



Quick Guide

Precautions

Fully read this document before using this device, and strictly observe rules in this document when using this device.

	It alerts you to moderate dangers which, if not avoided, may cause minor or moderate injuries.
	It alerts you to risks. Neglect of these risks may cause device damage, data loss, device performance deterioration, or unpredictable results.
	It provides additional information.

WARNING

- Strictly observe installation requirements when installing the device. The manufacturer shall not be held responsible for device damage caused by users' non-conformance to these requirements.
- Strictly conform to local electrical standards.
- The voltage must meet input voltage requirements for this device.
- If this device is installed in places with unsteady voltage, ground this device to discharge high energy such as electrical surges in order to prevent the power supply from burning out.
- Do not expose internal components to water or moisture.
- Do not focus strong light (such as lighted bulbs or sunlight) on this device. Otherwise, the service life of the image sensor may be shortened.
- If this device is installed in places where thunder and lightning frequently occur, ground the device nearby to discharge high energy such as thunder strikes in order to prevent device damage.

CAUTION

- Avoid heavy loads, intensive shakes, and soaking to prevent damages during transportation and storage. The warranty does not cover any device damage that is caused during secondary packaging and transportation after the original packaging is taken apart.
- Protect this device from dropping, keep the device away from magnetic field interference, and do not install the device in places with unstable surfaces.
- Clean the device with a soft dry cloth. For stubborn dirt, dip the cloth into slight neutral cleanser, gently wipe the dirt with the cloth, and then dry the device.
- Keep the device away from heat sources such as radiators, electric heaters, or other heat equipment.
- Keep the device away from moist, dusty, extremely hot or cold places, or places with strong electric radiation.
- Remove the power plug if the device is idle for a long time.

Special Announcement

- The manufacturer will update this manual according to product function enhancement or changes. Update information will be added to new versions of this manual without prior notice.
- This manual is only for reference and does not ensure that the information is totally consistent with the actual product. For consistency, see the actual product.

NOTE

For more information, please refer to website: www.northernvideo.com

1 Open Package Examination

Open the package, check the appearance of product for no obvious damage, and confirm the item list for table 1-1 is consistent.

Table 1-1 Packing list

Component	Quantity	Remark
Bullet HDVI Camera	1	
Quick Setup Guide	1	
Installation location sticker	1	
L wrench	1	
Black stainless self-tapping screw PA4.0×30mm	3	
Plastic anchors φ5.6×29mm	3	

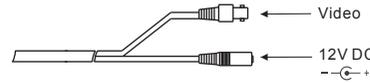
2 Camera Cable Connection

2.1 Power and video cables

Insert power lead into power connector (insure proper voltage is supplied and observe polarity).

Insert video lead into BNC connector (push, then twist to lock BNC connector in place).

Figure 2-1 Power and video cable



2.2 OSD Control: Use In-Line OSD control to select format: Press the Joystick button on the cable mounted OSD control to access the OSD menu.

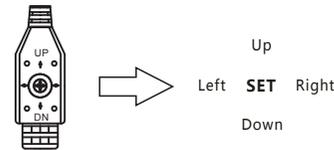
960H Mode : Push OSD UP for 5 seconds

AHD Mode : Push OSD LEFT for 5 seconds

CVI Mode : Push OSD DOWN for 5 seconds

TVI Mode : Push OSD RIGHT for 5 seconds

Figure 2-2 Function keys



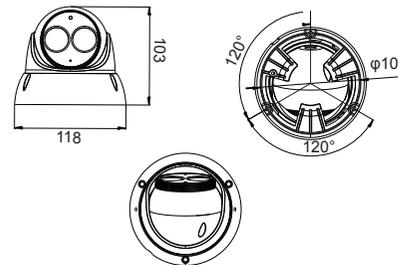
3 Camera Overview

3.1 Camera Dimensions

NOTE

Different device may have different dimensions, please refer to the actual product.

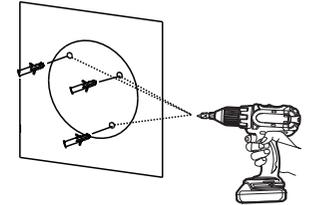
Figure 3-1 Dimensions (Unit: mm)



4 Device Installation

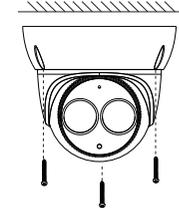
- Open a package, take out the camera and the accessories.
- Stick the Installation location sticker on the ceiling or wall. Drill three holes based on the marks on the sticker. Drive the swell plastic buttons into the holes, as shown in figure 4-1.

Figure 4-1 Drilling holes



- Fix the camera to the mounting surface, by use of self-tapping screws, as shown in figure 3-2.

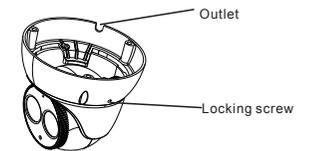
Figure 4-2 Fixing camera



NOTE

you can route cables from the top or from aside. If you use the top routing method, drill a hole in the surface first. If you use the aside routing method. When you route cables from aside, Please route the multi-head cable out from the side gap at the bottom of the camera, as shown in figure 4-3.

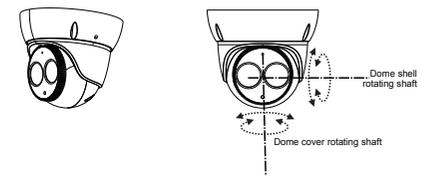
Figure 4-3 Install camera



- Connect the BNC cable.

- Loosen the screws for two to three circles, install the dome shell and the compression ring on the mounting base, adjust the position so that the camera faces the monitored area, then tighten the screw, as shown in figure 4-4.

Figure 4-4 Adjusting camera



**SPECIFICATIONS**

Model No.	HDTIR90WD
Image Sensor	1/2.8" CMOS Sensor
Total Pixels	1984 x 1225
Active Pixels	1920 x 1080
Resolution	1920 x 1080 (1080p)
Scanning System	Progressive Scan
OSD (On Screen Display)	Dual OSD Access: Cable OSD Controlled / UTC Controlled (coaxial control)
True WDR (Wide Dynamic Range)	Yes- 120dB
DNR (Digital Noise Reduction)	3D DNR - Auto, Manual (0~30), Off
Video Output	TVI, CVI, AHD & 960H (Selectable via OSD Cable)
Lens Type / Viewing Angle	2.8mm IR Lens - H: 108.9° V: 58.8°
Shutter Speed	Auto, Manual 1/25 ~ 1/10,000
IR Cut Filter	Built in Mechanical
Minimum Illumination	Color 0.001 Lux, B/W 0.0 Lux, IR LED ON
IR LED Count / Range	1 High Power LED / 90' Range / 850nM
S/N Ratio	More than 50dB
Automatic Gain Control	Auto, Manual 0 ~16 Adjustable
Sync System	Internal
Gamma Characteristics	y = 0.45 typ
White Balance	ATW, MWB - R & B Gain 0~32 Adjustable
Back Light Compensation	Globe / BLC / 1~8 Adjustable
Day/Night	EXT / Auto / Color / B/W
Languages	English, French, Spanish, German, Italian (see OSD Menu for more)
Brightness	0 ~30 Adjustable
Power Input	12VDC Only
Power Requirement	120mA /250 mA IR LED ON
Overall Camera Dimensions	4.6" x 4.1" (φ118 x 103mm)
Housing / Color	Aluminum / White
Weight	1.2lb / 550g
Operating Temperature	-14°F ~ 131°F
Weatherproof Rating	IP67

\* All specifications subject to change without notice for quality improvement

MENU	ENGLISH				
MAIN MENU	MAIN MENU				
	AE				
	WB				
	DAY NIGHT				
	IMAGE_ENHANCE				
	VIDEO SETTING				
	LANGUAGE				
	RESET				
	SAVE EXIT				
	EXIT				
AE	EXPOSURE				
	BRIGHTNESS	0~30 ADJUSTABLE			
	EXPOSURE MODE	GLOBE			
		BLC	1~8 ADJUSTABLE		
	ADVANCED	AE ADVANCED			
		SHUTTER CTRL	AUTO		
			MANUAL	SHUTTER	1/25 ~ 1/10,000 SELECTABLE
		GAIN CTRL	AUTO		
	MANUAL		ANALOG GAIN	1~16 ADJUSTABLE	
			DIGITAL GAIN	1~15 ADJUSTABLE	
RETURN					
WB	WB				
	MODE	ATW			
		MWB	R GAIN	0~32 ADJUSTABLE	
			B GAIN	0~32 ADJUSTABLE	
RETURN					
DAY NIGHT	DAY NIGHT				
	MODE	EXT			
		AUTO			
		COLOR			
	BW				
RETURN					
IMAGE_ENHANCE	IMAGE_ENHANCE				
	CONTRAST	AUTO			
		MANUAL	0~40 ADJUSTABLE		
	SHARPNESS	AUTO			
		MANUAL	0~16 ADJUSTABLE		
	COLOR GAIN	AUTO			
		MANUAL	0~30 ADJUSTABLE		
3DNR	AUTO				
	MANUAL	0~30 ADJUSTABLE			
RETURN					
VIDEO SETTING	VIDEO SETTING				
	VIDEO STANDARD	NTSC / PAL SELECTABLE			
	HD FORMAT	AHD / TVI / CVI / CVBS SELECTABLE			
	WDR	OPEN / CLOSE / EXT SELECTABLE			
	RETURN				
LANGUAGE	LANGUAGE	English, French, Spanish, German, Italian, Polish, Russian, Portugese, Netherlands, Turkish, Korea, Japan, Hebrew, Arabic, Chinese 1 & 2			
RESET					
SAVE EXIT					
EXIT					