

# HARDWARE INSTALLATION GUIDE

VDA100EHi – Standard D1 Dome Type IP Camera

VDA100SM3Ti – 3.0 Megapixel Dome Type IP Camera



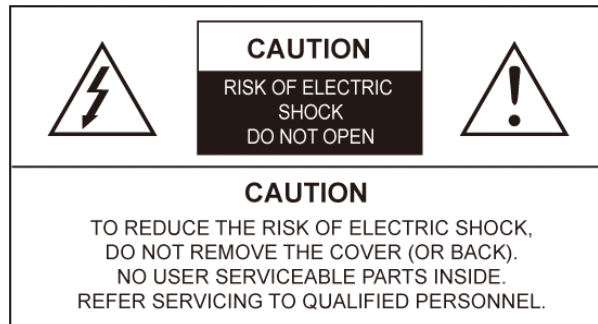
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**VISION** Vision Hitech Co., Ltd.

## PRECAUTIONS

By selecting this product, you have decided to use a professional device that guarantees highest quality and reliability. We would like to thank you very much for your confidence and kindly ask you to read the following instructions carefully before installation and operation in order to take full advantage of all quality features regarding this product.



The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of non-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### INFORMATION

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at its own expense.

### WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### CAUTION – To prevent electric shock and risk of the fire hazards

- Do NOT use power source other than that specified.
- Do NOT expose this appliance to rain or moisture.

### Trademarks

All names used in this manual for hardware and software are probably registered trademarks of respective companies.

**This installation should be made by a qualified service person and should conform to all local codes.**

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## 1. Precautions

- Please read the manual carefully before the installation in order to set up the camera correctly and to obtain the best picture quality.
- Please keep the manual in good condition for your future reference and service application.
- Installation and services should be only carried out by an authorized personnel according to local safety regulations.
- If any liquid or solid matter gets into the housing, immediately disconnect the camera from power supply and have it checked by your authorized dealer before reusing.
- Avoid installing the camera at extremely hot or cold places.
- If you are not a certified person, never try to dismantle the camera. To avoid electric shock, never remove the screws or covers. There are no parts inside that need maintenance by the user. All maintenance should be carried out by qualified personnel.
- Avoid installing the camera at a place of high humidity.
- Avoid installing the camera at the place exposed to gas or oil.
- Keep the top glass of the lens always clean in order to obtain the best picture quality all the time. Be careful not to be stained by fingerprint.
- Don't face the camera directly toward sunlight or sunlight reflecting area. CCD may go defective at this condition.
- Please give a special attention to keep the unit from dangerous drop or external shock during the process of transportation or handling.
- Never try to touch the camera in wet hand. It may cause an electric shock.
- Do not expose the camera to radioactivity. It causes a serious damage on the CCD.

## 2. Limitation of liability

This publication is provided "AS IS" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for any particular purpose, or non-infringement of the third party's right. This publication could include technical inaccuracies or typographical errors. Changes are added to the information herein, at any time, for the improvements of this publication and/or the corresponding product(s).

## 3. Disclaimer of warranty

In no event shall seller be liable to any party or any person, except for replacement or reasonable maintenance of the product, for the cases, including but not limited to below:

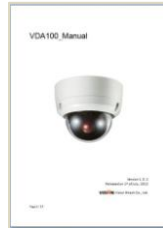
- (1) Any damage and loss, including without limitation, direct or indirect, special, consequential or exemplary, arising out of or relating to the product;

- (2) Personal injury or any damage caused by inappropriate use or negligent operation of the user;
- (3) Unauthorized disassemble, repair or modification of the product by the user;
- (4) Inconvenience or any loss arising when images are not displayed, due to any reason or cause including any failure or problem of the product;
- (5) Any problem, consequential inconvenience, or loss or damage, arising out of the system combined by the devices of third party.
- (6) Any claim or action for damages, brought by any person or organization being photogenic subject, due to violation of privacy with the result of that surveillance-camera's picture, including saved data, for some reason, becomes public or is used for the purpose other than surveillance.

## 4. Package Contents



IP Camera



Hardware Installation Guide



Extra Video output 1EA



Torx Wrench 1EA



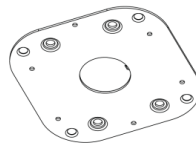
Sticker 1EA



Tapping Screws 3EA



Plastic anchor 3EA



Junction box plate 1EA



O-Ring 3EA



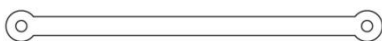
Machine Screw 4EA  
M4x12l



Machine Screw 3EA  
M4x5L



Machine Screw 2EA  
M2x3.5L



Safety wire 1EA



Power Adaptor (Option)



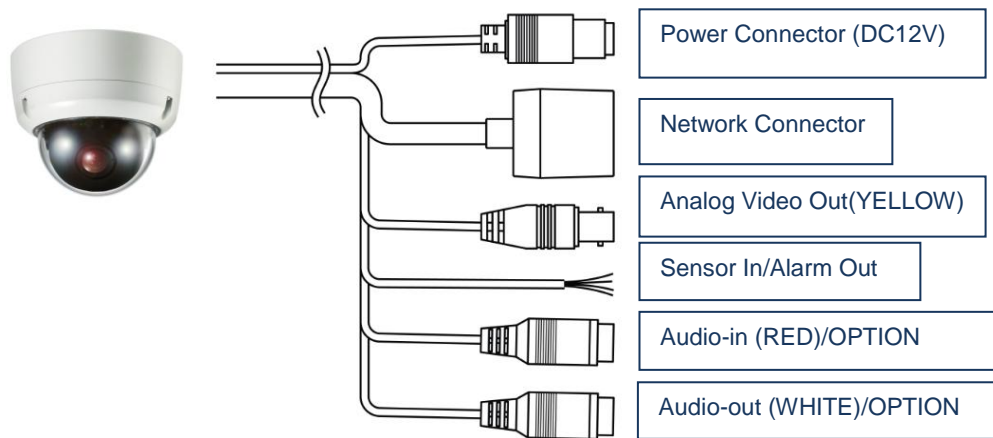
Crossover LAN  
Cable x 1



CD

- Hardware Installation Guide (PDF)
- IP Camera Manual (PDF)
- NVR Pro Manual
- NVR Lite (16Ch) Program
- IPScan Utility Program (IP Installer)

## 5. Cable Connection



This IP camera uses 12VDC for power source. Please make sure to use a UL/CE approved and 12VDC regulated power supply for input power.

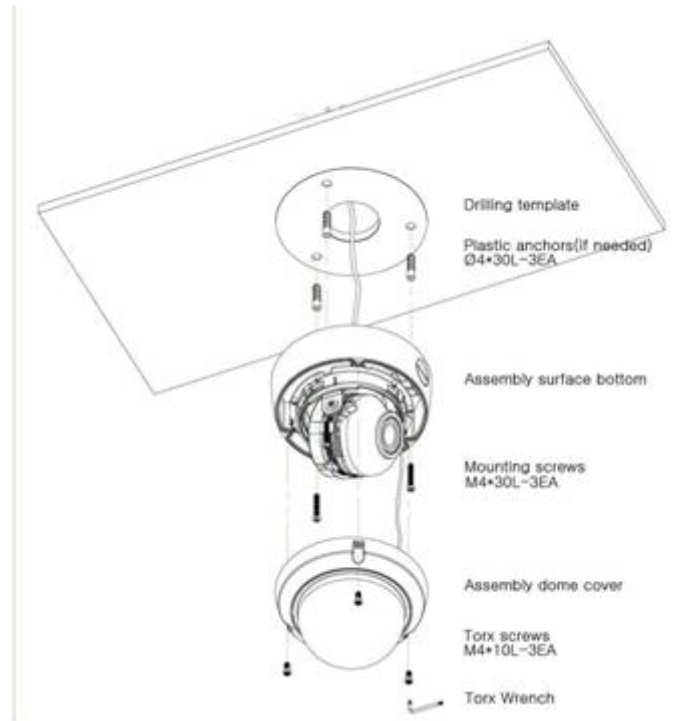
### • Sensor In/Alarm out Cable

COLOR	DESCRIPTION
Black	GND
RED	ALARM INPUT 1
YELLOW	ALARM OUT
WHITE	COM

## 6. Installation

### 6-1. Installation overview

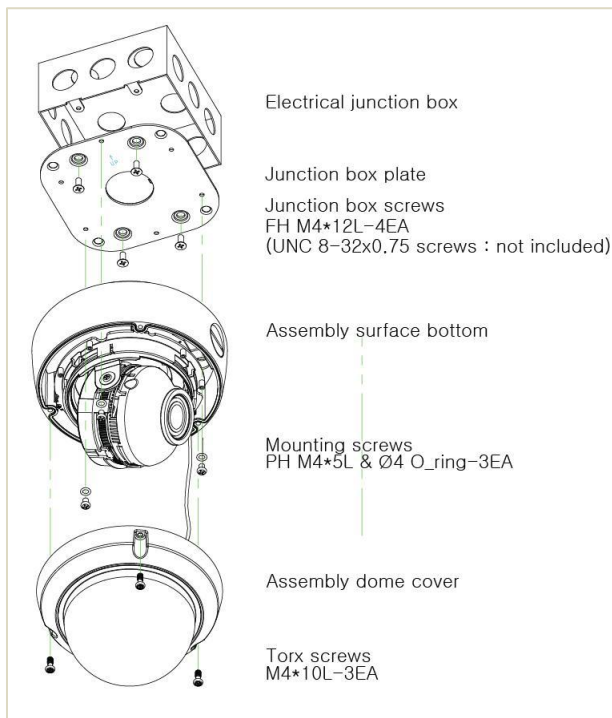
#### A. Surface Mount



- ① Paste a Drilling Template on the ceiling or wall and drill screw points which will be done for installation.
- ② Fix a Surface Mounting Base by using Tapping Screws with Ø4 provided.
- ③ Point a Camera 3D Gimbal to a desired direction and assemble a dome cover to the Surface Mounting Base with Torx Screws by using Torx Wrench provided.



## B. Junction Boxes



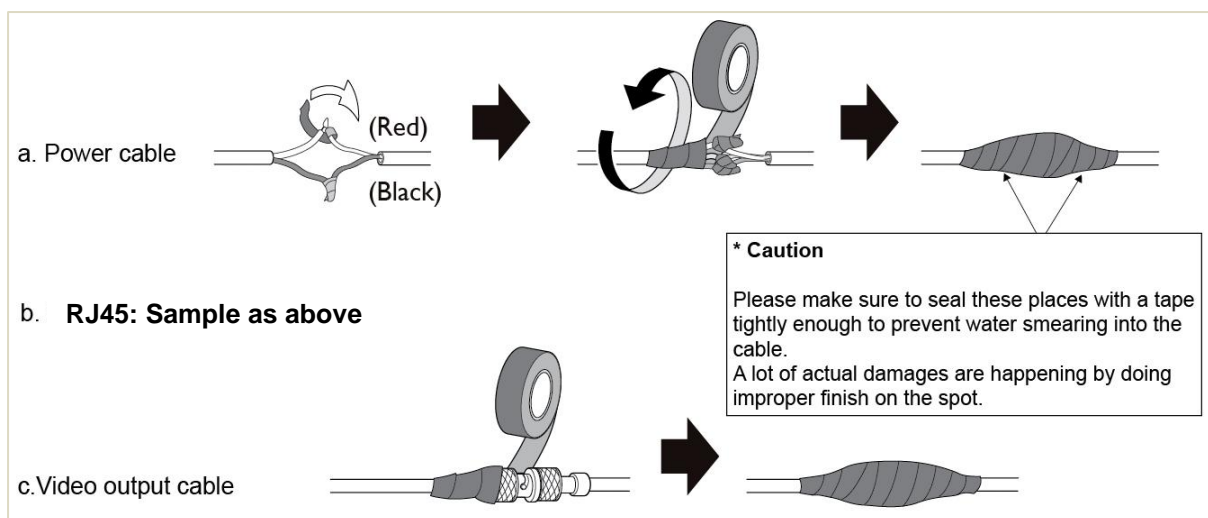
① Fix a Surface Mounting Base and Junction plate Gang Junction Box by using Fixed Screws with M4 provided.

② Assemble a dome cover to the Base with Torx screws.

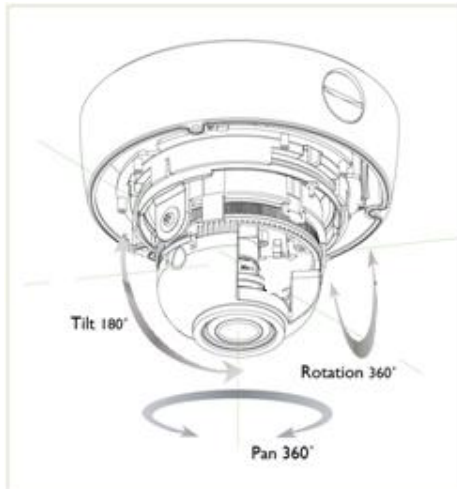
### 6-2. Waterproof processing of cable end connection

Make sure to use a butyl tape. (Do not use a sealing material on those parts)

- ① It is useful to connect the cable ends from camera to the extension cable for waterproof.
- ② Connect and tape the power cables (Power-Power/Ground-Ground).
- ③ Bind the power cables together with the tape.  
When DC-Jack is used, tape the DC-DC joint.
- ④ Connect and tape the RJ45 and Sensor cables
- ⑤ Tape the BNC-BNC joint.



### 6-3. Features



Tool-free 3-Axis mounting mechanism

Perfect Tri-axis!

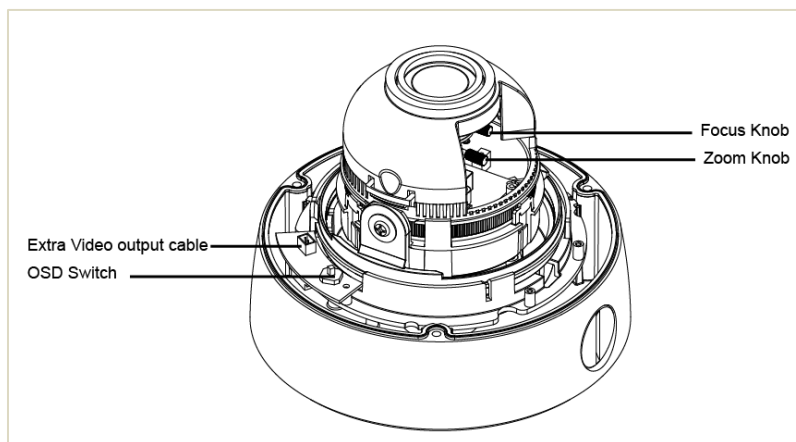
- Panning axis up to 360° degree
- Tilting axis up to 180° degree
- Rotation axis up to 360° degree

No need to use a tool for adjustment!

All adjustments are done quick and easy by hand!

#### NOTE

Angle adjustment from each of 3 different axis can be positioned to its maximum angle of view so that the camera gets the full central picture at any location.



· Focus knob (only VDA100EHi)

LEFT Control :  $\infty$

RIGHT Control : Near

· Zoom Knob (only VDA100EHi)

LEFT Control : Tele

RIGHT Control : Wide

· Extra video output

To enable an installer to check and adjust the camera set up via service monitor on the spot.

## ■ OSD Manual for functions control

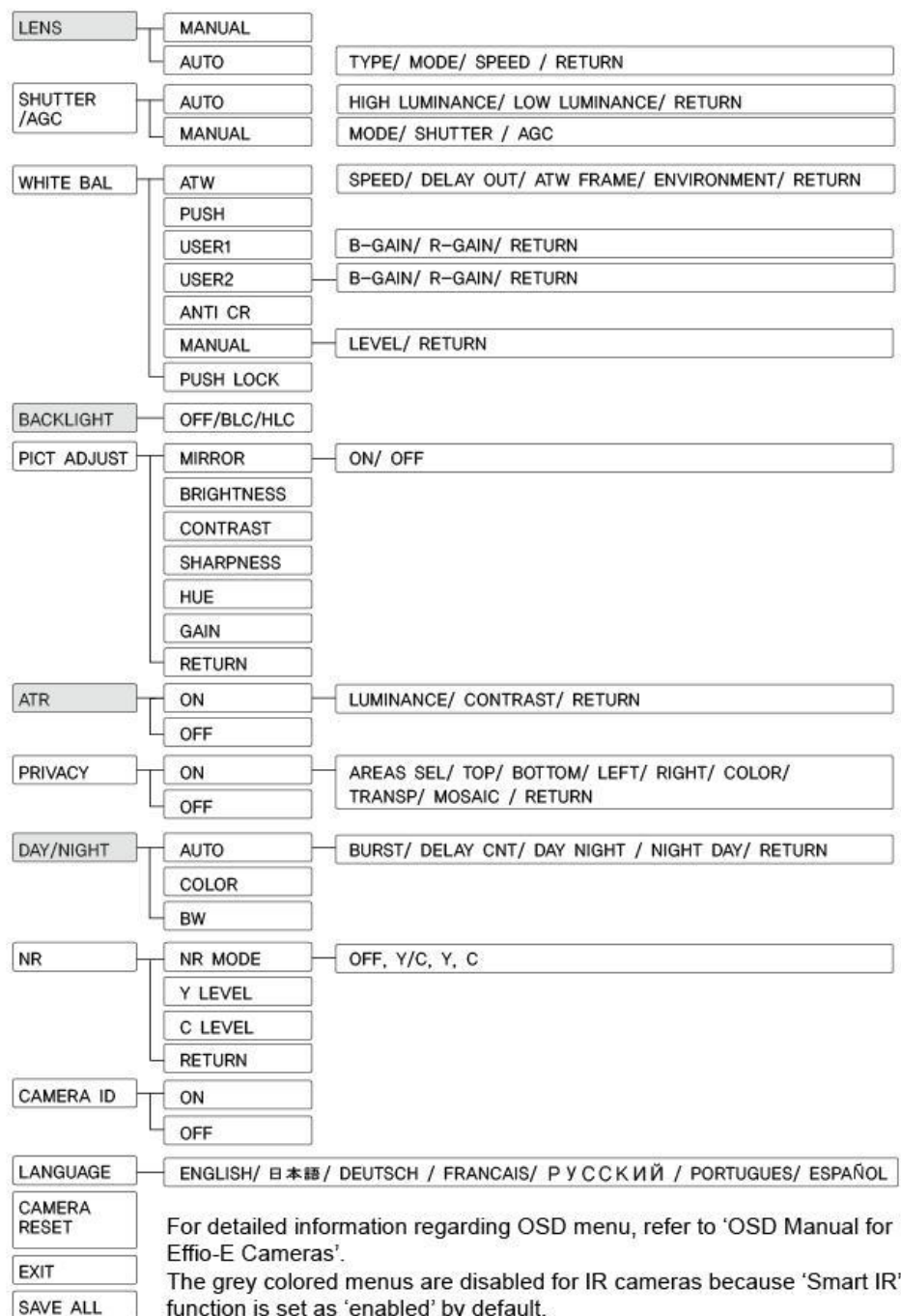
### - How to use tactile switch on the OSD control

Push – to enter the menu or to save settings.

Push up or down – select functions.or zoom control

Push left or right – to adjust levels or focus control

### -OSD MENU(VDA100EHi)



## 6-4. Video Monitor

Connect Video cable with BNC-male connector to the monitor

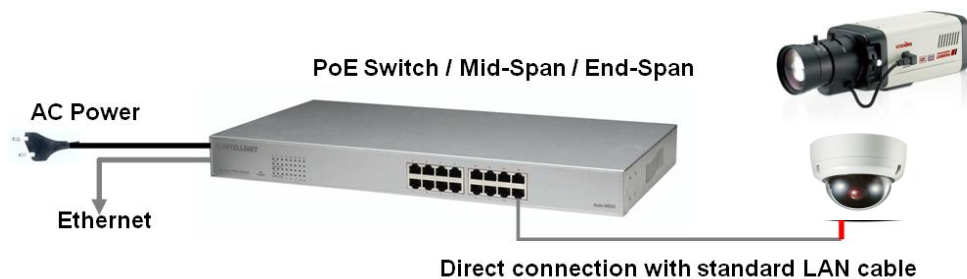


## 6-5. 12V DC Power

This IP camera uses 12VDC or IEEE802.3af PoE for power source. Please make sure to use a UL/CE approved and 12VDC/500mA regulated power supply or standard PoE injector, mid- or end-span for input power.

### PoE (Power over Ethernet) Support

Power over Ethernet, or PoE, technology describes a system to transmit electrical power, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. This technology is useful for powering IP telephones, wireless LAN access points, network cameras, remote network switches, embedded computers, and other appliances where it would be inconvenient and expensive. (Main wiring must be done by qualified and/or licensed person.)



The standard IEEE 802.3af describes two types of devices: Power Sourcing Equipment (PSE) and Powered Devices (PD). Power sourcing equipment provides power to the powered devices. The network camera represents the powered device, whereas a PoE Injector is a PSE device. The VISION Network Camera models are IEEE 802.3af standard PoE compliant. They can be used with any IEEE 802.3af-compliant PoE injector, PoE switch, PoE mid-span and PoE end-span.

### Various types of PoE equipments



Power over Ethernet (PoE) Injector

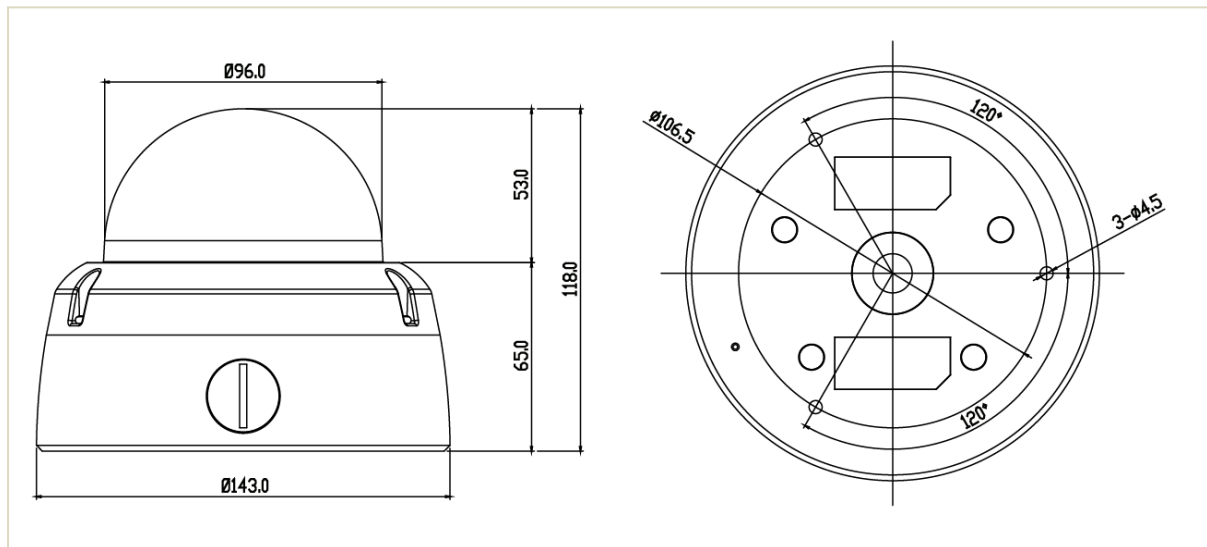


PoE Mid-span



PoE Office Switch

## 7. Dimension(mm)



## 8. Specification

### 8.1. VDA100EHi/ VDA100EHi-IR

Classification		VDA100EHi	VDA100EHi-IR
General	CPU	32-bit ARM9 RISC CPU up to 533MHz, 32KB I/D-Cache, MMU	
	Video Buffer	16Mbyte Video Frame Buffer	
	Flash	16 Mbyte Flash Memory	
	SDRAM	256Mbyte	
Image Pickup	Image sensor	1/3" Sony 960H Ex-view HAD CCD II	
	Effective Pixels	NTSC : 976(H) x 494(V), PAL : 976(H) x 582(V)	
	H. Resolution	650TV Lines(Color)/ 700TV Lines(B/W)	
	Synchronizing system	Internal	
	Scanning system	NTSC : 525 Lines PAL : 625 Lines 2:1 Interlaced	
	S/N Ratio	More than 52dB (AGC Off)	
	Min. Illumination	1 Lux with DSSX2 (F1.2, 30IRE, AGC On)	0Lux (IR On)
	Shutter Speed	NTSC:1/60~1/100,000 sec. PAL:1/50~1/100,000 sec.	
	Gamma Correction	Standard $\gamma = 0.45$	
	IR distance		30M
	Lens	2.8-12mm	
Video	Video compression	H.264 baseline profile, Motion JPEG	
	Resolutions	Up to D1(NTSC:720X480, PAL:720X576)	
	Frame rate	H.264 Up to 30fps at D1 MJPEG Up to 30fps at D1	
	Video streaming	Support multi stream with H.264, MJPEG	
		Adjustable frame rate	
		VBR/CBR in H.264	
	Pan/Tilt/Zoom	Digital PTZ	
	Image setting	Day & Night	
		Auto White Balance	
		Auto Exposure	

		Effect - Color, Sharpness, Mirror/V-Flip, etc.	
		BNC x1, 1.0Vp-p, 75 ohm Composite Video, NTSC/PAL	
		Privacy Mask	
		Effect - Color, Sharpness, Mirror/V-Flip, etc.	
	Output	BNC x1, 1.0Vp-p, 75 ohm Composite Video, NTSC/PAL	
Audio (Option)	Audio streaming	Two-way, full duplex	
	Audio compression	G.711	
	Sample Rate	8KHZ	
	Data Rate	64Kbps	
	Audio input	Microphone input /1 x Line-In (Mono) /Option	
	Audio output	Line output/ 1 x Line-Out (Mono)/ Option	
Network	Security	Password protection	
		User access log	
		HTTPS encryption	
	Supported protocol	HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DynDNS, NTP	
		RTSP, RTP, TCP, UDP, ICMP, DHCP	
System integration	Intelligent video	Motion detection up to 1280x720 with 32x24 blocks	
	Alarm trigger	Motion detection	
		External input/Normal Open/Close Type	
	Alarm events	File upload via ftp, e-mail	
		Notification via email, FTP and TCP	
	Video buffer	16MB pre-alarm and post-alarm	
	Recording	Save to Micro SD card with event mode and continuous mode	
	Firmware upgrade	Remote upgrade via network	
	API	CGI Interface document	
		ActiveX Interface(ocx(dll) + document)	
Physical	RESET Button	1 x Factory Reset Button	
	Power Source	DC 12V/1.5A, PoE(Power over Ethernet): 802.3af(Optional)	
	Power Consumption	Max. 5.5W	Max. 7.2W with IR On
	Net Weight	520g Appr.(Camera Only)	
	LED's	Power, Network Connection	
	Dimension	101mm(W) X 108.7mm(H) X 297mm(D) including Bracket	
Environment	Operating Temperature	-10 degree~50 degree Celsius	
	Storage Temperature	-10 degree~60 degree Celsius	
Software	Included Software	NVR Lite (16 Channel), IP Installer (Windows Only)	
Package	Package Contents	Network Camera, Use Manual, External Power Adaptor, Software CD	

## 8.2.VDA100SM3Ti/ VDA100SM3Ti-IR

Classification		VDA100SM3Ti	VDA100SM3Ti-IR
General	CPU	32-bit ARM9 RISC CPU up to 533MHz, 32KB I/D-Cache, MMU	
	Video Buffer	16Mbyte Video Frame Buffer	
	Flash	16 Mbyte Flash Memory	
	SDRAM	256Mbyte	
Image Pickup	Image sensor	3.0 Megapixel 1/2.8" SONY progressive scan CMOS image sensor	
	Total Pixels	2144(H) x 1588(V) 3.4 Megapixel	
	Effective Pixels	2096(H) x 1561(V) 3.27 Megapixel	
	S/N Ratio	More than 50dB	
	Min. Illumination	1 Lux with DSSX2 (F1.2, 30IRE, AGC On)	0Lux (IR On)
	IR Distance		30M
	Day & Night	ICR	
	Lens Control	Motorized Lens Control	
	Lens	3~10mm Vari-focal Auto Iris Megapixel Lens	
Video	Video compression	H.264 High profile, Motion JPEG	
	Resolutions	Up to 2048 x 1536	
	Frame rate	H.264 Up to 15fps with 2048x1536	
		MJPEG Up to 30fps with 1080p resolution	
	Video streaming	Support multi stream with H.264, MJPEG	
		Adjustable frame rate	
		VBR/CBR in H.264	
	Pan/Tilt/Zoom	Digital PTZ	
	Image setting	Day & Night	
		Auto White Balance	
		Auto Exposure	
		Privacy Mask	
		Effect - Color, Sharpness, Mirror/V-Flip, etc.	
	Output	BNC x1, 1.0Vp-p, 75 ohm Composite Video, NTSC/PAL	
Audio (Option)	Audio streaming	Two-way, full duplex	
	Audio compression	G.711	
	Sample Rate	8KHZ	
	Data Rate	64Kbps	
	Audio input	Microphone input /1 x Line-In (Mono)/ Option	
	Audio output	Line output/ 1 x Line-Out (Mono)/ Option	
Serial	Port1	RS-485	
	Data Rate	600bps~ 115200bps	
Network	Security	Password protection	
		User access log	
		HTTPS encryption	
	Supported protocol	HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DynDNS, NTP RTSP, RTP, TCP, UDP, ICMP, DHCP	
System integration	Intelligent video	Motion detection up to 2048x1536 with 32x24 blocks	
	Alarm trigger	Motion detection	
		External input/Normal Open/Close Type	
	Alarm events	File upload via ftp, e-mail	

		Notification via email, FTP and TCP
	Video buffer	16MB pre-alarm and post-alarm
	Firmware upgrade	Remote upgrade via network
	API	CGI Interface document
		ActiveX Interface(ocx(dll) + document)
Physical	Power Source	DC 12V/1.5A, PoE(Power over Ethernet): 802.3af
	Power Consumption	Max. 6.6W, Max. 11.4W with IR On
	Net Weight	1500g (Camera Only)
	LED's	Power, Network Connection
	Dimension	101mm(W) X 108.7mm(H) X 297mm(D) including Bracket
Environment	Operating Temperature	-10 degree~50 degree Celsius
	Storage Temperature	-10 degree~60 degree Celsius
Software	Included Software	NVR Lite (16 Channel), IP Installer (Windows only)
Package	Package Contents	Network Camera, Use Manual, External Power Adaptor, Software CD