

## 1/2.8" Compact USB2.0 Full HD Camera

# **WAT-06U2** (Color) / **WAT-07U2** (B&W) **Operation Manual**

Thank you for purchasing the "1/2.8" Compact USB2.0 Full HD Camera **WAT-06U2** / **WAT-07U2**" (referred to as the "product" or "camera" in this manual). This operation manual covers safety, functions, installation and the correct operating procedure for the camera. First, we ask you to read this operation manual thoroughly, then install and operate the product as advised. For future reference, we also advise safekeeping of this manual. If you do not understand the installation, operation or safety instructions expressed in this manual, please contact the distributor or dealer from where the camera was purchased. Not understanding the contents of the operation manual sufficiently may cause damage to the camera, personal belongings and/or result in injury. Watec is not responsible for any inconvenience or the attendant damages to the video and monitoring recording equipment caused by misuse, miss-operation or improper wiring of our equipment.

### To Use This Product Safely

Watec cameras are designed to be used safely. If not used safely, it may lead to a physical accident caused by fire and electric shock. Therefore, please keep and read the "Cautions for safety" (P.2) for protection against accidents.

### Guide to the Safety Symbols



"DANGER" indicates a compulsorily prohibition to prevent accidents.



"Warning" may lead to a serious accident such as death or injury caused by fire or electric shock.



"Caution" may incur injury and cause damage to peripheral objects in the immediate surroundings.

### About EMC

The product is in conformity with EMC test standards carried out by authorized organizations in Japan.

FCC Part15 Class B

EN55032 / EN55035

\*Compliance with EMC standards are confirmed using components/peripheral accessories included with the camera.



Do not modify the product. A modified camera may not conform to EMC test standards.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generated, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Cautions for Safety

Please read and understand the "Cautions for safety" below to ensure the correct use of the product.



- **Do not disassemble and/or modify the camera.**
- **Do not operate the camera with wet hands.**



- **Do not expose the camera to wetness or high moisture conditions.**

The camera is designed and approved for indoor use only. The camera 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 camera from condensation.**

Keep the camera dry at all times during storage and operation.

- **Should the camera not work properly, unplug the power immediately.**

Check the camera according to the "Problems and Trouble shooting" (P.4) section.



- **Avoid the striking of hard objects or dropping the camera.**

The camera use high quality electrical parts and precision components and may inadvertently be damaged if not cared for properly.

- **Do not connect any power supply directly to the video outterminal of the unit.**

Do not connect the camera with any monitor using a video/power single transmission terminal. The camera 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 camera in a position subject to direct sunlight.**

Sunlight shinning directly onto the camera lens can cause damage to the sensor.

- **Select a stable place for installation of the camera.**

Use an appropriately rated mount durable and strong for all installation position.

- **Do not move the camera with the cables connected.**

Before moving the camera, always remove the cable from the camera first.

- **Avoid using the camera near any strong electro-magnetic field.**

Avoid emission sources of electromagnetic waves when the camera is installed into main equipment.

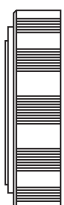
## About Video Disturbances

- **Occurrence of video disturbance in specific settings**

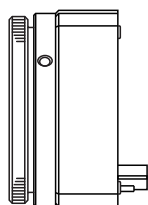
The video disturbance occurs by raising the gain too high when the Frame Rate "30fps", Output Size "1920x1080", Color Space / Compression "MJPG" . In this case, lower the Frame Rate or Output Size, or change the Color Space / Compress to the "YUY2" .

## Contents

Referring to the illustration below, confirm all parts are present upon receipt of camera.



Lens Mount Cap



**WAT-06U2 / WAT-07U2** (Camera)



Hexagon Wrench

**B005** (Tripod adaptor)

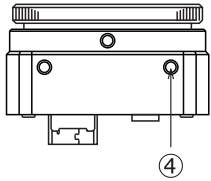
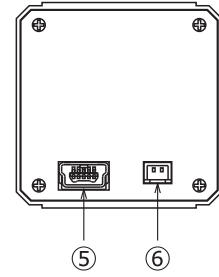
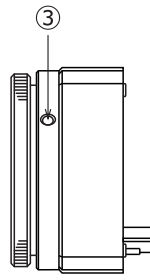
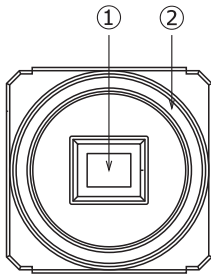


USB Cable (1m)



EX Cable

## Description of Parts



### ① IMAGE SENSOR FRONT FACE

The light receiving face of the image sensor (Dirt, water or oil deposits on the image sensor will cause an unclear picture on the monitor. Attach the lens cap to protect the lens and the sensor from contamination and damage.)

### ② LENS MOUNT

Mount for the lens (CS-mount)

### ③ FINE FOCUS ADJUSTMENT SCREWS

There are 3 hex. adjustment screws each placed at intervals of 120° for fine focusing of the lens.

④ **MOUNTING FEATURES** (Bolt Size : M2, Depth: 3mm)  
2 mounting holes for M2 fasteners located on each of the top and bottom surfaces.

### ⑤ USB Micro-B CONNECTOR

For USB connection with a PC.

### ⑥ GPIO CONNECTOR

General Purpose Input/Output connector.  
(Please refer to the User Manual)

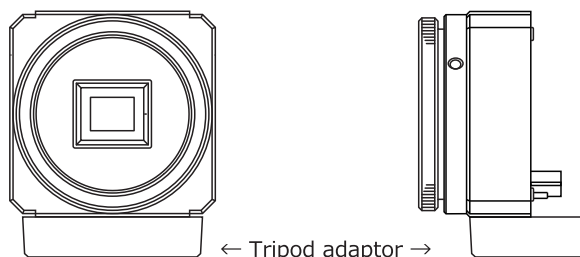
## Set-up and Operation

- 1) Ensure that the power to the camera and the peripheral equipment is turned off before making any connections.
- 2) Remove the lens mount cap from the camera and attach the CS-mount lens on "② LENS MOUNT".  
Use the option **30CMA-R** (C-mount adaptor) when a C-mount lens is used.
- 3) Connect "⑤ USB Micro-B CONNECTOR" on the camera and the USB terminal of a PC.
- 4) Start the software application and adjust the lens while viewing the image displayed. If further focus adjustment is required, use the hex wrench (included) and loosen the ③ FINE FOCUS ADJUSTMENT SCREWS and rotate the lens to adjust the focus. After completion of adjustment, please make sure that the screws are securely fastened.
- 4) When detailed settings are required or an adequate image is not obtained, then set the functions with the software or app.

\*Download the software, app and user's manual URL: [https://watec.co.jp/English/e\\_download.html](https://watec.co.jp/English/e_download.html)

## About Tripod Adaptor

If using the **B005** (Tripod adaptor), refer to the figure below and secure it to the camera using the M2 x 6mm screws (included).



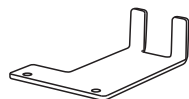
## Options

Please feel free to contact the distributor or Watec at any time.



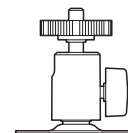
### **30CMA-R**

This lens mount adaptor is used to convert a CS-mount to a C-mount.



### **H003**

USB cable fixer for the camera.



### **MS50**

With the coupler structure, the camera can be adjusted to any desired angle.

## Problems and Trouble Shooting

Trouble Shooting:

**Disconnect the camera immediately should any of the following occur:**

- 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 camera
- An object becomes embedded or a quantity of liquid seeps into the camera housing
- More than the recommended voltage and/or amperage has been applied to the camera by mistake
- Anything unusual occurring to any equipment connected to the camera

**Required Action:**

- 1) Remove the USB cables connected to the peripheral equipments.
- 2) Contact the distributor or dealer from which the camera was purchased.

## After-sales Service

### **Warranty**

All Watec products before being shipped to our customers are tested and inspected to ensure that our products are not faulty and are of the highest quality as directed by our Watec Quality-control System. Watec camera have a 3-year warranty, and the board camera units and peripherals have a 1-year warranty, provided that the products have been operated in accordance with our operation manual and have not been altered in any way.

Note: The Watec 3-year warranty does not cover image sensor repair or replacement caused by white blemish phenomena. For more details about the white blemish, please refer to the "After-sales Service" on our website or catalog.

### **Repair Service**

Watec makes it a policy to repair Watec products first hand with the appropriate charge in accordance with the detailed defect information supplied by you. All repairs in the Watec workshop are quickly and precisely dealt with and returned after the shortest repair period possible.

## Contact information

Design and specifications are subject to change without notice. If for any reason the camera does not work properly, or if you have any questions regarding installation or operation, contact the distributor or dealer from which the camera was purchased.

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