



# **VVRD37V11HDAS Starlight**

*Please read this manual thoroughly before use and keep it handy for future reference.*



## Before You Begin

Read these instructions before installing or operating this product.

**Note:** This installation should be made by a qualified service person and should conform to local codes. This manual provides installation and operation information. To use this document, you must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components
- A basic knowledge of electrical wiring, low-voltage electrical connections and IP networking/infrastructure

## Intended use

Only use this product for its designated purpose; refer to the product specification and user documentation.

## Customer Support

For assistance in installing, operating, maintaining and troubleshooting this product refer to this document and any other documentation provided. If you still have questions, please contact Norbain Technical Support and Sales:

Norbain SD, 210 Wharfedale Road, Winnersh Triangle, Wokingham, Berkshire RG41 5TP, England.

UK +44 (0) 118 912 5000 / Vista Technical Support +44 (0) 118 912 5125

**Note:** You should be at the equipment and ready with details before calling Technical Support.

## Conventions Used in this Manual

**Boldface** or button icons highlight command entries. The following **WARNING**, **CAUTION** and **Note** statements identify potential hazards that can occur if the equipment is not handled properly:



**\* WARNING:**

Improper use of this equipment can cause severe bodily injury or equipment damage.



**\* CAUTION:**

Improper use of this equipment can cause equipment damage.

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**Note:** Notes contain important information about a product or procedure.



This apparatus is manufactured to comply with the radio interference.

A Declaration of Conformity in accordance with the following EU standards has been made. The manufacturer declares that the product supplied with this document is compliant the provisions of the EMC Directive 2004/108/EC, the CE Marking Directive 93/68 EEC and all associated amendments.

**RoHS**  
COMPLIANT

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive: 2011/65/EU, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.



The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste.

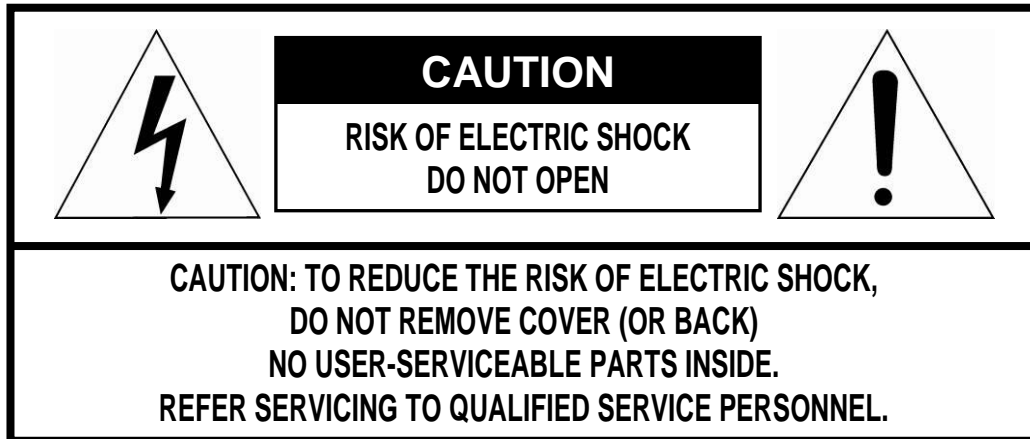
\* This symbol indicates electrical warnings and cautions.

\*\* This symbol indicates general warnings and cautions.

NORBAIN SD reserves the right to make changes to the product and specification of the product from time to time without prior notice.

## WARNINGS AND CAUTIONS:

To reduce the risk of fire or electric shock, do not insert any metallic objects through the ventilation grills or other openings on the equipment.



## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. **CAUTION – THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.**
14. *Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.*

## CE COMPLIANCE STATEMENT

### WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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# 1 — Introduction

## 1.1 Features

- 1/1.9" Sony CMOS sensor
- 1080p TVI, with separate CVBS output (700TVL)
- 3.7 – 11mm (F1.5 - 360) 3MP varifocal lens
- True day/night operation
- 0.00008Lux (Colour) / 0.000008Lux (Monochrome) @ F1.4 sensitivity
- Auto electronic shutter (1/25 to 1/30,000) and manual electronic shutter modes
- Day & Night – Auto, Colour, B&W (Monochrome)
- OSD - On Screen Display (via tact switch on flying lead)
- WDR 120dB
- AGC (Auto Gain Control)
- DNR (Digital Noise Reduction)
- Auto and manual white balance modes
- BLC (Back Light Compensation)
- HLC (High Light Compensation – Peak White Inversion)
- Flickerless
- Sens-Up
- Privacy zones: 16 block & 8 polygonal
- 4 motion detection zones
- Functions (Mirror, Brightness, Sharpness, Flip)
- 12/24V operation
- IP66 and IK10 (BS EN 62262)
- Use clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.

## 2 — Installation and Configuration

### 2.1 Package Contents

Installation of the camera must be performed by qualified service personnel in accordance with all local and national electrical and mechanical codes.

Carefully remove the colour camera and its accessories from the carton and verify that they were not damaged in shipment.

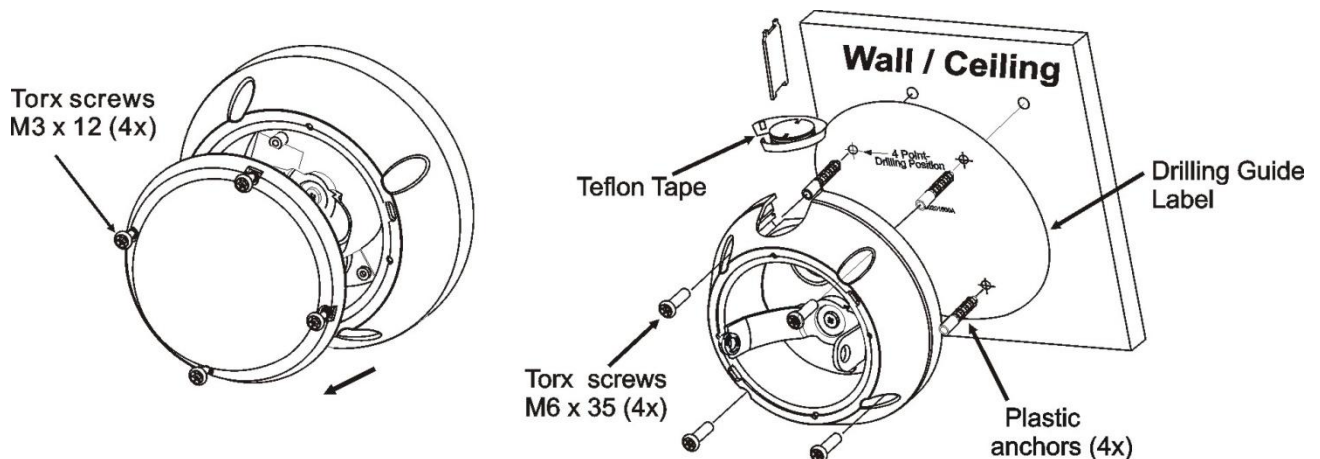
The content of the package includes:

1. Camera
2. Fixings
3. Instruction manual
4. Template sheet
5. DC Jack

### 2.2 Mounting the Camera

**CAUTION: When installing the camera outdoors, the following instructions must be followed closely.**

1. Loosen the four Torx screws on the housing cover. These are captive so there is no need to remove completely.
2. Use the mounting template as a drilling guide to ensure correct positioning of the screws.
3. Drill 4 holes into the mounting template. Insert the screw raw plugs (anchors) and attach the housing using the 4 x M6 Torx screws.

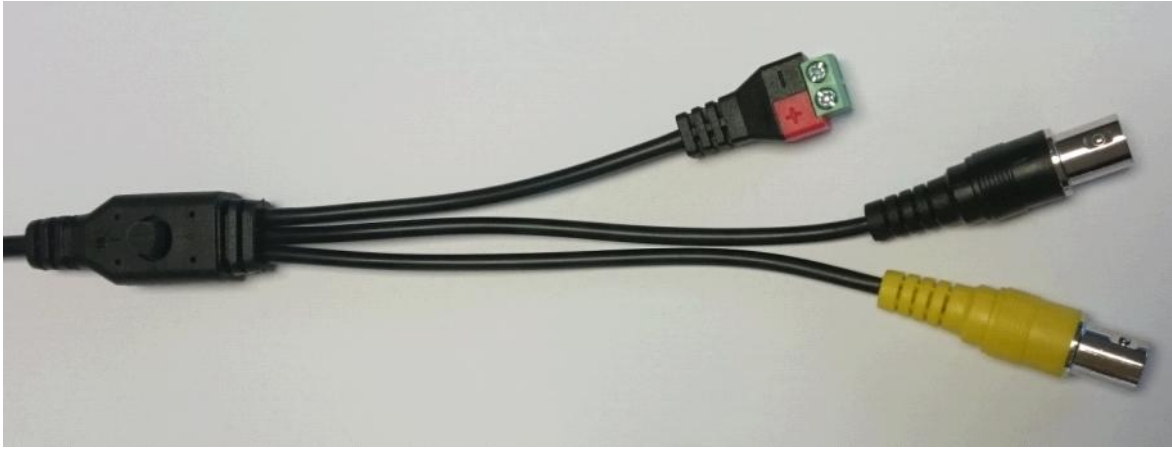


#### NOTES:

- If the 2.1mm jack adaptor is not used then please ensure the correct polarity is observed when 12VDC is being used. The terminals are colour coded to assist: Red = 12VDC / Black = 0V
- If the camera is being installed externally, please ensure the side 3/4" NPT thread is sealed with Teflon tape or suitable sealant.

## 2.3 Tact Switch Operation & Connections

The tact switch provides access to the OSD menu and zoom In/Out function on the motorized lens. Push centrally on the joystick and navigate using the up, down, left and right actions. If there is an arrow to the right of the menu function, this denotes that there is an accessible sub menu function

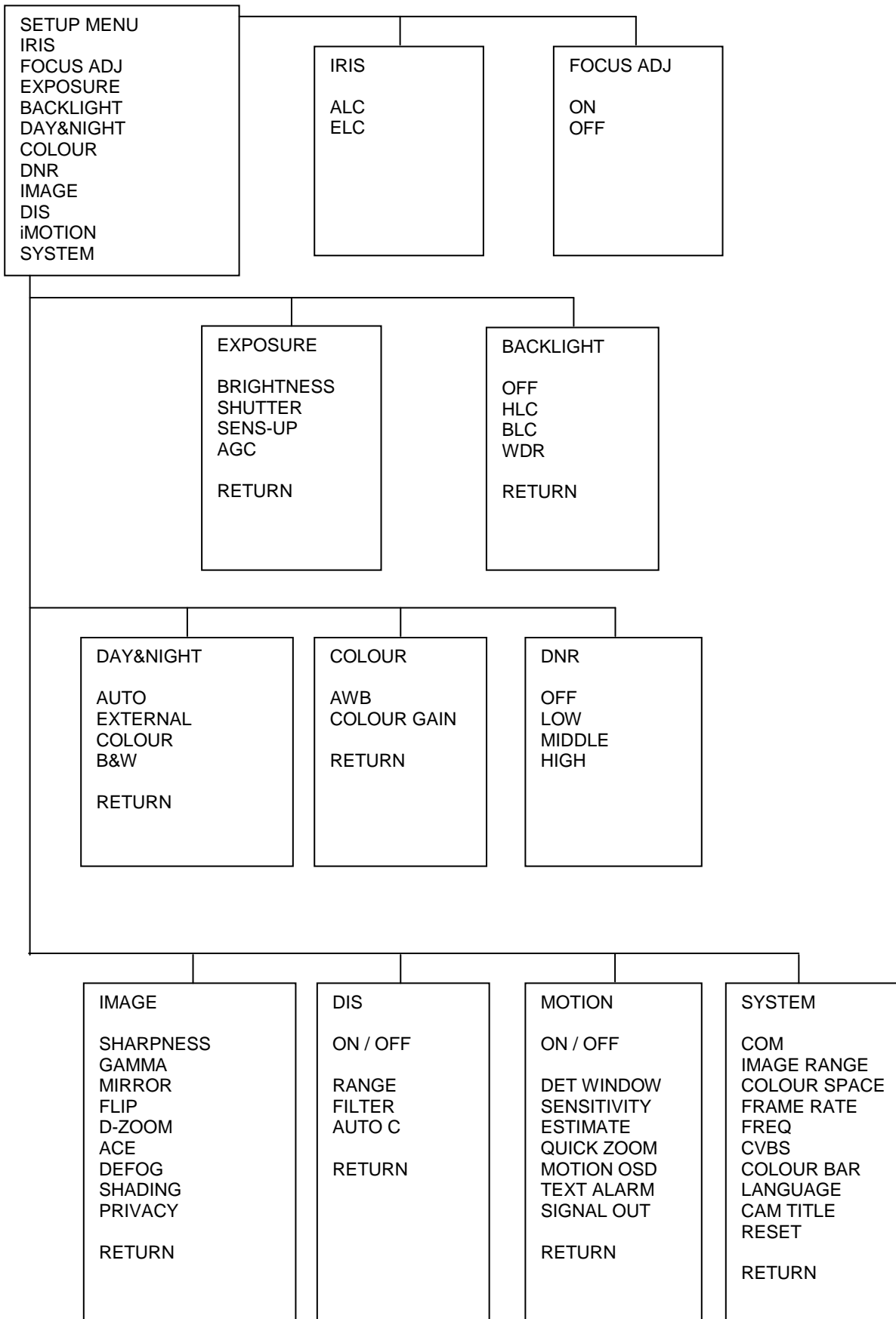


Black BNC: CVBS

Yellow BNC: TVI



## 2.4 OSD Menu Structure



## 3 — OSD Menu

### 3.1 Iris

ALC (Auto Light Control): Lens control the iris

ELC (Electronic Light Control): The camera controls the light, regardless of the iris

### 3.2 Focus adjust

The Focus Adjust mode can be switch ON or OFF.

When on a Histogram of 3 bars is displayed over the image

Adjusting the focus will cause the bars to move up or down.

Best focus is achieved when the bars reach their highest point.

### 3.3 Exposure

BRIGHTNESS: 0 – 20

SHUTTER:

Auto: Normal / Deblur

Manual:

Speed: 1/25, 1/50, 1/100, 1/250, 1/700, 1/1000, 1/1600, 1/2500, 1/5000, 1/7000, 1/10000  
1/30000

SENS-UP: Off, x2, x4, x8, x16, x32

AGC: 0 to 20

### 3.4 Backlight

Off, HLC, BLC, WDR

HLC (Peak White Inversion)

Level: 0 – 20 (the lower the number the more compensation applied)

Colour: Black, White, Yellow, Cyan, Green, Magenta, Red, Blue

BLC (Back Light Compensation)

H-Poz: 0 – 20

V-Poz: 0 – 20

H-Size: 0 – 20

V-Size: 0 – 20

(Change the location and size of the area that BLC is applied to on the image)

WDR (Wide Dynamic Range Peak White Inversion)

Weight: Low, Middle, High

### 3.5 Day&Night

AUTO, COLOUR, B&W, EXTERNAL

AUTO:

IR LED: Off, On (leave off as no IR on this model)

Anti-sat: Ignore as related to IR LED

AGC Thres: 0 – 20

AGC Margin: 0 – 20

Delay: Low, Middle, High

COLOUR: Permanent colour mode

B&W: Permanent monochrome mode

EXTERNAL: DO NOT USE THIS MODE AS CAMERA WILL NOT SWITCH

### 3.6 Colour

AWB: AUTO, AUTOext, PRESET, MANUAL

AUTO:

Colour Gain: 0 – 20

AUTOext:

Colour Gain: 0 – 20

PRESET: Push tact switch to stop and use Colour gain to adjust

Colour gain: 0 – 20

MANUAL:

C-Temp: 3000K, 5000K, 8000K

R-Gain: 0 – 20

B-Gain: 0 – 20

Colour Gain: 0 – 20

### 3.7 DNR

LOW, MIDDLE, HIGH

### 3.8 Image

SHARPNESS: 0 – 20

GAMMA: 0.45, 0.55, 0.65, 0.75

MIRROR: Off / On

FLIP: Off / On

D-ZOOM: 1.0x – 16.0 (in 0.1 increments)

ACE: Off, Low, Middle, High

DEFOG: Off / On

SHADING: 0 – 100% (enhances areas with shadows)

PRIVACY (Box & Polygon):

BOX:

Zone num: 0 – 15  
Zone disp: On / Off  
H-Pos: 0 – 60  
V-Pos: 0 – 34  
H-Size: 0 – 60  
V-Size: 0 – 34  
Y Level: 0 – 20  
CB Level: 0 – 20  
CR Level: 0 – 20  
Trans: 0 - 3

POLYGON:

Zone num: 0 – 7  
Zone disp: On / Off  
Pos0-X: 0 - 120  
Pos0-Y: 0 - 68  
Pos1-X: 0 - 120  
Pos1-Y: 0 - 68  
Pos2-X: 0 - 120  
Pos2-Y: 0 - 68  
Pos3-X: 0 - 120  
Pos3-Y: 0 - 68  
Y Level: 0 – 20  
CB Level: 0 – 20  
CR Level: 0 – 20  
Trans: 0 - 3

### **3.9 DIS (Digital Image Stabilisation)**

RANGE:

10, 20, 30%

FILTER

Low, Middle, High

AUTO

Half, Full

### **3.10 iMotion**

DET WINDOW:

Window Use: 0 – 3

Window Zone: On / Off

Det H-Pos: 0 – 60

Det V-Pos: 0 – 34

Det H-Size: 0 – 60

Det V-Size: 0 – 34

SENSITIVITY: 0 – 10

ESTIMATE: Off, On

QUICK ZOOM: Off, On

MOTION OSD: Off, On

TEXT ALARM: Off, On

SIGNAL OUT: Off, On (has no use as there is no output)

### **3.11 System**

COM:

CAM ID: 0 – 255

BAUDRATE: 2400, 4800, 9600, 57600, 115200

IMAGE RANGE:

FULL

COMP

USER:

Offset: 0 – 32

COLOUR SPACE: HD-CbCr, YUV, SD-CbCr

FRAME RATE: 1080\_25p (DO NOT CHANGE FROM THIS)

FREQ: 50Hz, 60Hz

CVBS: On / Off (NO EFFECT)

COLOUR BAR: Off, On

LANGUAGE: English, Chinese, Chinese (S), Japanese, Korean

CAM TITLE: On / Off (8 alpha-numeric characters)

RESET: Push to default the camera

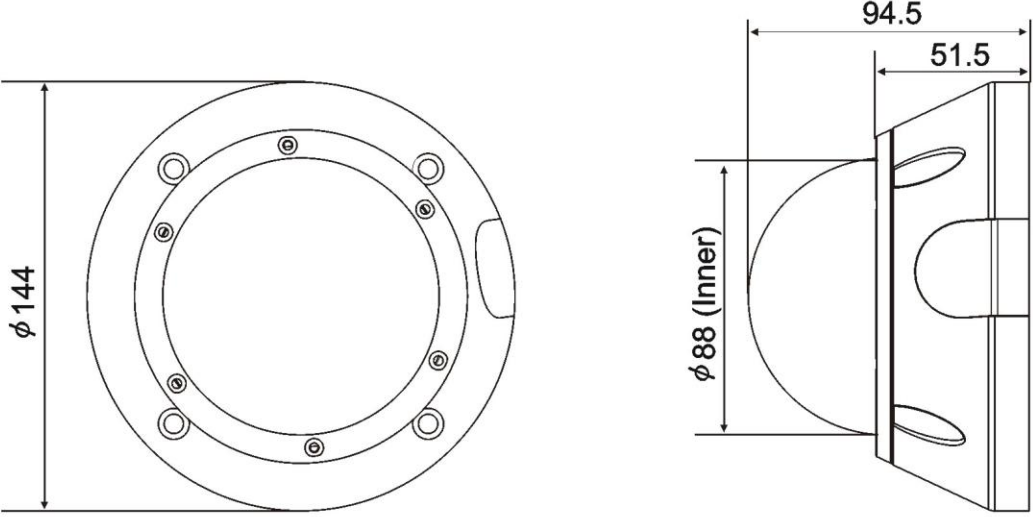
# Chapter 4 — Specifications

## 4.1 Technical Specification

Model		VVRD37V11HDAS
General	Resolution	1080p (TVI) / 700TVL (CVBS)
	Image sensor	1/1.9" Sony CMOS
	DSP	Eyenix
	Operation	True Day Night
	Effective pixels	1944 (H) x 1092 (V)
	Scanning Freq.	PAL: 15.625KHz(H) x 50Hz(V)
	Sync. system	Internal
	Video output	1.0Vp-p (75Ω, composite)
	S/N Ratio	60dB (AGC off)
	Lens	3.7-11mm manual varifocal lens F1.5
	Min. illumination	0.00008lux (col), 0.00008lux (mono) @ F1.4
	IR illumination	n/a
	OSD Control	Tactile switch on flying lead or compatible DVR
	Electronic Shutter	Auto or Manual (1/25 to 1/30,000 sec)
	WDR	Low, Middle, High
	BLC	1 x adjustable area
	HLC (PWI)	Level 1- 20 / 8 colours
	Day & Night	Auto, Colour, B&W
	White Bal.	Auto, Autoext, Push, Manual
	Motion Det.	4 areas
	Privacy	16 standard / 8 polygonal
	AGC	Off, On
	DNR	Low, Middle, High
	Mirror	Off, On
	Brightness	0 - 20
	Sharpness	0 - 20
	Flip	Off, On
Title	Off, On (8 characters)	
Language	EN	
Connections/other	Power	12VDC (-10 to +15%) / 24VAC (+/-10%)
	Consumption	2.5W, 210mA @ 12VDC 3.8W, 160mA @ 24VAC
	Power input	2-pin terminal block with 2.1mm jack adapter
	Video outputs	2 x BNC connector (TVI & CVBS)
	Temperatures	-10 to 50°C (operating) / -20 to 50°C (storage)
	Environmental	IP66 & IK10 (BS EN 62262)
	Humidity	0 to 90% (non-condensing)
	Dims. (net)	144 (Φ) x 94.5 (H) mm
	Dims. (gross)	155 (H) x 170 (W) x 170 (D) mm
	Weight	650g (net) / 910 (gross)
	Approvals	CE & RoHS2: 2011/65/EU

\* Specifications are subject to change without notice \*

## 4.2 Line Drawing / Dimensions

<p><b>Dimensions</b></p>  <p style="text-align: right;">Unit: mm</p>	
<p><b>Maximum Camera and Lens Size</b></p>	<p>2.6L x 1.65W x 1.65H in. (6.5L x 4.2W x 4.2H cm)</p>
<p><b>Window Size</b></p>	<p>0.1 in. (2.5mm thick), impact-resistant P.C (LEXAN) 3.46 in. (8.8cm) diameter</p>
<p><b>Cable Entry</b></p>	<p>Two 3/4" conduit fitting for NPT threaded pipe</p>







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(Subject to change without notice)

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