

# WAT-240F

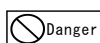
## Operation Manual

This Operation Manual covers safety, camera functions, installation and the correct operating procedure for the WAT-240F. First, we ask you to read this Operation Manual thoroughly, then install and operate the WAT-240F as advised. In addition, for future reference, we also advise safekeeping of this manual.

Please contact the distributor or dealer from which the WAT-240F 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

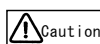
The definitions of the symbols used in this operation manual are:



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

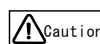
WAT-240F is designed to be used safely, however it may lead to a physical accident caused by fire and electric shock if not used correctly. Therefore, please keep and read the "Cautions for Safety" below for protection against accidents.



- Do not disassemble and/or modify the WAT-240F.
- Do not operate the WAT-240F with wet hands.



- Use only the AD603-120/230 or equivalent power adaptor for the WAT-240F.  
The recommended voltage is DC+6V ± 10%
- Do not expose the WAT-240F to wetness or high moisture conditions.  
The WAT-240F is designed and approved for indoor use only. The WAT-240F 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-240F from condensation.  
Keep the WAT-240F 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-240F.  
The WAT-240F 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-240F with any monitor using a video/power single transmission terminal. The WAT-240F 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-240F in a position subject to direct sunlight.  
Sunlight shinning directly onto the WAT-240F lens can cause damage to the CCD.

- Select a stable place for installation of the WAT-240F.
- Do not move the WAT-240F with the cables connected. Before moving the WAT-240F always remove the video cable and power cable.
- Avoid using the WAT-240F near any strong electromagnetic field.  
After installing into main equipment, if the WAT-240F 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-240F,

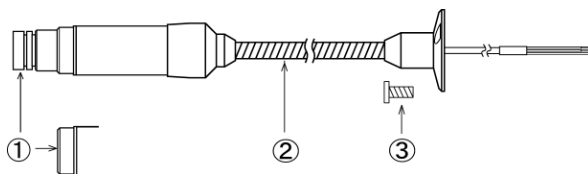
- An optimal picture cannot be obtained, after checking that all the cables and connections are correctly in place
- Smoke or any unusual odor emerges from the WAT-240F
- An object becomes embedded or a quantity of liquid seeps into the camera body
- More than the recommended voltage or/and amperage has been applied to the WAT-240F by mistake
- Anything unusual occurring to any equipment connected to the WAT-240F

**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-240F.
- ③ Contact the distributor or dealer from which the WAT-240F was purchased.

### Contents

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



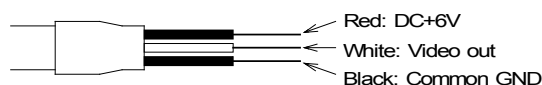
- ① Lens
- ② Flexible-arm
- ③ Fixing screws (round head wood screws 2.4 × 10: 3pcs)

### Power Supply

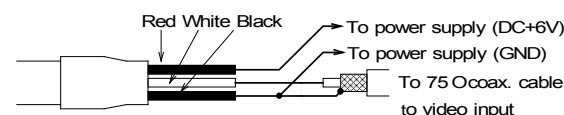
If any other power adaptor besides the AD603-120/230 is used, please use a stabilized power adaptor designed for DC+6V ± 10%, with a current capacity of more than 250mA. The wiring on the connector must be exact.

Be careful not to touch the other terminals while wiring. Protect the wired portion by using insulation tape after wiring. If the above care and attention is not adhered to, damage to the WAT-240F and power adaptor may occur and may also cause fire.

[Diagram of output cables]



[Connection of output cables]



## Set-up and Operation

- ① Refer to the [Connection of output cables] and the wiring must be exact.
- ② Join the video out cable with the video in cable of the monitor or peripheral equipment.
- ③ Join the power supply using the correct procedure.
- ④ Make sure that a picture can be seen on the monitor
- ⑤ Adjust the camera angle by moving the arm.
- ⑥ 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.

### Pinhole lenses

Focusing of the pinhole lens (type P3.7) can be done by turning the lens clockwise or counterclockwise while placing a pair of tweezers in the focusing adjustment dents as shown in the figure on the right.



## Option

To purchase options, please contact the distributor or dealer from which you purchased the WAT-240F.

### AC Adaptor (AD603-120/230)

The recommended AC adaptor for the WAT-240F for a constant and stable power supply



## Specifications

Model	WAT-240F	
	NTSC	PAL
Pick-up Element	1/4 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	4.9 μm(H) × 5.6 μm(V)	5.0 μm(H) × 4.7 μm(V)
Imaging system	Ye, Cy, Mg, and G complementary color mosaic filters on chip	
Sync. System	Internal	
Scanning System	2:1 interlace	
Video Output	Composite video, 1.0 V(p-p) 75Ω (Unbalanced)	
Resolution (H)	More than 450TVL (Center)	
Minimum illumination	1.6 lx. F2.0	
S/N	More than 50dB (AGC=6dB, γ=1.0)	
AE (Auto-exposure)	1/60-1/100000 sec.	1/50-1/100000 sec.
White Balance	ATW	
AGC	6-30dB	
Gamma Characteristics	γ ≒ 0.45	
Back Light Compensation	ON	
Power Supply	DC+6V ± 10%	
Power Consumption	1.02W (170mA)	
Operating Temperature	-10 - +40°C (Without condensation)	
Operating Humidity	Less than 95% RH	
Storage Temperature	-30 - +70°C (Without condensation)	
Storage Humidity	Less than 95% RH	
Lens mount	M13 P=1.0	
Standard Lenses	G3.8 (Glass f3.8 F2.0) / P3.7 (Pinhole f3.7 F4.5)	
Size	G3.8: φ20 × 81+176(Arm)+22(Stand) (mm) P3.7: φ20 × 64+176(Arm)+22(Stand) (mm)	
Weight	Approx. 70g (G3.8)	

- Design and specification 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-240F 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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