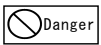


This Operation Manual covers safety, camera functions, installation and the correct operating procedure for the W-01CDB3. First, we ask you to read this Operation Manual thoroughly, then install and operate the W-01CDB3 as advised. In addition, for future reference, we also advise safekeeping of this manual.

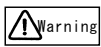
Please contact the distributor or dealer from which the W-01CDB3 was purchased, if you do not understand the installation, operation or safety instructions laid out in this manual. Not understanding the contents of the Operation Manual sufficiently may cause damage to the camera.

## Guide to the Safety Symbols

The meanings 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-01CDB3 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-01CDB3.
- Do not operate the W-01CDB3 with wet hands.



- Use only the AD901-120/230 or equivalent power adaptor for the W-01CDB3.

The recommended voltage is DC+12V±10%

- Do not expose the W-01CDB3 to wetness or high moisture conditions.

The W-01CDB3 is designed and approved for indoor use only. The W-01CDB3 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-01CDB3 from condensation. Keep the W-01CDB3 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-01CDB3. The W-01CDB3 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-01CDB3 with any monitor using a video/power single transmission terminal. The W-01CDB3 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-01CDB3 in a position subject to direct sunlight. Sunlight shining directly onto the W-01CDB3 lens can cause damage to the CCD.
- Select a stable place for installation of the W-01CDB3. Always fix the camera securely. See [Mounting Holes] section.
- Do not move the W-01CDB3 with the cables connected. Before moving the W-01CDB3, always remove the video cable and power cable from the rear of the camera first.
- Avoid using the W-01CDB3 near any strong electromagnetic field. After installing into main equipment, if the W-01CDB3 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-01CDB3,

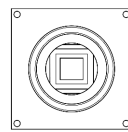
- An optimal picture cannot be obtained, after checking that all the cables and connections are correctly in place
- Smoke or any unusual odor emerges from the W-01CDB3.
- An object becomes embedded or a quantity of liquid seeps into the camera housing
- More than the recommended voltage or/and amperage has been applied to the W-01CDB3 by mistake
- Anything unusual occurring to any equipment connected to the W-01CDB3.

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-01CDB3.
- ③ Contact the distributor or dealer from which the W-01CDB3 was purchased.

## Contents

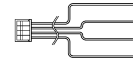
Using the contents figures below, check to make sure all parts are present before use.



W-01CDB3



Lens Mount Cap

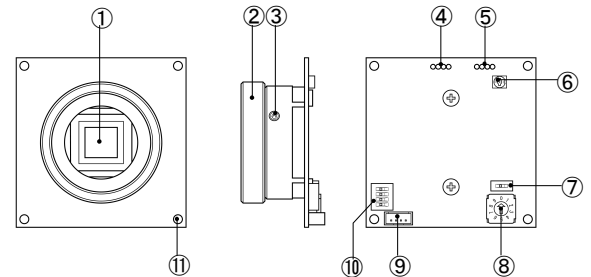


Connector with cables



Hex. Wrench

## 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 (VIDEO CONTROL)

- The terminal for a Video-driven auto-iris lens. Do not connect a DC-driven auto-iris lens to this terminal.

### ⑤ 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.

### ⑥ IRIS LEVEL VOLUME

- By controlling the volume, the iris level of a DC iris lens can be adjusted.

### ⑦ AE MODE CONTROL SWITCH

- The switch for selecting either electronic iris or electronic shutter.

### ⑧ SHUTTER SPEED CONTROL SWITCH

- The switch for the electronic shutter speed control according to the object.

### ⑨ POWER IN/VIDEO OUT

- The terminal for power input and video signal output. Use the attached connector with cables for this purpose.

### ⑩ FUNCTION SWITCHES

- Functional switches for setting video level, mirror image and white balance.

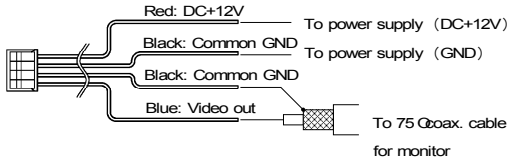
### ⑪ MOUNTING HOLES

- Four φ2.2mm diameter holes in each corner for mounting the camera.

## Power Supply and Wiring

If any other power adaptor besides the AD901-120/230 is used, please use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA. Use the optional DC plug if the shape or polarity of the DC plug of the power adaptor to be used is not compatible with the camera.

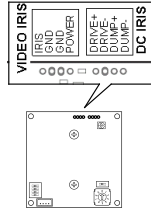
The wiring on the connector must be exact. Be careful not to touch the other terminal while wiring. Protect the wiring portion by using insulation tape after wiring. If the above care and attention is not adhered to, damage to the W-01CDB3 and power adaptor may occur or may cause fire.



## Auto-iris Lens

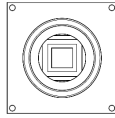
There are two output terminals on the W-01CDB3. One for Video auto-iris lenses and one for DC auto-iris lenses. Please pay attention to the correct wiring configuration, as shown in the figure on the right.

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-01CDB3 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

- Ensure that the power to the W-01CDB3 and the peripheral equipment is turned off before making any connections.
- Remove the lens mount cap from the W-01CDB3 and attach the CS-mount lens. Use the optional C-mount adaptor (34CMA-R) when a C-mount lens is used.
- Connect the iris cable to the W-01CDB3 as shown above in [Auto-iris Lens] section, when an auto-iris lens is being used.
- Connect the attached cable to ⑨POWER IN/VIDEO OUT. See the [Power Supply and Wiring] section.
- 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 as the W-01CDB3: NTSC or PAL. A monitor with more than 500TV lines is recommended.
- Turn on the power to the W-01CDB3, 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.
- 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.

※When an auto-iris lens is used, set ⑦AE MODE CONTROL SWITCH to ON and select any required shutter speed. (recommended shutter speed setting is position 0 or 1)

- Select any required shutter mode by ⑦AE MODE CONTROL SWITCH to suit your preferences. When electronic iris (OFF) is selected, the shutter operation is automatically stepped in a range between 1/60-1/100000 (NTSC), 1/50-1/100000(PAL). When electronic shutter (ON) is selected, select any required shutter speed from ⑧SHUTTER SPEED CONTROL SWITCH.
- Select any required shutter speed by the ⑧SHUTTER SPEED CONTROL SWITCH to one of its 10 positions. (Shutter mode is set to 0(OFF) upon shipment.)

No.	Mode	Shutter Speeds (sec.)	
		NTSC	PAL
0	OFF	1/60	1/50
1	FL	1/100	1/120
2	ES	1/250	
3	ES	1/500	
4	ES	1/1000	
5	ES	1/2500	
6	ES	1/5000	
7	ES	1/100000	
8	ES	1/200000	
9	ES	1/500000	

- Set the ⑩FUNCTION SWITCHES according to your requirements.

Switch	Setting	Effective Condition (Example)	Factory Settings
1. & 2. White Balance	ATW [1=OFF] [2=OFF]	Automatically follows and adjusts to the changing color temperature of the illumination.	✓
	3200K [1=OFF] [2=ON]	Color correction to give natural color renditions under incandescent lighting.	
	5100K [1=ON] [2=OFF]	Color correction to give natural color renditions under bluish fluorescent light.	
	8200K [1=ON] [2=ON]	Color correction to give natural color renditions under bluish fluorescent light more than 5100K.	
3. Mirror Image	ON	When a mirror image such as back monitoring of a car is required.	
	OFF	When a normal image is required.	✓
4. Video Level	ON [100]	When dark areas on an object with contrasting light and dark area are monitored.	
	OFF [75]	When a standard video output level is required	✓

## Specifications

Model	W-01CDB3 (NTSC)	W-01CDB3 (PAL)
Pick-up Element	1/3 inch interline transfer CCD image sensor	
Number of Total Pixels	811(H) × 508(V)	795(H) × 595(V)
Number of Effective Pixels	768(H) × 494(V)	752(H) × 582(V)
Unit Cell Size	6.4 μm(H) × 7.5 μm(V)	6.5 μm(H) × 6.3 μm(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 450TVL (Center)	
Minimum Illumination	1.5 lx. F1.2	
S/N	More than 50dB (AGC=3dB, γ=1.0)	
AE Mode	EI	1/60-1/100000 sec.
	ES	1/50-1/100000 sec. 1/60(50), 1/100(120), 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/20000, 1/50000 sec.
AGC	3-24dB	
Gamma Characteristics	γ ≈ 0.45	
Power Supply	DC+12V ±10%	
Power Consumption	1.2W (100mA)	
Operating Temperature	-10 - 40°C (Without condensation)	
Operating Humidity	Less than 95% RH	
Storage Temperature	-30 - 70°C (Without condensation)	
Storage Humidity	Less than 95% RH	
Lens Mount	CS-mount	
Size	42(W) × 42(H) × 21(L) (mm)	
Weight	Approx. 32g	

- 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-01CDB3 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.net