CAM068 - Traditional Camera With WDR & RS485

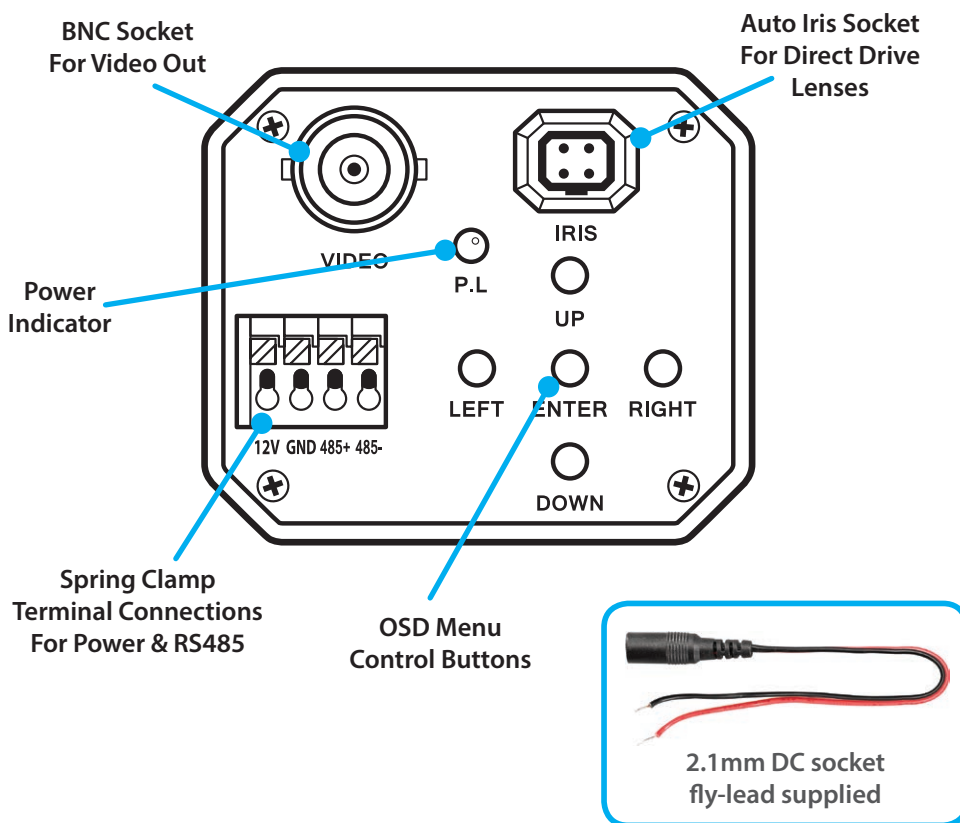**Order code: CAM068** Lens not included as standard.
Order code: CAM068L includes 2.8-12mm lens

700TVL Camera With WDR & RS485 OSD Control

Traditional Colour Camera with WDR and RS485 allowing you to control the camera's OSD with a keyboard or DVR! It also has noise reduction to improve quality captured images, digital zoom, privacy masking and motion detection.

Connecting The Camera

All of the CAM068's connections an controls are found on the rear of the camera. You will find a BNC socket for connecting the video, an auto iris socket for the connection of DC and video direct drive lenses, spring clamp terminals for power and RS485 connections, a power indicator LED and OSD menu control buttons.

BNC Socket For Video Out

Auto Iris Socket For Direct Drive Lenses

Power Indicator

IRIS
UP
LEFT   ENTER   RIGHT
DOWN

VIDEO
P.L
12V GND 485+ 485-

Spring Clamp Terminal Connections For Power & RS485

OSD Menu Control Buttons

2.1mm DC socket fly-lead supplied

Features

- 700 TVL
- 2.8-12mm Lens Option Available
- 0.001 Lux
- Wide Dynamic Range
- RS485 OSD Control
- Motion Detection & Privacy Masking
- 12V DC

Specification

FUNCTION	SPECIFICATION
CCD	1/3" Sony Super HAD II
Resolution	700TVL - 976 (H) x 582 (V)
Lens	CS Mount
Min Illumination	0.001Lux
Video Output	1v p ~ p, 75Ω
Video Connection	BNC
Power/Current	12vDC (± 10%) 150mA
Power Connection	Terminal Connections
Auto Shutter	PAL: 1/50s ~ 1/100,000s
S/N Ratio	More than 52dB
Use	Internal Only
Operating Temp.	-10°C ~ +50°C
Dimensions	110 x 55 x 45mm
Weight	400g

Options Available

PART CODE	DESCRIPTION
CAM068	Without Lens
CAM068L	Supplied With 2.8-12mm Lens

Other Products To Consider

700TVL Traditional True Day Night NiteDevil Camera With 2.8-12mm Lens Up The Co-ax Control & WDR
CAM241L

1080p Traditional True Day Night NiteDevil HD-SDI Camera With 2.8-12mm Lens & WDR
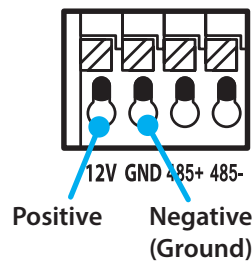**CAM341L**

All specifications are approximate. System Q Ltd reserves the right to change any product specifications or features without notice. Whilst every effort is made to ensure that these instructions are complete and accurate, System Q Ltd cannot be held responsible in any way for any losses, no matter how they arise, from errors or omissions in these instructions, or the performance or non-performance of the equipment that these instructions refer to.

CAM068 - Traditional Camera With WDR & RS485

Powering The Camera

The CAM068 requires a regulated 12V DC power supply providing a minimum of 150mA. You should always allow additional headroom to account for any extra loads such as auto iris lenses, heater kits or IR LEDs. As a rule of thumb you should add 30% on top of the minimum current consumption of the camera. Taking this into account **we recommend a regulated 12V DC PSU providing no less than 200mA**.

12V GND 485+ 485-

Positive

Negative (Ground)

The terminal connections of the CAM068 are **polarity sensitive** so take time to ensure that your positive and negative connections are correct. Incorrectly connecting the power may damage the camera.

The CAM068 is supplied with a fly-lead which enables you to use a plug in PSU. One end has a moulded 2.1mm DC socket and the other has tinned positive and negative wires for connecting to the terminal block on the rear of the camera.

Fitting Auto Iris Lenses

Auto Iris type lenses require the 4-pin connector to be attached to the camera. In most instances your lens will be pre-wired with this plug, but if needed on-line **Tip 322** which includes a full wiring diagram can be found at **www.nitedevil.com**.
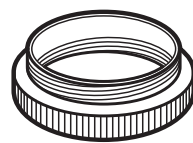
IRIS

C Or CS Mount Lenses

Most lenses are available in 2 different mounting options, C mount and CS mount.

CS mount lenses are now the most popular size as they are shorter and more compact than C mount lenses. Most cameras are now manufactured to accept CS mount lenses. Before fitting the lens you need to verify that you are using a CS mount lens with the camera. You can confirm this with your lens supplier or the literature that came with your lens, check the instructions or packaging to see if your lens is a C or a CS mount version.

If your lens is a C mount type you can still fit it to the camera with a C to CS mount adapter ring. Please see the on-line **Tip 323** at **www.nitedevil.com**.
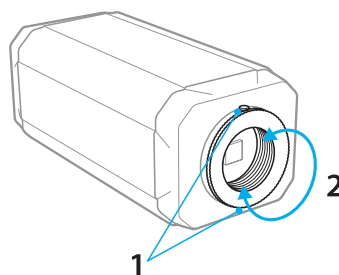
C-mount to CS-mount adapter ring

Adjusting The Inner Focus Ring

Once you have fitted the lens, if you have a picture on the monitor but cannot correctly focus the lens by the fine focal adjust on the lens itself, you may need to alter the inner adjusting ring that is screwed into the end of the camera. This ring enables the lens to either "sit" a little closer or a little further away from the camera to get a sharp focused image when using lenses from different manufacturers.

To adjust the inner focus ring you will need to first remove the lens. Next loosen the 2 small cross-head screws which in turn loosens the inner focus ring as shown.

2

1

Features

- **700 TVL**
- **2.8-12mm Lens Option Available**
- **0.001 Lux**
- **Wide Dynamic Range**
- **RS485 OSD Control**
- **Motion Detection & Privacy Masking**
- **12V DC**

Specification

FUNCTION	SPECIFICATION
CCD	1/3" Sony Super HAD II
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Lens	CS Mount
Min Illumination	0.001Lux
Video Output	1v p ~ p, 75Ω
Video Connection	BNC
Power/Current	12vDC (± 10%) 150mA
Power Connection	Terminal Connections
Auto Shutter	PAL: 1/50s ~ 1/100,000s
S/N Ratio	More than 52dB
Use	Internal Only
Operating Temp.	-10°C ~ +50°C
Dimensions	110 x 55 x 45mm
Weight	400g

Options Available

PART CODE	DESCRIPTION
CAM068	Without Lens
CAM068L	Supplied With 2.8-12mm Lens

Other Products To Consider

700TVL Traditional True Day Night NiteDevil Camera With 2.8-12mm Lens Up The Co-ax Control & WDR
CAM241L

1080p Traditional True Day Night NiteDevil HD-SDI Camera With 2.8-12mm Lens & WDR
CAM341L

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WEE/CG0783SS

This symbol on the products and/or accompanying documents means that used electronic equipment must not be mixed with general household waste. For treatment, recovery and recycling please return this unit to your trade supplier or local designated collection point as defined by your local council.
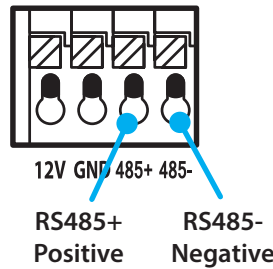
CAM068 - Traditional Camera With WDR & RS485

This is a trial and error process by moving the ring in or out say by ½ turn then locking it again, re-attaching the lens and trying to refocus. It is possible (with common sense!) to work out whether the lens needs to be nearer or further away from the camera by watching for improvements in focus at each attempt.

NOTE If it appears that the lens will never be in focus then it is possible that you are trying to fit a C-mount lens on the camera, not a CS-mount lens. If this is the case you will have to add a C to CS mount adapter ring.

Connecting RS485 Data Cables

The CAM068 has two spring clamp terminals for connecting RS485 data cables. An RS485 connection allows you to access and configure the camera's OSD menu using a keyboard, DVR or test monitor.

As with the terminals for connecting the power, the terminals for connecting the RS485 data are polarity sensitive. The RS485 data cables must be connected correctly to enable RS485 control.

12V GND 485+ 485-

RS485+ Positive **RS485- Negative**

Accessing The Camera's Menu

You can access the CAM068's OSD menu in two ways. The first method is using the menu control buttons on the rear of the camera. The second method is via RS485 using a keyboard, DVR or test monitor.

To access the OSD using the menu control buttons simply press the 'ENTER' button down and the menu will pop up on the camera's image. Use the arrow keys to navigate through the menus and make selections by pressing the 'ENTER' button.

The CAM068 also has traditional RS485 Pelco-D control. The OSD menus can be accessed by pressing the 'IRIS OPEN' button.

Menu Page 1

MENU ITEM	OPTIONS		
LENS	AUTO / MANUAL		
	AUTO:	1. TYPE: DC / VIDEO 2. MODE: AUTO / OPEN / CLOSE	3. SPEED: 000~255
SHUTTER/AGC	AUTO / MANUAL		
	AUTO:	HIGH LUMINANCE 1. MODE: SHUT+AUTO IRIS / AUTO IRIS	2. BRIGHTNESS: 000~255
		LOW LUMINANCE 1. MODE: AGC / SLOW / AGC➜SLOW / SLOW➜AGC / AGC➜SLOW➜AGC / OFF	2. BRIGHTNESS: X0.25~X1.00
	MANUAL:	1. MODE: SHUT / SLOW / WDR+SHUT SHUT: SHUT & WDR+SHUT 1/53 (S) / 1/120 (S) / 1/250 (S) / 1/500 (S) / 1/1000 (S) / 1/2000 (S) / 1/4000 (S) / 1/100000 (S) SLOW 2 (FLD) / 4 (FLD) / 8 (FLD) / 16 (FLD) / 32 (FLD) / 64 (FLD) / 126 (FLD) / 256 (FLD)	2. AGC: 6 (DB) / 12 (DB) / 18 (DB) / 24 (DB) / 30 (DB) / 36 (DB) / 42 (DB) / 44.8 (DB)

Menu Page 1 Continued On Next Page ▶▶▶

Features

- 700 TVL
- 2.8-12mm Lens Option Available
- 0.001 Lux
- Wide Dynamic Range
- RS485 OSD Control
- Motion Detection & Privacy Masking
- 12V DC

Specification

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Lens	CS Mount
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Video Output	1v p ~ p, 75Ω
Video Connection	BNC
Power/Current	12vDC (± 10%) 150mA
Power Connection	Terminal Connections
Auto Shutter	PAL: 1/50s ~ 1/100,000s
S/N Ratio	More than 52dB
Use	Internal Only
Operating Temp.	-10°C ~ +50°C
Dimensions	110 x 55 x 45mm
Weight	400g

Options Available

PART CODE	DESCRIPTION
CAM068	Without Lens
CAM068L	Supplied With 2.8-12mm Lens

Other Products To Consider

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CAM241L

1080p Traditional True Day Night NiteDevil HD-SDI Camera With 2.8-12mm Lens & WDR
CAM341L

CAM068 - Traditional Camera With WDR & RS485

MENU ITEM	OPTIONS		
PIC ADJUST	1. MIRROR: V-FLIP / H-FLIP / HV-FLIP / OFF 2. CONTRAST: 000~063		3. SHARPNESS: 000~015 4: DEFOG: OFF / LOW / MID / HIGH
WHITE BAL	ATW / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK		
	ATW:	1. SPEED: 000~255 2. DISPLAY CNT: 000~255	3. ATW FRAME: X0.5~X2 4. ENVIRONMENT: INDOOR / OUTDOOR
	USER1:	1. B-GAIN: 000~255	2. R-GAIN: 000~255
	USER2:	1. B-GAIN: 000~255	2. R-GAIN: 000~255
	MANUAL:	1. LEVEL UP: PUSH ENTER 2. LEVEL DOWN: PUSH ENTER	3. PRESET
WDR	1. MODE: FULL / NORMAL / LIGHT		2. CONTRAST: LOW / MID LOW / MID / MID HIGH / HIGH
NR	1. LEVEL: LOW / MID LOW / MID / MID HIGH / HIGH / OFF		
NEXT	DISPLAY MENU PAGE 2		
SAVE ALL	SAVE ALL CURRENT SETTINGS		
EXIT	EXIT MENU		

Menu Page 2

MENU ITEM	OPTIONS		
HLC / BLC	1. HLC: OFF / ON / AUTO 2. CLIP LEVEL: 000~255		3. SCALE: 000~015 4. BLC: ON / OFF (WDR MUST BE SET TO NORMAL)
DAY / NIGHT	AUTO / COLOUR		

	AUTO:	1. BURST: OFF / ON
		2. DELAY CNT: 000~255
		3. DAY➜NIGHT: 000~255
		4. NIGHT➜DAY: 000~255
		5. IR OPT: OFF / ON (WDR MUST BE SET TO NORMAL)
		   ON: 1. MODE: AUTO / CENTER
		        CENTER: TOP: 00~15
		                BOTTOM: 00~15
		                LEFT: 00~23
		                RIGHT: 00~23
		        2. LEVEL: 000~031
		        3. WDR: ON / OFF
			6. EXTON: OFF / ON
			   ON: POLARITY: ACTIVE HIGH / ACTIVE LOW

EZOOM	1. MAG: 000~255 2. PAN: 000~1023		3. TILT: 000~512
DIS	OFF / ON		
PRIVACY MASKING	1. AREA SEL: 1/15~15/15 2. MODE: OFF/ ON 3. POSITION: PRESS ENTER TO BEGIN SETUP, USE ARROW KEYS TO SET CORNER POSITION, PRESS ENTER SELECT NEXT CORNER, PRESS ENETER 4X TO EXIT.		4. COLOUR: WHITE / BLACK / RED / GREEN / BLUE / YELLOW / CYAN / MAGENTA 5. TRANSP: 0.00~1.00 6. MOSAIC: ON / OFF (TRANSP MUST BE SET TO 0.00)
MOTION DET	ON / OFF		

	ON:	1. DETECT SENSE: 000~127
		2. BLOCK DISP: ON / OFF
		3. DETECT AREA: PRESS ENTER TO BEGIN SETUP, USE ARROW KEYS TO HIGHLIGHT AREA, PRESS ENTER TO SELECT/DESELECT AREA, PRESS AND HOLD ENTER FOR 3 SECONDS TO EXIT.
			4. MOTION AREA:
			  AREA SEL: 1/4~4/4
			  MODE: ON / OFF
			  TOP: 000~015
			  BOTTOM: 000~015
			  LEFT: 000~023
			  RIGHT: 000~023

Features

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- 0.001 Lux
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Power Connection	Terminal Connections
Auto Shutter	PAL: 1/50s ~ 1/100,000s
S/N Ratio	More than 52dB
Use	Internal Only
Operating Temp.	-10°C ~ +50°C
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Weight	400g

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CAM341L

MENU ITEM	OPTIONS
BACK	DISPLAY MENU PAGE 1
NEXT	DISPLAY MENU PAGE 3
SAVE ALL	SAVE ALL CURRENT SETTINGS
EXIT	EXIT MENU

Menu Page 3

MENU ITEM	OPTIONS	
SYNC	INT	
CAMERA ID	ON / OFF	
	ON:	SET CAMERA ID, DIRECTION KEYS TO HIGHLIGHT CHARACTER OR OPTION, PRESS ENTER TO SELECT CHARACTER OR OPTION.
LANGUAGE	ENGLISH / JAPANESE / SPANISH / RUSSIAN / GERMAN / FRENCH / PORTUGUESE / CHINESE	
CAMERA RESET	RESTORE DEFAULT SETTINGS	
SBC ADJ	COV	
COMMUNICATION	1. PROTOCOL: PELCO-D 2. ADDRESS: 000~255 3. BAUDRATE: 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200	4. DATA BIT: 8 5. PARITY: OFF / ODD / EVEN 6. STOP BIT: 1 / 2
BACK	DISPLAY MENU PAGE 2	
SAVE ALL	SAVE ALL CURRENT SETTINGS	
EXIT	EXIT MENU	

For more information on menu options and what they do see online tip 295 ▶▶▶

SEE ONLINE TIP No: 295

Features

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Fault Finding

The table below describes common problems and possible solutions.

Fault	Possible Cause	Possible Solution
Interference On The Camera Picture	Poor or inadequate cabling or an unregulated or poorly regulated power supply.	Make sure you are using a regulated 12V DC power supply.
No Picture	The camera cannot function without the correct working power supply.	**Step 1** Test that the camera has the correct voltage supplying it, you must do this with the camera connected so that there is load on the PSU. The camera should have at least 10.5V DC connected to it.
		Step 2 Check there is and image at the camera end with a test monitor. If there is a picture here but not at the DVR it could be one of the following: A. Video loss in Composite cable as run too long usually you would get a picture up to aroun120mtrs (Remedied by fitting a video amp). B. Ensure that the BNC - BNC lead that you connect between the camera and monitor has no shorts or open circuits. If you are making your own lead, don't forget the lead must have two wires connected to complete the circuit, Video and Ground. C. No Video signal down CAT5 or CAT5+2. Check you have used a "pair of cores" not individual cores from different pairs.
One Camera Picture Overlaid On Another Using CAT5	Camera cores and pairs mixed up.	Check you have used a "pair of cores" not individual cores from different pairs.
The Picture's Colour Changes Constantly	Fluorescent lighting emits an electromagnetic field which can cause colour roll.	Move the camera further away form any fluorescent lighting.
Can't Focus Image	Wrong type of lens fitted to the camera	The CAM068 is designed to be used with a CS mount lens. If you are wanting to use a C mount lens you will need to use an adapter ring.
Can't Control Camera's OSD Via Rs485	RS485 data cables incorrectly	The RS485 terminals are polarity sensitive. Ensure RS485 wires are connected to the correct terminal.

For more information on menu options and what they do see online tip 295 ▶▶▶

SEE ONLINE TIP
No: 295

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