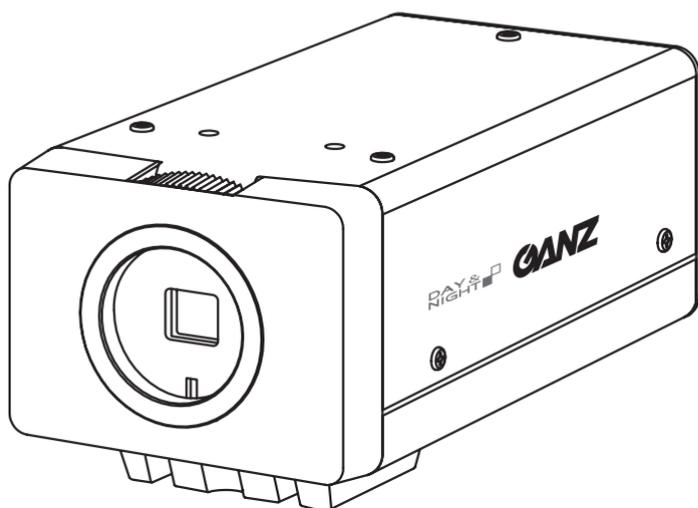**Color / Day & Night CAMERA**
Wide Dynamic Range

ZC-YX/NX Series

INSTRUCTION MANUAL

GANZ ®

ENGLISH
DEUTSCH
FRANÇAIS
ITALIANO
ESPAÑOL
POLSKI
PORTUGUÊS
PYCCKNN
中　国　语

DAY & NIGHT **GANZ**

CBC GROUP

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.
  (ZC-YX270P, ZC-NX270P, ZC-YXW270P, ZC-NXW270P)
- The new Wide Dynamic Range (WDR) processing technology offers the high dynamic range of approximately 82dB, ensuring 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.
- Long-distance transmission is possible using UTP (Unshielded Twisted Pair) cable.
  (Use a receiver produced by NVT) (ZC-YX270PU, ZC-YXW270PU)

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.
    (ZC-YX270P, ZC-NX270P, ZC-YXW270P, ZC-NXW270P)
(2) Use only with a 230 V AC power supply.
    (ZC-YX270PE, ZC-NX270PE, ZC-YXW270PE, ZC-NXW270PE)
(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.
(6) When plugging the power cord into an electric outlet, be sure to leave enough space around the outlet so that it will easy to unplug the power cord.
    (ZC-YX270PE, ZC-NX270PE, ZC-YXW270PE, ZC-NXW270PE)
(7) The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
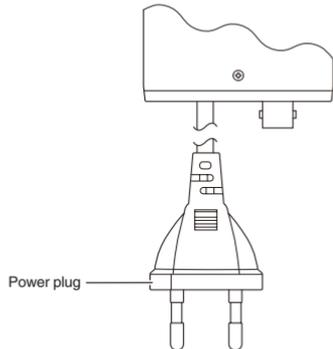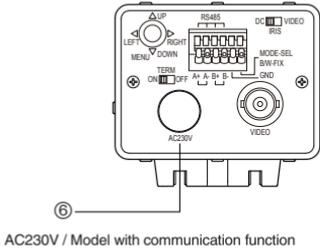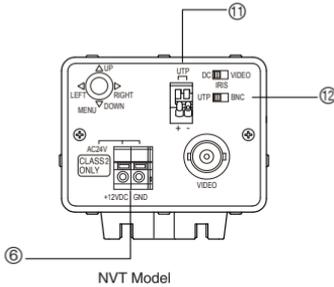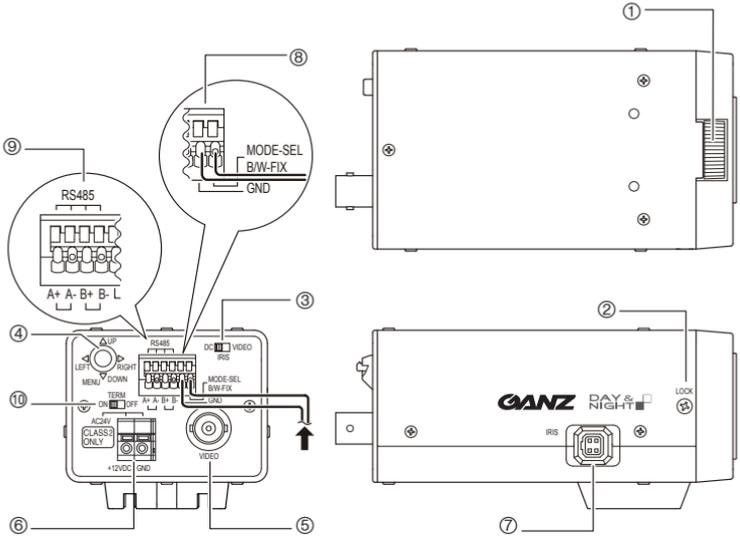
CE The CE Marking is a Directive Conformity mark of the European Union (EU).

Disposal of your old appliance
1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

PART NAMES AND FUNCTIONS

MODE-SEL
B/W-FIX
GND

RS485
A+ A- B+ B- L

12 V DC/24 V AC / Model with communication function

NVT Model

AC230V / Model with communication function

Power plug

EG-4

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.

Menu Operation Switch

UP
LEFT RIGHT
MENU DOWN
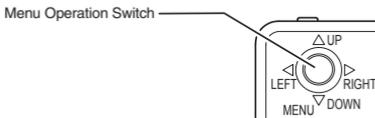
• Pressing the switch in the UP/DOWN/ LEFT/RIGHT direction moves the cursor and allows you to select an item.
• Press the Menu Operation Switch to confirm the item you have selected.
* For details, please see the separate "OSD Operation Manual."

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

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."
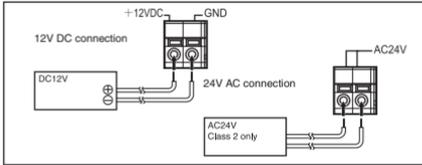
⑤ Video output connector

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 :

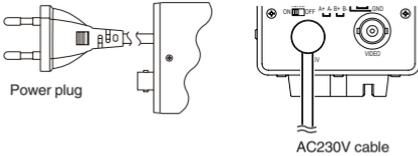Use only with a 24 V AC power supply marked class 2 or +12 V DC power supply.

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.

11 mm

Power cable (when using 230V AC)

AC Power Cord : Use AC230 V, 50Hz.
(ZC-YX270PE, ZC-NX270PE,
ZC-YXW270PE, ZC-NXW270PE)

Power plug

AC230V cable

☞CAUTION :

Use only with a 230V AC.

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
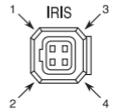
⑧ B/W Fix terminal/Mode Selection terminal

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.

EG-6

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.

9 mm

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

Termination
resistance switch

TERM
ON ☐☐☐ OFF   A+

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).

⑪ **Video output terminal
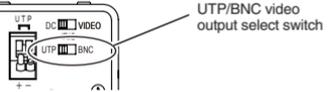(ZC-NX270PU, ZC-NXW270PU)**

Connected to the NVT Receiver using a UTP
cable (AWG 22 to 24).

⑫ **UTP/BNC video output select switch
(ZC-NX270PU, ZC-NXW270PU)**

For switching the video output.
• When I use video output connector (⑤),
  please set it in BNC.
• When I use video-out (⑪), please set it in
  UTP.

UTP   DC ☐☐ VIDEO
             UTP ☐☐ BNC

UTP/BNC video
output select switch

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
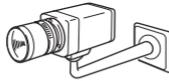
CAUTION :

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

EXTERNAL DIMENSIONS
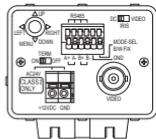
DC12V/AC24V/Model with communication function
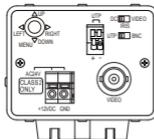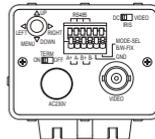
NVT Model

AC230V / Model with communication function

119.4

108.4

True Day & Night model

60

46

54

Digital Day & Night model

EG-8
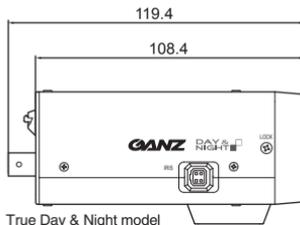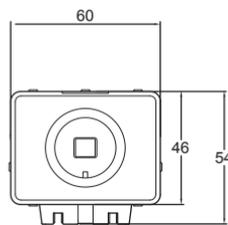
MODEL DESCRIPTION ///////////

ZC-NXW270PER
        └─ R; RS-485 Communication (Manufacturer's Option)
      └─ E; AC230V, U; UTP (Un-shield Twisted Pair cable) or None; DC12V / AC24V
      W; WDR (Wide Dynamic Range) or None; EDR (Extended Dynamic Range)
     N; True Day/Night or Y; Digital Day/Night

ZC-YX270P   ; EDR, Digital Day/Night
ZC-YXW270P ; WDR, Digital Day/Night
ZC-NX270P   ; EDR, True Day/Night

SPECIFICATIONS

EDR Type

		Digital Day/Night model			True Day/Night model	
Model No.		ZC-YX270P	ZC-YX270PE	ZC-YX270PU	ZC-NX270P	ZC-NX270PE
TV system		PAL				
Scanning system		2:1 Interlace				
Image sensor		1/3-type Interline transfer CCD				
Effective pixels		976 (H) × 582 (V)				
Scanning frequency		15.625kHz (H) / 50.0Hz (V)				
Video output		1.0V (p-p) / 75Ω		BNC 1.0V(p-p)/ 75 Ω/UTP	1.0V (p-p) / 75Ω	
Horizontal resolution		700 TVL				
Min. Illuminance F1.2	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)	
Night mode AGC Extreme	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 AGC Off)				
Gamma characteristic		0.45				
Sync. System		Internal synchronization (INT.) / Line Lock (L.L.)				
Electronic shutter		Electronic shutter ON: 1/50 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. 1/50 sec. fixed (Flickerless: OFF), 1/120 sec. fixed (Flickerless: ON)				
Iris control	DC IRIS	DC-drive auto-iris lens				
	AES	Fixed iris lens (1/50-1/100,000 sec. automatic electronic shutter)				
	AIC	Control of electronic shutter and iris (1/50-1/100,000 sec.)				
	VIDEO IRIS	Video-drive auto-iris lens Vcc = 9.4 V DC, 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)	-		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%	230 V AC ±10% (50Hz ± 1Hz)	24 V AC ± 10% (50/60 Hz ± 1 Hz) or 12 V DC ± 10%	24 V AC ± 10% (50/60 Hz ± 1 Hz) or 12 V DC ± 10%	230 V AC ±10% (50Hz ± 1Hz)
Power consumption	12 V DC	260mA	-	260mA	260mA	-
	24 V AC	220mA, 3.1W	-	220mA, 3.1W	220mA, 3.1W	-
	230 V AC	-	25mA, 3.6W	-	-	25mA, 3.6W
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	600g	330g	320g	600g
Input/Output terminals	Video output	BNC		BNC / 2P terminal	BNC	
	Auto-iris terminal	4P connector (D4-157J-250/equivalent)				
	Power supply terminal	2P screwless terminal block AWG16-24	2-core 2.0m cord	2P screwless terminal block AWG16-24	2P screwless terminal block AWG16-24	2-core 2.0m cord
	B/W Mode-Fix terminal	2P screwless terminal block AWG22-26		-	2P screwless terminal block AWG22-26	
	RS485 communication terminal	4P screwless terminal block AWG22-26 (models with communication function only)		-	4P screwless terminal block AWG22-26 (models with communication function only)	
	UTP terminal	-		2P screwless terminal block AWG22-26	-	
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)		-	Slide switch (models with communication function only)	
	UTP/BNC switching switch	-		Slide switch	-	
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.			ZC-YXW270P	ZC-YXW270PE	ZC-YXW270PU	ZC-NXW270P	ZC-NXW270PE
TV system			PAL				
Scanning system			2:1 Interlace				
Image sensor			1/3-type Interline transfer CCD				
Effective pixels			976 (H) × 582 (V)				
Scanning frequency			15.625kHz (H) / 50.0Hz (V)				
Video output			1.0V (p-p)/75Ω		BNC 1.0V(p-p)/ 75 Ω/UTP	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 AGC Off)				
Gamma characteristic			0.45				
Sync. System			Internal synchronization (INT.) / Line Lock (L.L.)				
Electronic shutter			Electronic shutter ON: 1/50 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. 1/50 sec. fixed (Flickerless: OFF), 1/120 sec. fixed (Flickerless: ON)				
Iris control		DC IRIS	DC-drive auto-iris lens				
		AES	Fixed iris lens (1/50-1/100,000 sec. automatic electronic shutter)				
		AIC	Control of electronic shutter and iris (1/50-1/100,000 sec.) *The WDR mode is 1/50-1/500 sec.				
		VIDEO IRIS	Video-drive auto-iris lens Vcc = 9.4 V DC, 50mA max, video signal: 0.7V (p-p) (high impedance)				
Wide Dynamic Range (WDR)			Max 82dB				
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)		-	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%	230 V AC ±10% (50Hz ± 1Hz)	24 V AC ± 10% (50/60 Hz ± 1 Hz) or 12 V DC ± 10%	24 V AC ± 10% (50/60 Hz ± 1 Hz) or 12 V DC ± 10%	230 V AC ±10% (50Hz ± 1Hz)
Power consumption		12 V DC	310mA	-	310mA	310mA	-
		24 V AC	250mA, 3.7W	-	250mA, 3.7W	250mA, 3.7W	-
		230 V AC	-	30mA, 5.1W	-	-	30mA, 5.1W
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	600g	330g	320g	600g
Input/Output terminals	Video output		BNC		BNC / 2P terminal	BNC	
	Auto-iris terminal		4P connector (D4-157J-250/equivalent)				
	Power supply terminal		2P screwless terminal block AWG16-24	2-core 2.0m cord	2P screwless terminal block AWG16-24	2P screwless terminal block AWG16-24	2-core 2.0m cord
	B/W Mode-Fix terminal		2P screwless terminal block AWG22-26		-	2P screwless terminal block AWG22-26	
	RS485 communication terminal		4P screwless terminal block AWG22-26 (models with communication function only)		-	4P screwless terminal block AWG22-26 (models with communication function only)	
	UTP terminal		-		2P screwless terminal block AWG22-26	-	
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)		-	Slide switch (models with communication function only)	
	UTP/BNC switching switch		-		Slide switch	-	
Accessories			OSD Operation Manual, Instruction manual (this document)				

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

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