

This operation manual covers safety, camera functions, installation, and the correct operating procedure for the W-03CDB3. First, we ask you to read this operation manual thoroughly, then install and operate the W-03CDB3 as advised. In addition, for future reference, we also advise safekeeping of this manual.

Please contact the distributor or dealer from which the W-03CDB3 was purchased, if you do not understand the installation, operation or safety instructions laid out in this manual. Not understanding the contents of the Operation Manual sufficiently may cause damage to the camera.

### Guide to the Safety Symbols

The definitions of the symbols used in this operation manual are:

- When you do not adhere to or take notice of the "Danger" sign, it may lead to a serious accident such as death or injury caused by fire or electric shock.
- When you do not adhere to or take notice of the "Warning" sign, it may cause severe damage such as a physical injury.
- When you do not adhere to or take notice of the "Caution" sign, it may incur injury and cause damage to peripheral objects in the immediate surroundings.

### Cautions for Safety

The W-03CDB3 is designed to be used safely; however, it may lead to a physical accident caused by fire and electric shock if not used correctly. Therefore, please keep and read the [Cautions for safety] below for protection against accidents.

- Do not disassemble and/or modify the W-03CDB3.**  
**Do not operate the W-03CDB3 with wet hands.**
- Use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA for the W-03CDB3.** The recommended voltage is DC+12V±10%  
**Do not expose the W-03CDB3 to wetness or high moisture conditions.** The W-03CDB3 is designed and approved for indoor use only. The W-03CDB3 is not water-resistant or waterproof. If the location of the camera is outdoors or in an outdoor like environment, we recommend that you use an outdoor camera housing.  
**Protect the W-03CDB3 from condensation.** Keep the W-03CDB3 dry at all times during storage and operation.  
Should the camera not work properly, switch off the power immediately. Then, check the camera according to the [Problems and Trouble Shooting] section.

- Avoid the striking of hard objects or dropping the W-03CDB3.** The W-03CDB3 uses high quality electrical parts and precision components.
- Do not connect any power supply directly to the video out terminal of the unit.** Do not connect the W-03CDB3 with any monitor using a video/power single transmission terminal. The W-03CDB3 is not designed for use with this type of equipment. We also advise you to read the operation manual of the monitor you plan to use before any connections are made.
- Do not install the W-03CDB3 in a position subject to direct sunlight.** Sunlight shining directly onto the W-03CDB3 lens can cause damage to the CCD.
- Select a stable place for installation of the W-03CDB3.** Always fix the camera securely. See [Mounting Holes] section.
- Do not move the W-03CDB3 with the cables connected.** Before moving the W-03CDB3, always remove the video cable and power cable from the rear of the camera first.
- Avoid using the W-03CDB3 near any strong electromagnetic field.** After installing into main equipment, if the W-03CDB3 is exposed to electromagnetic waves causing the monitored image to become distorted, we recommend the camera be shielded by appropriate protective casing.

### Problems and Trouble Shooting

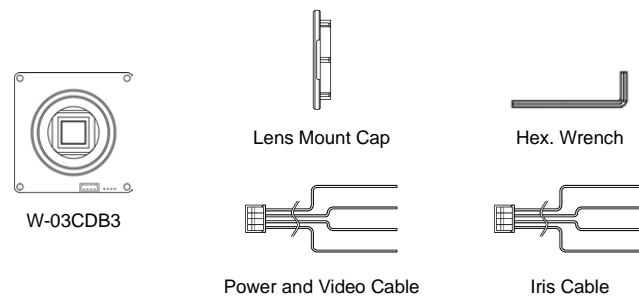
- If any of the following problems occur when using the W-03CDB3,
- An optimal picture cannot be obtained, after checking that all the cables and connections are correctly in place
  - Smoke or any unusual odor emerges from the W-03CDB3.
  - An object becomes embedded or a quantity of liquid seeps into the camera housing
  - More than the recommended voltage or/and amperage has been applied to the W-03CDB3 by mistake
  - Anything unusual occurring to any equipment connected to the W-03CDB3.

Disconnect the camera immediately according to the following procedures:

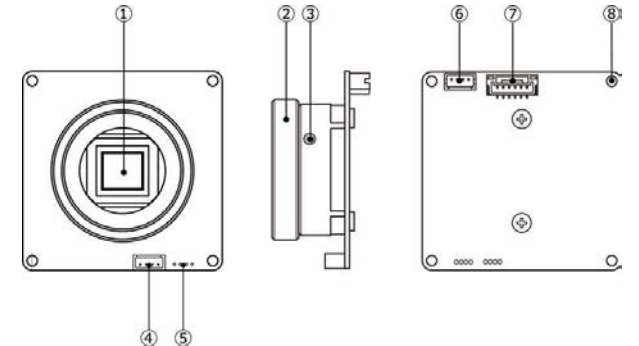
- ① Switch off the main power supply to the camera.
- ② Remove the power and video cables connected to the W-03CDB3.
- ③ Contact the distributor or dealer from which the W-03CDB3 was purchased

### Contents

Using the contents figures below, check to make sure all parts are present before use.



### Description of Parts

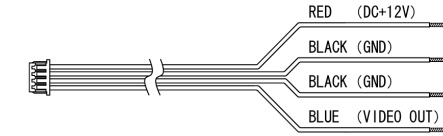


- ① **CCD FRONT FACE**  
The light receiving face of the CCD camera (Dirt, water or oil deposits on the CCD will cause an unclear picture on the monitor. Attach the lens cap to protect the lens and CCD from contamination and damage.)
- ② **LENS MOUNT**  
Mount for the lens (Thread type)
- ③ **FOCUSING ADJUSTMENT SCREWS**  
There are 3 hex. Adjustment screws each placed at intervals of 120° for fine focusing of the lens.
- ④ **TERMINAL FOR AUTO-IRIS LENS (DC CONTROL)**  
The terminal for a DC-driven auto-iris lens. Do not connect a Video-driven auto-iris lens to this terminal.
- ⑤ **TERMINAL FOR AUTO-IRIS LENS (VIDEO CONTROL)**  
The terminal for a Video-driven auto-iris lens. Do not connect a DC-driven auto-iris lens to this terminal.
- ⑥ **POWER IN/VIDEO OUT**  
The terminal for power input and video signal output. Use the attached Power and Video Cable for this purpose.
- ⑦ **OSD (On Screen Display) CONNECTOR**  
The terminal designed for connection with remote control for setting the functions on the screen.
- ⑧ **MOUNTING HOLES**  
Four φ2.2mm diameter holes in each corner for mounting the camera.

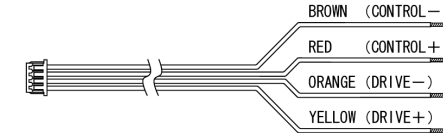
### Power Supply and Wiring

Use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA. The wiring on the connector must be exact. Be careful not to touch the other terminal while wiring. Protect the wiring portion by using insulation tape after wiring. If the above care and attention is not adhered to, damage to the W-03CDB3 and power adaptor may occur or may cause fire.

#### Power and Video Cable

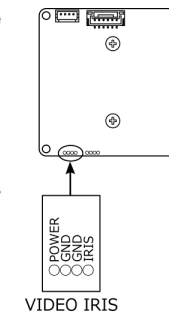


#### Iris Cable (DC CONTROL)



### Auto-iris Lens

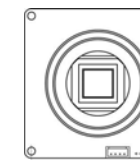
There are two output terminals on the W-03CDB3. One for Video auto-iris lenses and one for DC auto-iris lenses. Please pay attention to the correct wiring configuration, as shown in the figure on the right. When a DC auto-iris lens is used, see the [Power Supply and Wiring] section.



NB. Damage will occur if the correct wiring configurations are not adhered to.

### Mounting Holes

As shown in the figure on the right. The W-03CDB3 provides four mounting holes, one in each corner of the circuit board. Fix the unit securely using M2 screws. Once the board is secured proceed with the following steps below.



### Set-up and Operation

- 1) Ensure that the power to the W-03CDB3 and the peripheral equipment is turned off before making any connections.
- 2) Remove the lens mount cap from the W-03CDB3 and attach the CS-mount lens. Use the optional C-mount adaptor (30CMA-R) when a C-mount lens is used.
- 3) Connect the iris cable to the W-03CDB3 as shown above in [Auto-iris Lens] section, when an auto-iris lens is being used.
- 4) Connect the attached cable to ⑥POWER IN/VIDEO OUT. See the [Power Supply and Wiring] section.
- 5) Connect a coaxial cable with 75Ω impedance, such as an RG-58/U or an RG-6/U to the monitor. Select a monitor with the same television system (NTSC or PAL) as the W-03CDB3.
- 6) Turn on the power to the W-03CDB3, monitor and all other allied equipment. When a picture cannot be obtained on the monitor, or a strong smell of burning is present, or smoke is visible, check and follow the procedure mentioned in the [Problems and Trouble Shooting] section.
- 7) After following the procedure below and the picture is still out of focus, open the iris fully and loosen ③FOCUSING ADJUSTMENT SCREWS with the hex. Wrench and move the lens forwards until a clear picture is obtained.

Manual Lens	Adjust the focus and iris to the best position on the lens.
Video Auto-iris Lens	Adjust the focus on the lens.
DC Auto-iris Lens	Adjust the iris level on the camera, then adjust the focus on the lens.

### Options

To purchase these options, please contact the distributor or dealer from which you purchased the W-03CDB3.



### Specifications

Model	W-03CDB3 (NTSC)	W-03CDB3 (PAL)
Pick-up Element	1/3 inch interline transfer CCD image sensor	
Number of Total Pixels	1020(H)×508(V)	1020(H)×596(V)
Number of Effective Pixels	976(H)×494(V)	976(H)×582(V)
Unit Cell Size	5.4um(H)×7.4um(V)	5.0um(H)×6.25um(V)
Imaging system	Ye, Cy, Mg, and G complementary color mosaic filters on chip	
Sync. System	Internal	
Scanning System	2:1 interlace	
Video Output	Composite video, 1.0 V(p-p) 75Ω (Unbalanced)	
Resolution (H)	More than 650TVL (Center)	
Minimum Illumination	0.005 lx. F1.2	
S/N	More than 52dB	
Function settings	OSD(On Screen Display) operated by optional remote controller	
AE Mode	EI	1/60~1/100000 sec. / 1/50, 1/120 sec.
	Fixed	1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.
White Balance	ATW/PUSH/USER1/USER2/ ANTI CR/MANUAL/PUSH LOCK	
AGC	ON(-3-45dB) / OFF(-3dB)	
MGC	8steps (Selectable)	
Gamma Characteristics	γ ≒ 0.45	
Video Level	0 - 255 (BRIGHTNESS)	
Noise Reduction	2DNR ON(Level selectable) / OFF	
Back Light Compensation	OFF/BLC/HLC	
Privacy Mask	8masks	
Mirror Image	OFF / ON(H-FLIP)	
White Blemish Correction	Max 64 dots	
Output switching	AUTO/COLOR/BW	
Sharpness	0 - 255(SHARPNESS)	
Power Supply	DC+12V±10%	
Power Consumption	0.78W (65mA)	
Operating Temperature	-10 - +50°C	
Operating Humidity	Less than 95% RH (Without condensation)	
Storage Temperature	-30 - +70°C	
Storage Humidity	Less than 95% RH (Without condensation)	
Lens Mount	CS-mount	
Size	42(W)×42(H)×21(D) (mm)	
Weight	Approx. 29g	

- Design and specifications are subject to change without notice.
- Watec is not responsible for any inconvenience or the attendant damages to the video and monitoring recording equipment caused by misuse, mis-operation or improper wiring of our equipment.
- If for any reason the W-03CDB3 does not work properly, or if you have any questions regarding installation or operation, please contact the distributor or dealer from which it was purchased.

### Contact information

**Watec Watec Co., Ltd.**

Addr.: 254-2 Nihonkoku, Daihoji, Tsuruoka- Shi, Yamagata-Ken, 997-0017 Japan  
 TEL: +81-235-23-4400 FAX: +81-235-23-4409  
 Email: info-o@watec.co.jp  
 URL: http://www.watec.co.jp

# Quick guide for W-03CDB3 / W-04CDB3 OSD (On Screen Display) menu

Remote control unit RC-01 (option) enables to control the OSD menu and change camera settings.

SETUP MENU 1/2								
LENS	<table border="1"> <tr><td>AUTO</td></tr> <tr><td>MANUAL</td></tr> </table> (※1) (※2)	AUTO	MANUAL					
AUTO								
MANUAL								
SHUTTER/AGC	<table border="1"> <tr><td>AUTO</td></tr> <tr><td>MANUAL</td></tr> </table>	AUTO	MANUAL					
AUTO								
MANUAL								
WHITE BAL	<table border="1"> <tr><td>ATW</td></tr> <tr><td>PUSH</td></tr> <tr><td>USER1</td></tr> <tr><td>USER2</td></tr> <tr><td>ANTI CR</td></tr> <tr><td>MANUAL</td></tr> <tr><td>PUSH LOCK</td></tr> </table>	ATW	PUSH	USER1	USER2	ANTI CR	MANUAL	PUSH LOCK
ATW								
PUSH								
USER1								
USER2								
ANTI CR								
MANUAL								
PUSH LOCK								
BACKLIGHT	<table border="1"> <tr><td>OFF</td></tr> <tr><td>BLC</td></tr> <tr><td>HLC</td></tr> </table>	OFF	BLC	HLC				
OFF								
BLC								
HLC								
PICT ADJUST								
ATR	<table border="1"> <tr><td>OFF</td></tr> <tr><td>ON</td></tr> </table>	OFF	ON					
OFF								
ON								
NEXT EXIT SAVE ALL								

SETUP MENU 2/2				
PRIVACY	<table border="1"> <tr><td>OFF</td></tr> <tr><td>ON</td></tr> </table>	OFF	ON	
OFF				
ON				
DAY/NIGHT	<table border="1"> <tr><td>AUTO</td></tr> <tr><td>COLOR</td></tr> <tr><td>B/W</td></tr> </table>	AUTO	COLOR	B/W
AUTO				
COLOR				
B/W				
NR				
CAMERA ID	<table border="1"> <tr><td>OFF</td></tr> <tr><td>ON</td></tr> </table>	OFF	ON	
OFF				
ON				
CAMERA RESET				
BACK EXIT SAVE ALL				

(※1): Default setting of W-04CDB3

(※2): Default setting of W-03CDB3

※ 



 : Default setting

## SETUP MENU

### LENS

Switch the operation modes of Mechanical Iris.

\*When the setting of the lens and the LENS menu to be used are different, there is a case where the exposure control does not work correctly.

AUTO : for auto-iris lens is application

TYPE : select auto iris lens type

DC : for DC auto-iris lens

VIDEO : for VIDEO auto-iris lens

MODE : select lens aperture control mode

AUTO : for auto control

OPEN : fix the aperture to open

CLOSE : fix the aperture to close

SPEED : for setting lens aperture control speed

MANUAL : for manual-iris lens is application

### SHUTTER/AGC

Switch the operation modes of AE mode.

AUTO : exposure is controlled automatically by shutter speed when brightness is normal to high, and by gain under low-light condition.

MANUAL : shutter speed and gain setting can be selected from 8 settings.

(Lens aperture is fully opened when auto-iris lens is applied.)

### WHITE BAL (WHITE BALANCE)

Switch the WHITE BALANCE MODE.

ATW : Automatically correct the white balance when the color temperature of the object is in the range of the specified correction value.

PUSH : Automatically correct the white balance regardless the range of the specified correction value

USER1 : correct the image at 5100K

USER2 : correct the image at 6300K

ANTI CR : Suppress the color rolling

MANUAL : Set the correction value manually

PUSH LOCK : Set the corrected value following the actual color temperature of the illumination of the object. Imaging the object that color is

achromatic at the full screen, and the press the [Enter]. The corrected value is set.

### BACKLIGHT

Switch the operation modes of backlight.

OFF : Disable.

BLC : Correct the luminance of the darkened object again the backlight (center-weighted metering).

HLC : Mask processing ageing the bright light source.

### PICT ADJUST

Adjust the image quality

MIRROR : Flip the image at left/right (H)

BRIGHTNESS : Adjust the brightness of the image.

CONTRAST : Adjust the contrast of the image.

SHARPNESS : By emphasizing the contoured part, resolution is improved.

HUE : Adjust the HUE

GAIN : Adjust the GAIN

DEFOG : Improve a low contrast image captured in poor weather condition such as fog.

### ATR (Adaptive Tone-Curve Reproduction)

Correct the contrast and suppress the overexposure and underexposure.

### PRIVACY

Mask processing to the required area on the screen.

### DAY/NIGHT

Switch the output

COLOR : Color image

B/W : Monochrome image

AUTO : Automatically switch output image (color or monochrome) depending on the ambient brightness.

### NR (Noise Reduction)

Suppress the noise in a low light condition by image processing

### CAMERA ID

Set the camera ID

### CAMERA RESET

Restore the factory setting

### NEXT

Move to next page of SETUP MENU 2/2

### BACK

Move to previous page of SETUP MENU 1/2

### EXIT

Close the OSD menu

### SAVE ALL

Save the changed camera setting

### \*White blemish correction

Close the OSD menu, press and hold LEFT key of Remote control unit RC-01 and White blemish correction menu is displayed. Cover the lens completely then press ENTER key. By automatically detection, blemish pixels are corrected.