

Varifocal Auto Iris CCD Dome Camera

Introduction

Each of the Varifocal dome has been engineered from a solid piece of aluminium to produce a truly exceptional product.

With the domes stunning looks and great functionality you shouldn't lose many jobs

The beauty of this product is not just on the outside, the dome comes equipped with a Varifocal lens that allows you to get the picture that your customer was expecting when you are installing. It also has an auto iris lens, so when looking at a doorway the camera will compensate for any bright sunlight.

The domes' stunning looks means that they look the part in any environment. Installed in a shop, office, bank, school or an industrial unit the domes look and perform great.

The Varifocal lens means that the cameras can be adjusted for a wide angle of view or a narrow angle distance shot so they can capture the exact scene your customer wants without you having to worry about what lens to order.

As the lens is auto-iris it can accommodate a wide range of lighting conditions improving the cameras performance in low light whilst also coping with bright sunlight or shop lights effortlessly.

The cameras electronics have been designed around the latest semiconductor technology and circuit design to ensure that all three variants of the camera produce an excellent picture quality to match the cameras stunning looks.

Models Covered in these instructions

CCT455 Hi-Res B&W Dome with Vari-focal Lens
CCT457 Med-Res Colour Dome with Vari-focal Lens
CCT459 Hi-Res Colour Dome with Vari-focal Lens



Camera Specifications

Camera Spec	Hi-Res B&W	Med-Res Colour	Hi-Res Colour
Image Sensor	1/3" B&W	1/3" Col. Sharp	1/3" Col. SONY Ex View
Image Output	1V _{pk-pk} 75Ω	1V _{pk-pk} 75Ω	1V _{pk-pk} 75Ω
Resolution	600TVL min	380TVL min	480TVL min
Min Illumination	0.03 Lux	0.5 Lux	0.25 Lux
Input Voltage Range	12V DC / 24V AC	12V DC / 24V AC	12V DC / 24V AC
Power Consumption	200/100 mA	200/100 mA	200/100 mA
Lens	4-9mm Vari-focal	4-9mm Vari-focal	4-9mm Vari-focal
AGC	Automatic	Automatic	Automatic
Iris Control	Auto Iris	Auto Iris	Auto Iris
Size, Dia x H	110mm dia x 80mm H	110mm dia x 80mm H	110mm dia x 80mm H

Mounting the Camera

The dome cameras are supplied with a fixing plate and drilling template that allow to fix your dome camera (using the screws supplied) to wood or brick with wall plugs (not supplied) or to plasterboard / suspended ceilings with bolts and fixing plate (supplied).

Powering the Camera

The dome cameras are dual voltage i.e. you can use them on a 12V DC system or a 24V AC system. The camera has built in power supply control circuit for ease of connection; this means that you can connect to any 12VDC or 24VAC system without worrying about polarity or voltage regulation.

The camera is provided with a screw terminal on a fly lead that allows you to connect the power supply to it.

When powering the camera with a 12V DC power supply, ensure that the supply is regulated and has a continuous rating of 100mA or higher per camera. It is recommended to use a power supply that is rated higher than the current consumption of the camera i.e. POW100 would be adequate for powering a single camera but when powering two or more you should look at the bigger power supplies that are available from System Q; this prevents the PSU from running at its maximum rating for long periods of time.

If you are using the System Q Easy Connection Kit (CCT806/7) to power and connect your camera (12V models only) please proceed as per the instructions supplied with The Easy Connection Kit. You will need to cut off the DC Plug ONLY and use the bare wires to connect to the terminal strip. The 12V positive is the RED wire the 0V is the BLACK wire.

Using 24V AC power

Using a suitable cable between the 24V AC power supply (POW600) and the camera you can connect the power to the cameras terminal strip either way around. As the power is 24V AC, (alternating current), the polarity is not important. You must use a separate cable for power and video. It is recommended you use a 2/4-core cable to carry the AC power to the camera and use an RG59 or twisted pair cable to bring the video signal back from the camera to the monitor / control equipment.

Connecting the camera to control equipment.

The dome camera comes with a fly lead for power and video out. To reduce installation time the video out lead is terminated into a male BNC connector. This allows the installer to effortlessly connect the camera to control equipment via a female BNC-BNC lead.

Remember that the Video out from the camera is like any other electrical circuit and requires two wires to complete the circuit. When using a co-ax type cable such as RG59 or similar, the outer braid of the co-ax provides the "0V GROUND" connection and the inner core provides the "Video" connection.

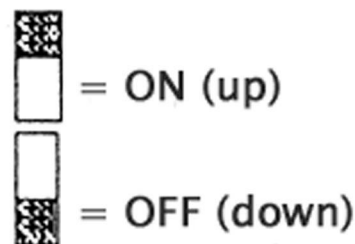
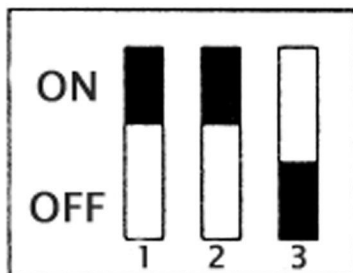


It is recommended that when you are first setting up the cameras that you use a short BNC-BNC cable to link the camera directly to the monitor and to set it up at the same time. This allows you to both understand the camera and get the very best out of this great product as you will be able to adjust the camera whilst looking at the monitor screen. Obviously whilst you are setting up the camera, it does need to be powered!

Dipswitches

The CCT455 has a bank of four dipswitches.
The CCT457 (Mid Res Colour) has three dipswitches:

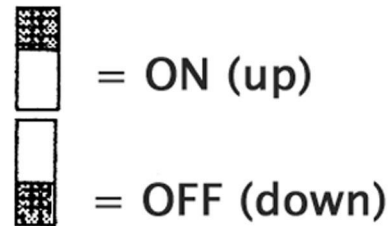
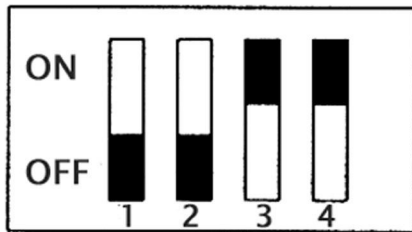
Auto DC Iris Lens



- Switch 1 Electronic Iris
- Switch 2 Auto Iris
- Switch 3 Back Light Compensation

The CCT459 (High Res Colour) has four dipswitches.

Auto DC Iris Lens



- Switch 1 Iris Control (Auto Iris=ON, ESC=OFF)
- Switch 2 Back Light Compensation (ON=BLC ON)
- Switch 3 Automatic Gain Control (ON = ALC ON)
- Switch 4 FL/Flicker less (ON = FL on)

1. Automatic Level Control / Electronic Shutter Control (ALC / ESC)

This must be set to ALC when using these cameras with the standard Auto Iris Lens. If switched to ESC, the camera will still function but the picture quality will be erratic being too bright or too dark with poor colour reproduction as both the camera and the lens would be fighting to compensate for varying light levels.

(The Electronic shutter control is driven from the electronics on the pcb, the ALC relies on the functioning of the Auto Iris in the lens.)

2. Back Light Compensation (BLC).

BLC helps the camera when it is looking at a bright object such as an external window. The BLC tries to compensate for the bright part of the image so that some of the surrounding area is not too dark. It is recommended always to be set to on.

3. Automatic Gain Control (AGC)

When the light falling on to an imaging device reduces to a certain level, there may be insufficient to create a full level video signal. The AGC acts to increase the amount of amplification in these conditions to bring the signal up to the required level. As well as amplifying the video signal, additional noise can be introduced, and the signal to noise ratio reduced. The result can lead to a very much-degraded signal and poor picture on the monitor.

4. Flicker - less Function (FL)

Set the dipswitch 4 FL to ON to enable the flicker - less function, when in this mode, the AES/OFF switch is automatically disabled.

Sometimes the picture can be seen to 'Flicker' or 'Pulse', setting this switch to ON will prevent this problem.

Lens Adjustment

When setting the lens to suit your particular application, remove the cover and inner lens surround, loosen off the locking screws and alter the focal / Tele/wide adjustments. When the desired picture is achieved tighten the locking screws and replace the covers.

There are two sections to the lens that can be modified, the focal adjustment that allows you to alter the position of the focal lens in order to focus the lens. The Tele/wide adjustment allows you to achieve the required angle. The Tele/wide adjustment will 'zoom' into or away from the object in the picture, depending on how much of the area is required to be in view.

TIP: When you are setting up the cameras on site it pays to have a test monitor with you so that whilst you are up ladders to can position the lens without having to go up and down to the monitor to check on the camera setting. CCT020 4" LCD Test Monitor or the CCT021 6.8" LCD Test Monitor

Trouble-shooting Tips

Picture too bright or dark:

- The ALC control is set incorrectly
- The BLC switch needs setting
- The camera is set for Electronic Iris and not Auto Iris

No Picture.

- Check the supply voltage to the camera. This can be anywhere between 12-24volts ac/dc
- Check the BNC video lead connection. Remember that like any other electrical system the video signal requires a 2-wire connection. The centre core carries the video signal and the outer core or screen is the 'video signal return'

Poor Night Time Pictures:

- Check the dipswitch configuration, the camera is supplied with an auto iris lens as standard and they should be set for Auto Iris and not Electronic Iris.
- Check the set-up of the camera in its brightest operating conditions and adjust the ALC control as described in the instructions.
- Check there is sufficient lighting available for the area under observation, if it is not possible to see anything in the dark yourself it is unlikely that the camera will see anything either. **TIP: Take a lead lamp to the site and try recording the picture with the light in different places; this will help solve or highlight any lighting issues.**

Poor Focus:

- Check the lens adjustments for focus and set for best possible picture as required.
- Check the ALC control. This controls the iris aperture and if it is too open then the picture will not be sharp. This is best set-up in the brightest operating conditions. See the ALC section.
- Check that the dome cover is clean.
- Check that there is or has been no moisture ingress through a poor seal or cable entry. This usually leaves tell tale smears on the inside of the dome cover.