



Water resistant USB Camera

# WAT-02U2D

## Operation Manual

This operation manual covers safety, camera functions, installation and the correct operating procedure for the WAT-02U2D. First, we ask you to read this operation manual thoroughly, then install and operate the WAT-02U2D as advised. In addition, for future reference, we also advise safekeeping of this manual.

Please contact the distributor or dealer from which the WAT-02U2D 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 WAT-02U2D is designed to be used safely; however, 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" below for protection against accidents.



- Do not disassemble and/or modify the WAT-02U2D.
- Do not operate the WAT-02U2D with wet hands.



- Do not use the WAT-02U2D under unusual environmental conditions. The WAT-02U2D is specified as waterproof. However, the WAT-02U2D is not compliant with dust-proof and explosion-proof standards.

- Protect the WAT-02U2D from condensation. Keep the WAT-02U2D 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 WAT-02U2D. The WAT-02U2D uses high quality electrical parts and precision components.
- Do not install the WAT-02U2D in a position subject to direct sunlight. Sunlight shinning directly onto the WAT-02U2D lens can cause damage to the image sensor.
- Select a stable place for installation of the WAT-02U2D. Use a support of durable strength around an installation position on a ceiling or wall when a camera stand or tripod is used.
- Do not move the WAT-02U2D with the cables connected. Before moving the WAT-02U2D, always remove the cable from the rear of the camera first.

- Avoid using the WAT-02U2D near any strong electromagnetic field. Avoid emission sources of electromagnetic waves when the WAT-02U2D is installed into main equipment.
- Dry the WAT-02U2D well after use. When the WAT-02U2D is used in seawater, flush well with pure water, and then wipe. If the WAT-02U2D is steeped in water for many hours or left without wiping after use, the surface of the WAT-02U2D may become white.

### Problems and Trouble Shooting

If any of the following problems occur when using the WAT-02U2D,

- 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 WAT-02U2D
- 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 WAT-02U2D by mistake
- Anything unusual occurring to any equipment connected to the WAT-02U2D

Disconnect the camera immediately according to the following procedures;

- ① Remove the cables connected to the WAT-02U2D.
- ② Contact the distributor or dealer from which the WAT-02U2D was purchased.

### Waterproof Conformity

The external body of the WAT-02U2D is in conformity with the following waterproof standard.

JIS C 0920 (IEC60529)  
Degrees of protection provided by enclosures: IPX7

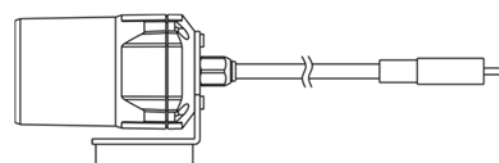
- ※ Waterproof capability of the WAT-02U2D is confirmed according to the above conditions. This waterproof standard does not cover the quality of the operation under unusual condition.



For ⑤USB micro-B CONNECTOR, this part is not included in the compatible range of the waterproof standard. Treat the connector area for waterproofing if needed.

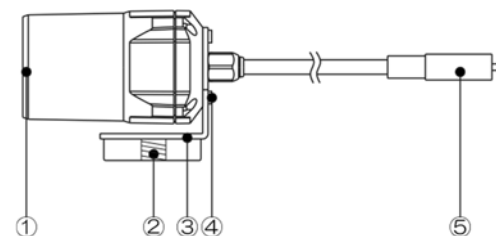
### Contents

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



WAT-02U2D

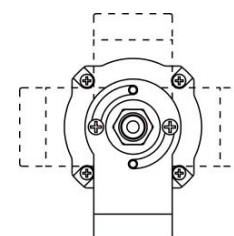
### Description of Parts



- ① FRONT GLASS (Tempered glass)  
Dirt, water or oil deposits on the front glass will cause an unclear picture on the monitor and scratches might become permanent damage. Do not dismount the front glass.
- ② TRIPOD MOUNTING SCREW HOLES  
Mounting holes for stands. The size of these threads are 1/4", 20 threads, 4.5±0.2mm, which is the same as any standard camera tripod (U1/4").
- ③ BRACKET  
The screws for mounting the bracket to the camera.
- ④ BRACKET MOUNTING SCREWS  
The screws for mounting the bracket to the camera.
- ⑤ USB micro-B CONNECTOR  
For USB connection.

### Set-up and Operation

- 1) Connect WAT-02U2D with the PC, using an attached cable.
- 2) Start the software application and adjust the lens while viewing the image displayed.
- 3) When a change of installation position is required, set ③BRACKET to your required position after removing ④ BRACKET MOUNTING SCREWS from the WAT-02U2D, then retighten ④ BRACKET MOUNTING SCREWS firmly. Angular settings for ceiling and wall are also available.



### Specifications

Model	WAT-02U2D	
Pick-up Element	1/2.8-inch CMOS image sensor	
Number of Effective Pixels	1984(H) × 1225(V)	
Sync. System	Internal	
Scanning System	Progressive	
Video Output	USB micro-B, USB video class (Compatible)	
Resolution (H)	More than 680TVL (Center, YUY2 output)	
Minimum Illumination	0.25 lx. (F1.4, 1/30s)	
Output size	160×120, 176×144, 320×240, 640×480, 1280×720, 1280×800, 1280×1024, 1920×1080	
Max. frame rate	30 fps	
AE Mode	Fix Shutter	1/15, 1/30, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000 sec.
	EI	1/30 - 1/8000 sec. (Slow shutter: 1/15 - 1/8000 sec.)
AGC	Auto	0 - 42dB
	Manual	0 - 24dB (25 steps)
White balance	ATW	2800 - 9500K
	MWB	2800 - 6500K
Back Light Compensation	ON (Center) / OFF	
Power Supply	DC+5V (Supplied by the USB bus)	
Power Consumption	0.6W (120mA)	
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)	
Waterproof grade	IPX7 (without terminal of the cable connector)	
Lens	M3718BC-12 (f3.7 F1.8)	
Size	32(W)×42(H)×62(D) (mm)	
Weight	Approx.85g	

Operation Confirmed OS (Windows)

- Windows® XP 32bit/64bit (SP2, SP3) ※with Limited Functions
- Windows® Vista 32bit/64bit
- Windows® 7 32bit/64bit
- Windows® 8 32bit/64bit
- Windows® 8.1 32bit/64bit
- Windows® 10 32bit/64bit

Recommended System Specifications

CPU	Intel® Core™ i Series or newer
RAM	2GB or larger
Others	USB2.0 Port 1920×1080 or better resolution display

Operation Confirmed OS (Android)

- Android 4.0 or newer

Supported by Google Nexus Series

- Windows is a registered trademark of Microsoft Corporation in the United States, Japan and other countries.
- Intel Core is a registered trademark of Intel Corporation in the United States and other countries.
- Android and Google Nexus are trademarks of Google, Inc.
- 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 WAT-02U2D 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



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