

This operation manual covers safety, camera functions, installation and the correct operating procedure for the WAT-30HD/CS. First, we ask you to read this operation manual thoroughly, then install and operate the WAT-30HD/CS as advised. In addition, 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 WAT-30HD/CS was purchased. Not understanding the contents of the operation manual sufficiently may cause damage to the camera, personal belongings and/or result in injury.

Guide to the Safety Symbols

Symbols used in this operation manual:

- "Danger", may lead to a serious accident such as death or injury caused by fire or electric shock.
- "Warning", may cause severe damage such as a physical injury.
- "Caution", may incur injury and cause damage to peripheral objects in the immediate surroundings.

Cautions for Safety

The WAT-30HD/CS is 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" below for protection against accidents.

- Do not disassemble and/or modify the WAT-30HD/CS.**
- Do not operate the WAT-30HD/CS with wet hands.**
- Use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA for the WAT-30HD/CS.**
The recommended voltage is DC+12V ± 10%. Also, we advise the Use of an "inline fuse" power line to protect the camera and peripheral equipment, where applicable.
- Do not expose the WAT-30HD/CS to wetness or high moisture conditions.**
The WAT-30HD/CS is designed and approved for indoor use only. The WAT-30HD/CS 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-30HD/CS from condensation.**
Keep the WAT-30HD/CS dry at all times during storage and operation.
- Should the camera not work properly, unplug 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-30HD/CS.**
The WAT-30HD/CS uses 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 out terminal of the unit.**
Do not connect the WAT-30HD/CS with any monitor using a video/power single transmission terminal. The WAT-30HD/CS utilizes HD-SDI output and 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-30HD/CS in a position subject to direct sunlight.**
Sunlight shining directly onto the WAT-30HD/CS lens can cause damage to the sensor.
- Select a stable place for installation of the WAT-30HD/CS.**
Use an appropriately rated mount durable and strong for all installation position.

- Do not move the WAT-30HD/CS with the cables connected.**
Before moving the WAT-30HD/CS, always remove the video cable and power cable from the rear of the camera first.
- Avoid using the WAT-30HD/CS near any strong electro-magnetic field.**
Avoid emission sources of electromagnetic waves when the WAT-30HD/CS is installed into main equipment.

Problems and Trouble Shooting

If any of the following problems occur when using the WAT-30HD/CS,

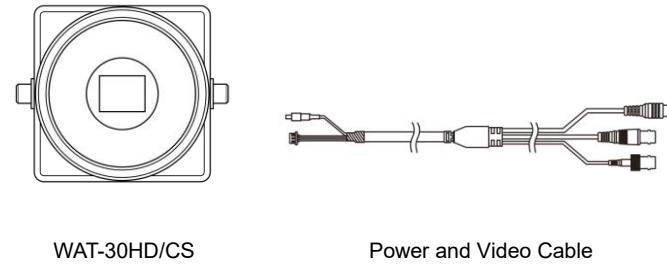
- An optimal picture cannot be obtained, after checking that all the cables and connections are correctly in place.
- Smoke or any unusual odor emerges from the WAT-30HD/CS
- An object becomes embedded or a quantity of liquid seeps into the camera housing.
- More than the recommended voltage or/and amperage has been applied to the WAT-30HD/CS by mistake
- Anything unusual occurring to any equipment connected to the WAT-30HD/CS

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 WAT-30HD/CS.
- ③ Contact the distributor or dealer from which the WAT-30HD/CS was purchased.

Contents

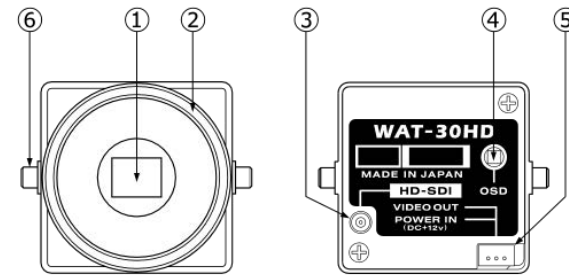
Using the contents figures below, check to make sure all parts are present before use.



WAT-30HD/CS

Power and Video Cable

Description of Parts

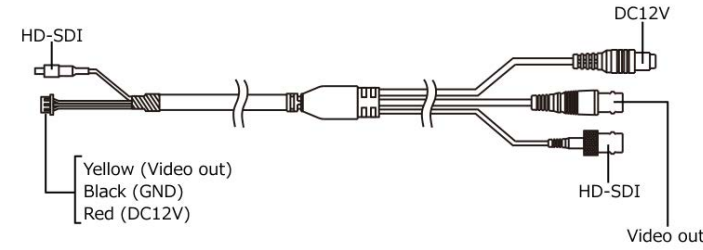


- ① IMAGE SENSOR/Sensor Window
The light receiving face of the Image sensor (Dirt, water or oil deposits on the image sensor will cause an unclear picture on the monitor. Attach the lens cap to protect the lens and the sensor from contamination and damage.)
- ② LENS MOUNT
Mount of the lens (CS-mount)
- ③ VIDEO OUT
The terminal for SDI signal output. Use the attached power and video cable for this purpose.
- ④ JOYSTICK
Joystick is for on screen display setups for functions.
- ⑤ POWER IN/VIDEO OUT
The terminal for power input and video signal output. Use the attached power and video cable for this purpose.
- ⑥ CAMERA MOUNTING FEATURES
These mounting features are used to mount the camera.

Power Supply

Use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA.

See below for the details, for connecting to a peripheral devices.

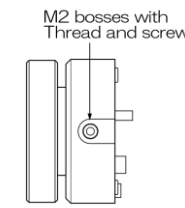


Set-up and Operation

- 1) Ensure that the power to the WAT-30HD/CS and the peripheral equipment is turned off before making any connections.
- 2) Remove the lens cap from the WAT-30HD/CS and attach the CS-mount lens. Use the optional C-mount adaptor (30CMA-R) when a C-mount lens is used.
- 3) Connect VIDEO OUT on the WAT-30HD/CS with the monitor.
- 4) Turn on the power to the WAT-30HD/CS, 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.
- 5) To bring a camera in to focus for an appropriate image.
- 6) When detailed settings are required or an adequate image is not obtained, then set the functions on the screen by ③ Joystick.

Mounting

The WAT-30HD/CS has two bosses on both sides featuring M2 thread and screws. Use these if the camera is to be mounted to the B001 bracket.



Options



C-mount Adaptor (30CMA-R)

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



Mounting Bracket (B001)

B001 is used for mounting the WAT-30HD/CS to stands and surfaces. The base has a U1/4" thread for mounting on stands, and through holes on both sides.



Mini Stand (MS50)

A convenient stand for the B001. With this stand, the camera can be adjusted to any desired angle.

Specifications

Model	WAT-30HD/CS
Pick-up element	1/3 inch CMOS image sensor
Number of Effective Pixels	1944(H)×1092(V)
Unit Cell Size	2.75µm × 2.75µm
Imaging system	RGB primary color bayer arrangement mosaic filters on chip
Sync. System	Internal
Scanning System	Progressive
Video Outputs	HD-SDI / Composite video
Output Format	1080/30p, 1080/25p, 720/60p, 720/50p, NTSC, PAL
Resolution (H)	900TVL
Minimum Illumination	0.05lx F1.2 (DSS=Off) 0.005lx F1.2 (DSS=Max)
S/N	More than 52dB
Function Settings	OSD (On Screen Display) operated by joystick
AE Mode	AUTO / MANUAL / FLICKER
Shutter Speed	1/30, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000, 1/30000, 1/60000
Slow Shutter	OFF, x2, x4, x8, x16, x32
White Balance	AUTO, AUTO EXT, PUSH LOCK, Manual
AGC	12 - 60dB
DAY / NIGHT	AUTO, COLOR, B&W
3D Noise Reduction	OFF, LOW, MIDDLE, HIGH
WDR	Double Shutter ON / OFF Digital ON / OFF
Back Light Compensation	ON (Area selectable) / OFF
White Blemish Correction	Yes
Defog	ON (LOW, MIDDLE, HIGH) / OFF
Digital Zoom	1.0x - 20.0x
Privacy Mask	16marks
Mirror Image	OFF, H-FLIP, V-FLIP, HV-FLIP
Motion Detection	ON / OFF
HLMASK	ON / OFF
Power Supply	DC+12V±10%
Power Consumption	1.44W (120mA)
Operating Temperature	-10 - +50°C
Operating Humidity	80% RH or less (Without condensation)
Storage Temperature	-20 - +60°C
Storage Humidity	95% RH or less (Without condensation)
Lens Mount	CS mount
Size	35.4(W)×29.4(H)×21.5(D) (mm)
Weight	Approx. 27.5g

- 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, miss-operation or improper wiring of our equipment.
- If for any reason the WAT-30HD/CS 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