		SENS UP: ON (x512)	0.0003 lx (Color) / 0.00003 lx (B/W)	0.00008 lx (Color) / 0.000008 lx (B/W)	0.0003 lx (Color) / 0.00003 lx (B/W)	0.00008 lx (Color) / 0.000008 lx (B/W)		
S/N ratio			More than 50dB (At minimum AGC gain)					
Gamma characteristic			0.45					
Sync. System			Internal synchronization (INT.) / Line Lock (L.L.) : For 60Hz regions only					
Electronic shutters			Electronic shutter ON: 1/60 s to 1/100,000 s.					
			* The shutter speed ranging from 1/1,000 s to 1/5,000 s can be set by 1/500 s					
			1/60 sec. fixed (Flickerless: OFF), 1/100 sec. fixed (Flickerless: ON)					
Iris control			DC / AES					
Wide Dynamic Rang (WD	H)		- Max 82dB			82dB		
Extended Dynamic Range	EDR)		Enabled —					
Backlight Compensation (BLC)		UN / OFF						
White balance			A LW (VORTRAL/ VVIGE) / AWB / MANUAI					
SENS UP								
Day/Night setting			AUG / COOF FIX / B / W FIX					
Noise Heauction (2D/3D-DINH) Extreme / High / Middle / Low			1/ Middle / Low					
Electronic zoom			ON (16 times max.)/ OFF					
Detog			image correction ON / OFF					
Profile setting		Standard r nign sensitivity / casino / socium vapor lamp / protile						
AGC			UN (Externer/ night/ Middler / Low) / OFF					
			-2010+20					
Easy focus			Enabled					
Edby IUCUS			EndDleD					

		Digital Day/Night model	True Day/Night model	WDR Digital Day/Night model	WDR True Day/Night model	
Model No.		ZC-D5212NXA	ZC-DN5212NXA	ZC-DW5212NXA	ZC-DWN5212NXA	
Privacy Mask		ON (16 spots max., 10 colors, mosaic) / OFF				
Motion detection		Detects all areas. 6 (horizontal) × 4 (vertical), 24 pixels in total (minimum block), sensitivity (1–10)				
Stabilizer		ON / OFF				
Monitor output mode		CRT / LCD				
Communication function		RS485 communication, half duplex (models with communication function only)				
Power source		24 V AC ± 10% (50/60 Hz ± 1 Hz) or 12 V DC ± 10%				
Power consumption	DC12V	180mA		230mA		
	AC24V	190mA, 2.7W		240mA, 3.0W		
Operating temperature/humidity		-10°C to +50°C, 85% or lower humidity (no condensing)				
Storage temperature/humidity		-20°C to +60°C, 95% or lower humidity (no condensing)				
External dimensions		144 (ø) mm x 110 (H) mm				
Weight		500g				
Input/Output terminals	Video output	BNC				
	Service monitor output terminal	2P con		nnector		
	Power input	2P screw terminal block				
	B/W Mode-Fix terminal	2P screw terminal block AWG16-30				
	RS485 communication terminal		2P screw terminal block AWG16-30 (mo	nodels with communication function only)		
Adjustment switch	OSD switch	Push-button switch with 5 conta		points (in 4 directions and at a central point)		
	Termination resistance switch	Slide switch (models with communication function only)				
Accessories		Cable for service monitor, Adapter ring, self-tapping screws (M4 × 20: 2 pcs.), Template, OSD Operation Manual, Instruction manual (this document)				

* The specifications and/or appearance of the product may change without a prior notice.

Lens types

			Digital Day/Night model		True Day/Night model
Model No. EDR type		EDR type	ZC-D5550NXA	ZC-D5025NXA	ZC-DN5840NXA
			WDR Digital Day/Night model	—	WDR True Day/Night model
Model No.		WDR type	ZC-DW5550NXA	-	ZC-DWN5840NXA
Focal length			5 mm - 50 mm	2.3 mm - 5.0 mm	8.5 mm - 40 mm
Iris			F1.3 - F360C (DC auto iris)	F1.2 - F360C (DC auto iris)	F1.3 - F360C (DC auto iris)
Min. Illuminance	50IRE	SENS UP: OFF	0.030 lx (B/W)	0.027 lx (B/W)	0.008 lx (B/W)
Night mode		SENS UP: ON (x512)	0.00006 lx (B/W)	0.000053 lx (B/W)	0.000016 lx (B/W)
AGC Extreme	30IRE	SENS UP: OFF	0.015 lx (B/W)	0.014 lx (B/W)	0.004 lx (B/W)
		SENS UP: ON (x512)	0.00003 lx (B/W)	0.00003 lx (B/W)	0.000008 lx (B/W)
Weight			570g	510g	560g



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