



Monochrome Board Camera WAT-910HX MBD

Operation Manual

This operation manual covers safety, camera functions, installation and the correct operating procedure for the WAT-910HX MBD. First, we ask you to read this operation manual thoroughly, then install and operate the WAT-910HX MBD as advised. In addition, for future reference, we also advise safekeeping of this manual.

Please contact the distributor or dealer from which the WAT-910HX MBD 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-910HX MBD 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 WAT-910HX MBD.
- Do not operate the WAT-910HX MBD with wet hands.



- Use a stabilized power adaptor designed for DC+12V±10%, with a current capacity of more than 250mA for the WAT-910HX MBD.

The recommended voltage is DC+12V±10%

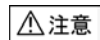
- Do not expose the WAT-910HX MBD to wetness or high moisture conditions.

The WAT-910HX MBD is designed and approved for indoor use only. The WAT-910HX MBD 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-910HX MBD from condensation.

Keep the WAT-910HX MBD 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-910HX MBD.

The WAT-910HX MBD 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-910HX MBD with any monitor using a video/power single transmission terminal. The WAT-910HX MBD 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-910HX MBD in a position subject to direct sunlight.

Sunlight shining directly onto the WAT-910HX MBD lens can cause damage to the CCD.

- Select a stable place for installation of the WAT-910HX MBD. Always fix the camera securely.

See [Mounting Holes] section.

- Do not move the WAT-910HX MBD with the cables connected.

Before moving the WAT-910HX MBD, always remove the video cable and power cable from the rear of the camera first.

- Avoid using the WAT-910HX MBD near any strong electromagnetic field.

After installing into main equipment, if the WAT-910HX MBD 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-910HX MBD,

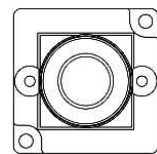
- An optimal picture cannot be obtained, after checking that all the cables and connections are correctly in place
- Smoke or any unusual odor emerges from the WAT-910HX MBD.
- An object becomes embedded or a quantity of liquid seeps into the camera housing
- More than the recommended voltage or/and amperage has been applied to the WAT-910HX MBD by mistake
- Anything unusual occurring to any equipment connected to the WAT-910HX MBD.

Disconnect the camera immediately according to the following procedures:

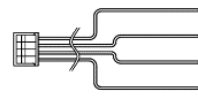
- Switch off the main power supply to the camera.
- Remove the power and video cables connected to the WAT-910HX MBD.
- Contact the distributor or dealer from which the WAT-910HX MBD was purchased

Contents

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

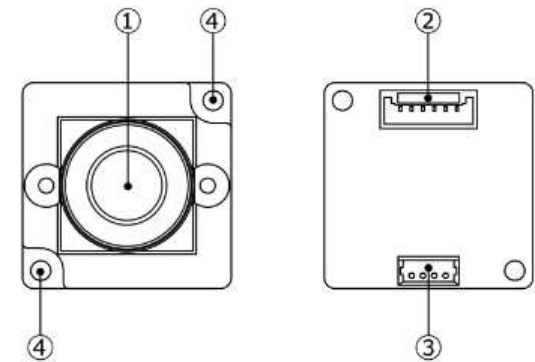


WAT-910HX MBD



Power and Video Cable

Description of Parts



- LENS FRONT FACE**
The light receiving face of the Lens (Dirt, water or oil deposits on the lens will cause an unclear picture on the monitor. Attach the lens cap to protect the lens from contamination and damage.)
- OSD (On Screen Display) CONNECTOR**
The terminal designed for connection with remote control for setting the functions on the screen.
- POWER IN/VIDEO OUT**
The terminal for power input and video signal output. Use the attached power and video cable for this purpose.
- MOUNTING HOLES**
Four φ2.2mm diameter holes in each corner for mounting the camera.

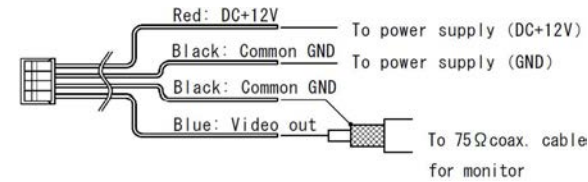
Power Supply and Wiring

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

The wiring on the connector must be exact.

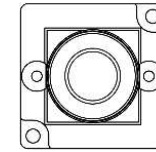
Be careful not to touch the other terminal while wiring. Protect the wiring portion by using insulation tape after wiring. If the above care and attention is not adhered to, damage to the WAT-910HX MBD and power adaptor may occur or may cause fire.

Power and Video Cable



Mounting Holes

As shown in the figure on the right. The WAT-910HX MBD provides two 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

- Refer to the "Power Supply and the wiring" must be exact.
- Join the video out cable with the video in cable of the monitor or peripheral equipment.
- Join the power supply using the correct procedure.
- Make sure that a picture can be seen on the monitor.
- To focus, turn the lens clockwise or counterclockwise while observing the picture on the monitor. Take care when focusing not to scratch or damage the lens.

Options

To purchase these options, please contact the distributor or dealer from which you purchased the WAT-910HX MBD.



Remote Controller (RC-01)

Remote control for controlling the On Screen Display menu to change camera settings.



Cable with BNC, socket and connector (CB-01)

The cable with BNC/DC socket. (Cable Length: 1m)

Specifications

Model	WAT-910HX MBD (EIA)	WAT-910HX MBD (CCIR)
Pick-up Element	1/3 inch interline transfer CCD image sensor	
Number of Total Pixels	811(H)×507(V)	795(H)×595(V)
Number of Effective Pixels	768(H)×494(V)	752(H)×582(V)
Unit Cell Size	6.4um(H)×7.5um(V)	6.5um(H)×6.3um(V)
Sync. System	Internal	
Scanning System	2:1 interlace	
Video Output	Composite video, 1.0 V(p-p) 75Ω (Unbalanced)	
Resolution (H)	More than 570TVL (Center)	
Minimum Illumination	0.00009 lx. F1.8 (AGC: 48dB, SENS UP ON)	
S/N	More than 50dB	
Function settings	OSD(On Screen Display) operated by optional remote controller	
AE Mode	EI	1/60~1/100000 sec. 1/50~1/100000 sec.
	Fixed	x8~1/100000 sec.
		x2, x4, x8, x16, x32, x64, x128, x256 (field)
	1/60, 1/120 sec.	1/50, 1/100 sec.
	1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
AGC	0 - 42dB (Up to 48dB)	
MGC	6~48dB (6dB step)	
Noise Reduction	Level selectable	
ATR	ON / OFF	
Motion Detection	ON / OFF	
Back Light Compensation	OFF / BLC / HLC	
Defog	ON / OFF	
Digital Zoom	x1 - x256	
Privacy mask	15 marks	
Mirror Image	OFF / V / H / HV	
White Blemish Correction	Up to 64 dots	
Power Supply	DC+12V±10%	
Power Consumption	0.96W (80mA)	
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)	
Lens Mount	M12 P=0.5	
LENS	G3.7(f=3.7mm, F1.8) / P3.3(f=3.3mm, F2.4)	
Size	23(W)×23(H)×37(D) (mm)	
Weight	G3.7: 約 14g, P3.3: 約 10g	

- 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-910HX MBD 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 Co., Ltd.
Add.: 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