CAM300 - HD-SDI Camera With 18x Optical Zoom & Autofocus

1080p Camera With WDR, IR Cut-Off Filter & RS485 Control

This high performance HD camera has a built-in autofocus & Zoom lens to allow fast locating and capturing of an event - making it great for evidence purposes!
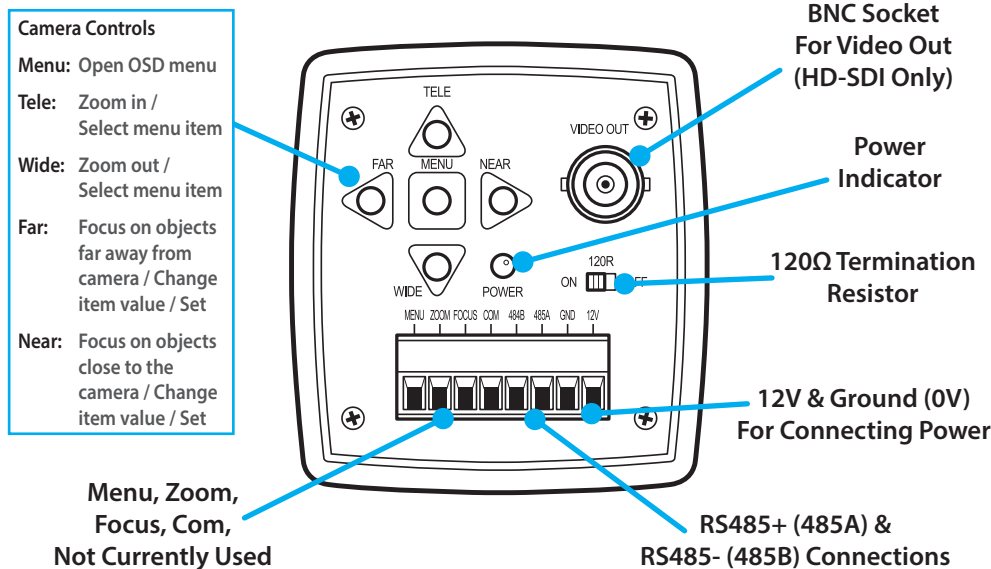
The CAM300 is a great option where high definition recordings are required along with operator control to zoom into an event as it happens. The camera can be controlled using RS485 and is compatible with the common Pelco D & P protocols so it can easily be controlled using most PTZ keypads.

The real beauty of the auto-focus lens is that the camera will autofocus as a person or object approaches the camera or gets further away and there is no awkward focussing on installation either.

The CAM300 also features a mechanical IR cut-off filter which is in place during the day and removed at night ensuring the camera always captures the best possible images.

Connections & Controls

All of the CAM300's connections an controls are found on the rear of the camera. You will find a BNC socket for connecting the video, screw terminals for power and RS485 connections, a power indicator LED and OSD menu control buttons.

Camera Controls

Menu: Open OSD menu

Tele: Zoom in / Select menu item

Wide: Zoom out / Select menu item

Far: Focus on objects far away from camera / Change item value / Set

Near: Focus on objects close to the camera / Change item value / Set

BNC Socket For Video Out (HD-SDI Only)

Power Indicator

120Ω Termination Resistor

12V & Ground (0V) For Connecting Power

Menu, Zoom, Focus, Com, Not Currently Used

RS485+ (485A) & RS485- (485B) Connections

Features

- 1080p @ 25fps
- 4.7-84.6mm Mega Pixel Lens
- Auto Focus
- Wide Dynamic Range
- RS485 OSD Control
- True Day Night IR Cut-off Filter
- 12V DC

Specification

FUNCTION	SPECIFICATION
Image Sensor	1/3" Sony Colour CMOS
Resolution	1080p / 720p
Lens	4.7 - 84.6mm Lens
Iris Control	Auto
Min Illumination	0.01Lux
Day/Night	Mechanical
Video Output	1v p ~ p, 75Ω
Video Connection	BNC
Power/Current	12vDC (± 10%) 250mA
Power Connection	Terminal Connections
Protocol	Pelco-D / Pelco-P (Auto)
S/N Ratio	More than 50dB
Use	Internal Only
Operating Temp.	-10°C ~ +50°C
Dimensions	115 x 70 x 60mm

Options Available

PART CODE	DESCRIPTION
CAM300	HD-SDI Camera, 18x Optical Zoom

Other Products To Consider

HD PTZ Camera 4.7-84.6mm 2.1 Mega Pixel, 18x Optical Zoom, 14x High Power IRs & Wide Dynamic Range
HDSDI-PTZ610W

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Powering The Camera

The CAM300 requires a regulated 12V DC power supply providing a minimum of 250mA. 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 350mA**.

The terminal connections of the CAM300 are **polarity sensitive** so take time to ensure that your positive and negative connections are correct. Incorrectly connecting the power may damage the camera.

Connecting RS485 Data Cables

The CAM300 has two screw terminals for connecting RS485 data cables. An RS485 connection allows you to access and configure the camera's OSD menu as well as adjusting the zoom and focus.
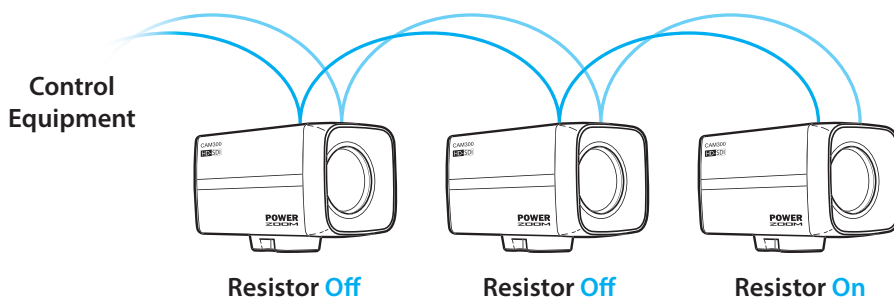
As with the terminals for connecting the power, the terminals for connecting the RS485 data are polarity sensitive. The RS485 data cables must be connected correctly to enable RS485 control. **485A is the positive connection and 485B is the negative connection**.
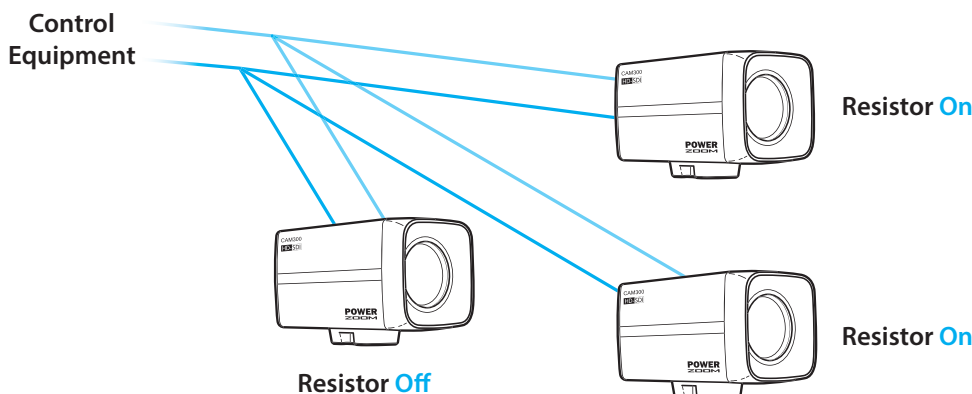
Termination Resistor

The CAM300 has a built-in 120Ω termination resistor. This may need to be turned on if you are experiencing communication issues.

When linking the RS485 connections of multiple cameras the CAM300 is treated as a PTZ. As with PTZs there are two methods for linking RS485 Connections.

The first method is the daisy chain method. When cameras are linked in this way **the last camera** in the RS485 chain must have its termination resistor enabled as shown below.

Control Equipment

Resistor **Off**   Resistor **Off**   Resistor **On**

The second method is the star method. When linking cameras in this way the t**wo furthest cameras** must have their termination resistors enabled as shown below.

Control Equipment

Resistor **On**

Resistor **On**

Resistor **Off**

Features

- **1080p @ 25fps**
- **4.7-84.6mm Mega Pixel Lens**
- **Auto Focus**
- **Wide Dynamic Range**
- **RS485 OSD Control**
- **True Day Night IR Cut-off Filter**
- **12V DC**

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Accessing The Camera's Menu

You can access the CAM300'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.

To access the OSD using the menu control buttons simply press the 'MENU' button. The up and down arrow keys are used to navigate through the menus, the left and right arrow keys are used to change an items value and the right arrow key is also used to confirm selection.

The CAM300 also has traditional RS485 Pelco-D and Pelco-P control. The OSD menus can be accessed by **calling preset 210 from** PTZ keyboard controller. As DVRs can not call presets as high as 210 the **OSD menu Can not be accessed using a DVR**.

Menu Page 1

MENU ITEM	OPTIONS	EFFECT
LANG	EN	OSD menu language.
ADDR	00 ~ 255	Set the RS485 address for the camera.
BAUD	2400 / 4800 / 9600 / 19200 / 38400	Set the baud rate for the camera.
OSP DISP	ON / OFF	Display zoom level when zooming in or out.
OEM-ZOOM	02 ~ 51	Set how many levels the 18x optical zoom is broken into.
FOCUS	AF/ MF / TRIG	Choose focusing mode. AF (auto focus), MF (manual focus) or TRIG (Not currently supported).
D&N	AUTO / COL / BW	AUTO enables the camera to switch between colour and black and white depending on the light levels in order to maintain the best possible image. COL forces the camera to constantly produce a colour image. BW forces the camera to constantly produce a black and white image.
D&N-LV	00 ~ 31	Set how low light levels must be before the camera switches to a black and white image. 00 Being the darkest and 31 being the brightest.
N&D-LV	00 ~ 31	Set how high light levels must be before the camera switches to colour. 00 Being the brightest and 31 being the darkest.
MIRROR	FLIP / UD / LR / OFF	Allows you to flip the camera's image so that it appears correctly on screen however the camera has been installed. FLIP rotates the image 180° UD reflects the image vertically LR reflects the image horizontally
OUTPUT	1080P@25FPS / 1080P@30FPS / 720P@25FPS / 720P@30FPS	Set the output resolution of the camera.

Note **To access menu page 2** cycle down to the bottom menu item (Output) and press down again.

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

SEE ONLINE TIP
No:
295

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Menu Page 2

MENU ITEM	OPTIONS	EFFECT
IRIS	AUTO	Iris control method.
WB	ATW / FULL / HOLD	Select how the white balance of the image is controlled. ATW automatically adjusts the white balance so the colours appear natural. Full changes the white balance of the image as a whole so that colours in the foreground appear natural. Hold allows you to set the white balance using a white piece of paper or card. With ATW or Full selected, hold the card in front of the lens and slightly increase or decrease the distance to the camera until its colour displays correctly. Once the colour is correct select HOLD to save the current white balance.
WDR	OFF / ON	Wide Dynamic Range adjusts the exposer in different areas of the image to maintain optimum light levels in both dark and bright areas.
AGC	00 ~ 31	Manually adjust the video amplitude so that the best image is achieved under the given light conditions.
2D-NR	00 ~ 05	Set how much noise is digitally removed form the foreground of the image.
BRIGHT	00 ~ 31	Adjust the brightness of the image.
CONTRAST	00 ~ 31	Adjust the contrast of the image.
SATURATION	00 ~ 31	Adjust the saturation of the image.
SHARPNESS	00 ~ 31	Adjust the sharpness of the image.
RESET		Highlight and press the right arrow key to restore default settings.
SAVE & EXIT		Save current settings and exit menu system.

Note **To return to menu page 1** cycle up to the top menu item (Iris) and press up again.

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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.	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.
	Poor or incorrect cable used.	Check there is and image at the camera end with a test monitor using the CVBS test output. 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 around 100 meters. For longer cable runs you must use a HD-SDI repeater every 100m. 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. HD-SDI cameras are designed work on RG59 co-ax cable. HD-SDI video can not be transmitted over CAT5.
The Picture's Colour Changes Constantly	Fluorescent lighting omits an electromagnetic field which can cause colour roll.	Move the camera further away form any fluorescent lighting.
Can't Control Camera's OSD Via RS485	RS485 data cables connected incorrectly	The RS485 terminals are polarity sensitive. Ensure RS485 wires are connected to the correct terminal.
	RS485 needs terminating	Turn on the 120Ω resistor on the rear of the CAM300.
Can't Control Camera With RS485 Control Equipment	Baud rate has been changed	Power down and then power up the camera again for new setting to take effect.

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