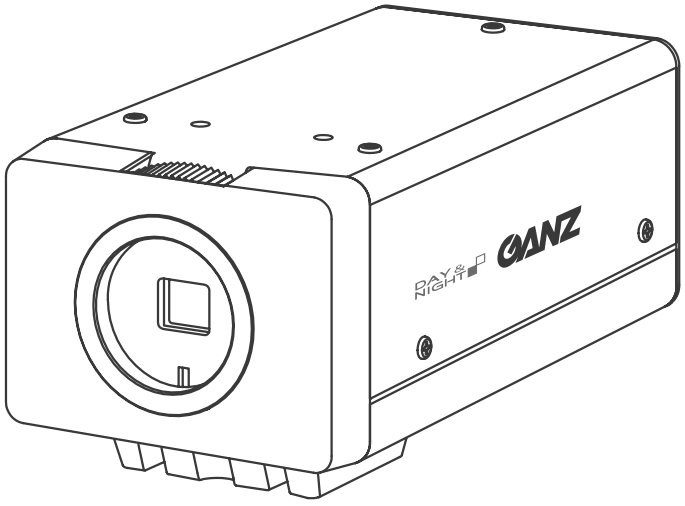
Color Day/Night Camera
Wide Dynamic Range

WITH GX5 TECHNOLOGY

YCX-05 Series

Instruction Manual



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Thank you for your purchase of this product.
■ 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.

CONTENTS

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.
- 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.

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

(1) 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.
(7) Never remove the cover. This may cause fire or electric shock.

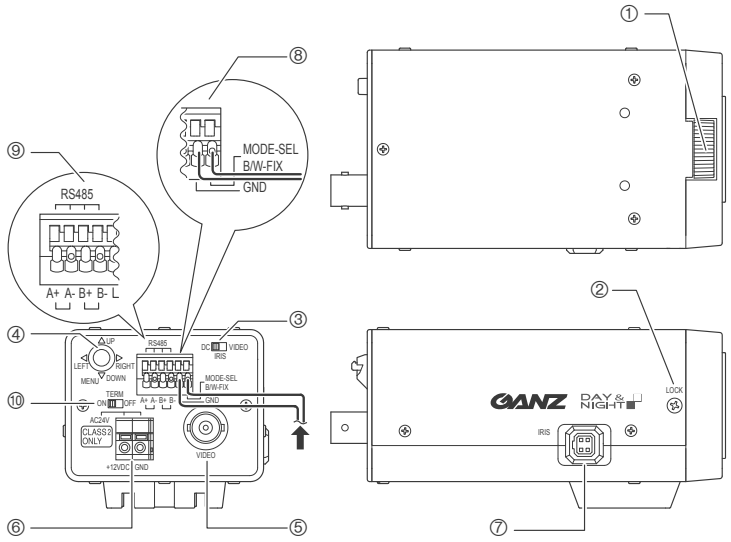
⚠**CAUTIONS**
This symbol indicates that there is a possibility of injury or damage to equipment.

(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.
① 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})
② Locations subject to high levels of humidity and dust.
(Operating humidity range: max 85% {No condensation})
(Storage humidity range: max 95% {No condensation})
③ 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.

PART NAMES AND FUNCTIONS



① Flange back adjustment wheel
If the focus needs to be adjusted after the lens has been mounted, loosen the flange back locking screw (②) and rotate the adjustment wheel to adjust.

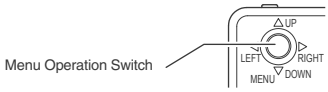
② Flange back lock screw
Loosen this screw for flange back adjustment. Be sure to retighten the screw after adjustment.

③ Auto-Iris mode switch
For switching the output from the auto-iris connector (⑦).

CAUTION :
When connecting the auto-iris lens, turn off the camera power. Also, if the Auto-Iris mode switch is set to a mode other than “DC” or “VIDEO” that is set for the connecting lens, the lens may be damaged.

DC : To be set when using a non-amp auto-iris lens.
VIDEO : To be set when using an auto-iris lens a built-in amp.

④ 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.”

Video iris lens adjustment
While using a video iris lens, make sure to make this adjustment. Activate the adjustment screen of the video iris lens by selecting “Setup” → “Lens” in the OSD menu. To adjust the brightness, turn the “LEVEL” volume control to “L” or “H” until “LEVEL VR Position: OK” appears on the OSD screen. When the adjustment is completed, close the OSD menu.

* For details, please see “Video-Iris LEVEL VR Setup” of the separate “OSD Operation Manual.”

CAUTION :
- Make sure to set the ALC adjustment volume of the lens to the Average (AV) end.
- Make sure to adjust the lens in a bright light environment.

Easy focus adjustment

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" in the OSD menu. The lens iris 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."

⑤ **Video output connector**

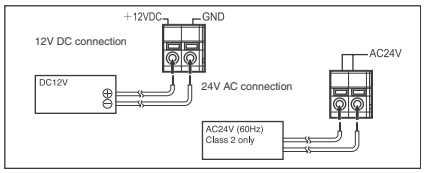
Connected to the TV monitor with a coaxial cable.

⑥ **Power input terminal (when using 12 V DC/24 V AC)**

This model can use 24 V AC and 12 V DC.

CAUTION :

Use only with a 24 V AC power supply marked class 2 or +12 V DC power supply.



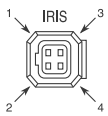
When connecting to a terminal

When connecting a cable to a power cable terminal (AWG16-24), peel off the cable by 11 mm from the end.

⑦ **Auto-iris output connector**

For connecting the cable of an auto-iris lens, the pin assignment is as shown below. (While using the auto-iris lens, set the Auto-iris Mode switch (③) to "DC" or "VIDEO" depending on the type of lens used.)

No.	DC	VIDEO
1	CONTROL-	+9.4V (max. 50 mA)
2	CONTROL+	N. C.
3	DRIVE+	VIDEO
4	DRIVE-	GND



⑧ **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. (See the back side of the camera on page 3.) 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.

CAUTION

When using infrared illumination, 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.

⑨ **RS485 communication terminal (with communication function)**

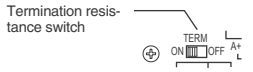
The RS485 communication function enables remote operation of the OSD function.

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

When connecting to a terminal

While connecting a shielded twisted pair cable to a terminal [B/W Fix terminal, Communication terminal (AWG22-26)], peel off the cable by 9 mm from the end.

⑩ **Termination resistance switch (with communication function)**

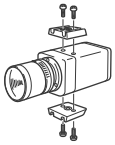


During the RS485 communication connection, turn on the termination resistance switch of the camera connected at the end of the cable, and turn off all other switches. Adjust the characteristic impedance of the cable used to the same level as that of the termination resistance (120 Ω).

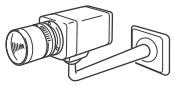
CAMERA MOUNTING

The camera can be attached to a tripod, fixer or other mounting device from either the top or bottom side by using the mounting screw holes (1/4-inch, 20 UNC) of the tripod set base plate. The tripod set base plate can be moved by first removing the two screws and then attaching the base plate to the top or bottom.

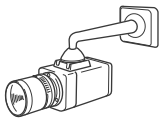
Moving the tripod set base plate



Bottom attachment



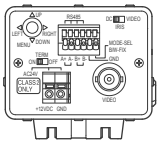
Top attachment



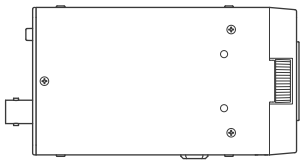
CAUTION :

Use of longer screws can damage the camera and use of shorter screws can result in falling.

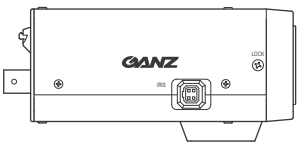
EXTERNAL DIMENSIONS



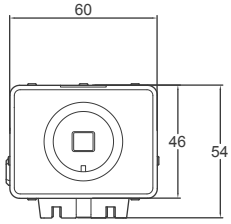
DC12V/AC24V
/Model with communication function



True Day & Night model



Digital Day & Night model



MODEL DESCRIPTION

YCX-05 W N R

- R; RS-485 Communication (Manufacturer's Option)
- N; True Day/Night or None; Digital Day/Night
- W; WDR (Wide Dynamic Range) or None; EDR (Extended Dynamic Range)

YCX-05 ; EDR, Digital Day/Night

YCX-05W ; WDR, Digital Day/Night

YCX-05N ; EDR, True Day/Night

SPECIFICATIONS

EDR Type

			Digital Day/Night model	True Day/Night model
Model No.			YCX-05	YCX-05N
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	
Min. Illuminance F1.2 Night mode AGC Extreme	50IRE	SENS UP: OFF	0.3 lx (Color) / 0.03 lx (B/W)	0.07 lx (Color) / 0.007 lx (B/W)
		SENS UP: ON (x512)	0.0006 lx (Color) / 0.00006 lx (B/W)	0.00014 lx (Color) / 0.000015 lx (B/W)
	30IRE	SENS UP: OFF	0.15 lx (Color) / 0.015 lx (B/W)	0.035 lx (Color) / 0.0035 lx (B/W)
		SENS UP: ON (x512)	0.0003 lx (Color) / 0.00003 lx (B/W)	0.00007 lx (Color) / 0.000007 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 shutter			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 IRIS	DC-drive auto-iris lens	
		AES	Fixed iris lens (1/60-1/100,000 sec. automatic electronic shutter)	
		VIDEO IRIS	Video-drive auto-iris lens Vcc=DC 9.4V, 50mA max, video signal: 0.7V (p-p) (high impedance)	
Extended Dynamic Range (EDR)			ON / OFF	
Backlight Compensation (BLC)			ON / OFF	
White balance			ATW (Normal / Wide) / AWB / Manual	
SENS UP			ON: Auto (x2 to x512) / OFF	
Day/Night setting			Auto / Color Fix / B / W Fix	
Noise Reduction (2D/3D-DNR)			Extreme / High / Middle / Low	
Electronic zoom			ON (16 times max.) / OFF	
Defog			Image correction ON / OFF	
Profile setting			Standard / high sensitivity / casino / sodium vapor lamp / profile	
AGC			ON (Extreme / High / Middle / Low) / OFF	
ALC			-20 to +20	
HLC			Detection level: 1-3 steps	
Easy focus			Enabled	
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	260mA	
		AC24V	220mA, 3.1W	
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			60 (W) x 54 (H) x 119.4 (D) mm	
Weight			320g	
Input/Output terminals	Video output		BNC	
	Auto-iris terminal		4P connector	
	Power supply terminal		2P screwless terminal block AWG16-24	
	B/W Mode-Fix terminal		2P screwless terminal block AWG22-26	
	RS485 communication terminal		4P screwless terminal block AWG22-26 (models with communication function only)	
Adjustment switch	OSD switch		Push-button switch with 5 contact points (in 4 directions and at a central point)	
	Iris mode switching switch		Slide switch	
	Termination resistance switch		Slide switch (models with communication function only)	
Accessories			OSD Operation Manual, Instruction manual (this document)	

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

WDR type

			Digital Day/Night model	True Day/Night model
Model No.			YCX-05W	YCX-05WN
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	
Min. Illuminance F1.2 Night mode AGC Extreme	50IRE	SENS UP: OFF	0.3 lx (Color) / 0.03 lx (B/W)	0.07 lx (Color) / 0.007 lx (B/W)
		SENS UP: ON (x512)	0.0006 lx (Color) / 0.00006 lx (B/W)	0.00014 lx (Color) / 0.000015 lx (B/W)
	30IRE	SENS UP: OFF	0.15 lx (Color) / 0.015 lx (B/W)	0.035 lx (Color) / 0.0035 lx (B/W)
		SENS UP: ON (x512)	0.0003 lx (Color) / 0.00003 lx (B/W)	0.00007 lx (Color) / 0.000007 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 shutter			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 IRIS	DC-drive auto-iris lens	
		AES	Fixed iris lens (1/60-1/100,000 sec. automatic electronic shutter)	
		VIDEO IRIS	Video-drive auto-iris lens Vcc=DC 9.4V, 50mA max, video signal: 0.7V (p-p) (high impedance)	
Wide Dynamic Rang (WDR)			Max 82dB	
Backlight Compensation (BLC)			ON / OFF	
White balance			ATW (Normal / Wide) / AWC / Manual	
SENS UP			ON: Auto (x2 to x512) / OFF	
Day/Night setting			Auto / Color Fix / B / W Fix	
Noise Reduction (2D/3D-DNR)			Extreme / High / Middle / Low	
Electronic zoom			ON (16 times max.) / OFF	
Defog			Image correction ON / OFF	
Profile setting			Standard / high sensitivity / casino / sodium vapor lamp / profile	
AGC			ON (Extreme / High / Middle / Low) OFF	
ALC			-20 to +20	
HLC			Detection level: 1-3 steps	
Easy focus			Enabled	
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	310mA	
		AC24V	250mA, 3.7W	
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			60 (W) x 54 (H) x 119.4 (D) mm	
Weight			320g	
Input/Output terminals	Video output		BNC	
	Auto-iris terminal		4P connector	
	Power supply terminal		2P screwless terminal block AWG16-24	
	B/W Mode-Fix terminal		2P screwless terminal block AWG22-26	
	RS485 communication terminal		4P screwless terminal block AWG22-26 (models with communication function only)	
Adjustment switch	OSD switch		Push-button switch with 5 contact points (in 4 directions and at a central point)	
	Iris mode switching switch		Slide switch	
	Termination resistance switch		Slide switch (models with communication function only)	
Accessories			OSD Operation Manual, Instruction manual (this document)	

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