



Full HD Compact Camera

# WAT-2100

## Operation Manual

This Operation Manual covers safety, camera functions, installation and the correct operating procedure for the WAT-2100. First, we ask you to read this Operation Manual thoroughly, then install and operate the WAT-2100 as advised. In addition, for future reference, we also advise safekeeping of this manual.

Please contact the distributor or dealer from which the WAT-2100 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-2100 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-2100.**  
**Do not operate the WAT-2100 with wet hands.**
- Use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA for the WAT-2100.**  
The recommended voltage is DC+12V±10%  
**Do not expose the WAT-2100 to wetness or high moisture conditions.**  
The WAT-2100 is designed and approved for indoor use only. The WAT-2100 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 WAT-2100 from condensation.**  
Keep the WAT-2100 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-2100.**  
The WAT-2100 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 WAT-2100 with any monitor using a video/power single transmission terminal. The WAT-2100 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 WAT-2100 in a position subject to direct sunlight.**  
Sunlight shining directly onto the WAT-2100 lens can cause damage to the sensor.
- Select a stable place for installation of the WAT-2100.**  
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-2100 with the cables connected.**  
Before moving the WAT-2100, always remove the video cable and power cable from the rear of the camera first.
- Avoid using the WAT-2100 near any strong electro-magnetic field.**  
After installing into main equipment, if the WAT-2100 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 WAT-2100,

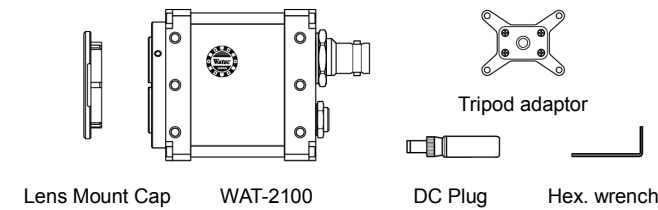
- An optimal picture cannot be obtained, after checking that all the cables and connections are correctly in place
- Smoke or any unusual odor emerges from the WAT-2100
- An object becomes embedded or a quantity of liquid seeps into the camera housing
- More than the recommended voltage or/and amperage has been applied to the WAT-2100 by mistake
- Anything unusual occurring to any equipment connected to the WAT-2100

**Disconnect the camera immediately according to the following procedures:**

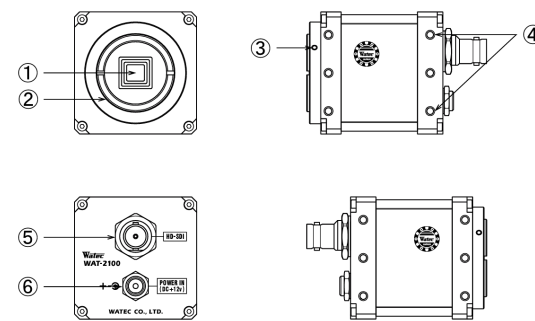
- Switch off the main power supply to the camera.
- Remove the power and video cables connected to the WAT-2100.
- Contact the distributor or dealer from which the WAT-2100 was purchased.

### Contents

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



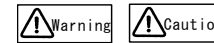
### Description of Parts



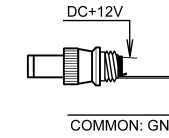
- IMAGE SENSOR FRONT FACE**
  - The light receiving face of the image sensor (Dirt, water or oil deposits on the image sensor will cause an unclear picture on the monitor. Attach the lens cap to protect the lens and the sensor from contamination and damage.)
- LENS MOUNT**
  - Mount for the lens (CS-mount)
- FINE FOCUS ADJUSTMENT SCREWS**
  - There are 3 hex. adjustment screws each placed at intervals of 120° for fine focusing of the lens.
- CAMERA FIXING SCREW HOLES**
  - The screw holes for fixing the camera. When using a tripod, use these screw holes to attach a tripod adaptor. (Screw size: M3 Depth: 4mm)
- VIDEO OUT (BNC)**
  - The terminal for composite video signal output
- POWER IN (with a lock)**
  - The terminal designed for connecting with and locking with the DC-plug of the power adaptor.

### Power Supply

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 (See the drawing on the right below).



The wiring of 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 WAT-2100 and power adaptor may occur and may also cause fire.



### Set-up and Operation

- Prior to use, please confirm that the peripheral equipment(s) connecting to this camera support the 1080/30p video format.**
- Ensure that the power to the WAT-2100 and the peripheral equipment is turned off before making any connections.
- Remove the lens mount cap from the WAT-2100 and attach the CS-mount lens. Use the optional C-mount adaptor (34CMA-R) when a C-mount lens is used.
- Connect VIDEO OUT on the WAT-2100 with the monitor, using a coaxial cable with 75Ω impedance.
- Insert the power plug of the power adaptor into POWER IN on the back panel of the WAT-2100. Confirm that the power adaptor is not connected to the power supply before insertion of the power plug into POWER IN.
- Turn on the power to the WAT-2100, monitor and all other allied equipment. When a picture cannot be obtained on the monitor, or a problem occurs, check and follow the procedure mentioned in the [Problems and Trouble Shooting] section.
- Adjust the focus and iris to the best position on the lens. If the picture is still out of focus, open the iris fully and loosen FINE FOCUSING ADJUSTMENT SCREWS with the hex. wrench and move the lens forwards until a clear picture is obtained.

### Options

To purchase these options, please contact the distributor or dealer from which you purchased the WAT-2100.



#### C-mount Adaptor (34CMA-R)

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



#### Mini Stand (MS50)

A convenient stand for the WAT-2100. With this stand, the camera can be adjusted to any desired angle.

### Specifications

|                            |                                    |           |                             |
|----------------------------|------------------------------------|-----------|-----------------------------|
| Model                      | WAT-2100                           |           |                             |
| Pick-up Element            | 1/2.7-inch CMOS image sensor       |           |                             |
| Number of Effective Pixels | 1920(H)×1080(V)                    |           |                             |
| Sync. System               | Internal                           |           |                             |
| Scanning System            | Progressive                        |           |                             |
| Video Output               | HD-SDI                             |           |                             |
| Resolution (H)             | 800 L                              |           |                             |
| Output format              | 1080/30p                           |           |                             |
| Minimum Illumination       | 0.9 lx. F1.4                       |           |                             |
| S/N                        | 45dB                               |           |                             |
| AE                         | Shutter<br>Gain                    | EI<br>AGC | 1/30~1/25000 sec.<br>0~21dB |
| White balance              | ATW                                |           |                             |
| Power Supply               | DC+12V±10%                         |           |                             |
| Power Consumption          | 1.56W (130mA)                      |           |                             |
| Operating Temperature      | -10 - +40°C                        |           |                             |
| Operating Humidity         | 20 - 80% RH (Without condensation) |           |                             |
| Storage Temperature        | -20 - +60°C                        |           |                             |
| Storage Humidity           | 20 - 95% RH (Without condensation) |           |                             |
| Lens Mount                 | CS-mount (Back focus adjustable)   |           |                             |
| Size                       | 48(W)×48(H)×71(D) (mm)             |           |                             |
| Weight                     | Approx. 120g                       |           |                             |

- 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-2100 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



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

1580Z00-Y2000001

### 关于电子信息产品污染控制标识

| 环境使用期限 | 名称    | 有害物质或元素 |   |   |     |     |      |
|--------|-------|---------|---|---|-----|-----|------|
|        |       | 铅       | 镉 | 汞 | 六价铅 | PBB | PBDE |
|        | 外壳    | ○       | ○ | ○ | ○   | ○   | ○    |
|        | 电子零部件 | ×       | ○ | ○ | ○   | ○   | ○    |
|        | 电路板   | ○       | ○ | ○ | ○   | ○   | ○    |
|        | 附件    | ○       | ○ | ○ | ○   | ○   | ○    |
|        | 其它金属  | ×       | ○ | ○ | ○   | ○   | ○    |

○:表示该有害物质在该部件所有均质材料中的含量的在SJ/T 11363-2006规定的限量要求以下。  
×:表示该有害物质在该部件的某一均质材料中的含量超出SJ/T 11363-2006规定的限量要求。  
电源输入端子的铜合金中含有4%以下的铅。CCD的低熔点玻璃中含有600,000ppm的铅。  
尚无制造代用品的技术。

|                    |                   |                  |                 |
|--------------------|-------------------|------------------|-----------------|
| 03<br>瓦楞纸板<br>外包装箱 | 04<br>LDPE<br>包装袋 | 04<br>LDPE<br>气帽 | 05<br>PP<br>附件袋 |
|--------------------|-------------------|------------------|-----------------|

※生产日期位于包装的上面

|   |   |      |    |    |    |
|---|---|------|----|----|----|
| A | A | 年    | 记号 | 月  | 记号 |
|   |   | 2011 | A  | 1  | 1  |
| 年 | 月 | 2012 | B  | 10 | A  |