

## Question: What is condensation and how can I cure condensation problems with my CCTV cameras?

**Answer:** Condensation occurs when air with a moisture content comes into contact with a surface cooler than itself. CCTV cameras should be left powered on and not cycled on and off to prevent problems.

### How does condensation occur?

Condensation occurs when air with a moisture content comes into contact with a surface cooler than itself. You can actually get condensation with relatively “dry” air but where the air is quite hot compared to the cooler surface that it touches, the temperature at which this warm moist air will condensate is called its “Dew point”

The dew point is not a set temperature as it is relative to the humidity and temperature of the air compared to cooler surface that it forms on.

Most people will have experienced water on the inside of a car’s windscreen on some cold mornings. The less the car is used the more of a problem it becomes. CCTV cameras are very similar if they are not used or if the power is cycled they can over a period of time get condensation problems.

In CCTV cameras the glass front itself can be relatively cold because it is exposed to the outside air so it is possible for the warm air inside the camera to condensate on the “cooler” glass. This may occur if air has been forced in to the camera due to sharp changes in atmospheric pressure. Changes in air pressure can be atmospheric whilst the camera is being stored, you may have experienced this with a sealed container that you take the lid off that air rushes in or out. Other causes include the camera being stored too long in a cold environment that can cause microscopic beads of water to form inside the camera, this is why CCTV cameras should be left powered on and not cycled on and off as this itself can cause condensation problems.

### Resolving The Problem

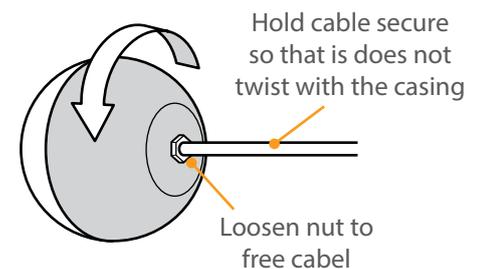
So how do you remedy this problem? Frequently all that is required to remove the moisture is actually to leave the camera on for a few days to heat up and disperse the moisture. For most PTZ cameras they will nearly always clear any moisture content very quickly and often contain a heater to speed up the removal/prevention of condensation.

For smaller static cameras they do not produce the same amount of heat and it takes a little longer to remove and expel the moisture and they may need a little help. To ensure this is done efficiently it is best to slightly open the camera to allow the warm moist air to be naturally replaced by drier air. The ideal condition for this is a dry warm environment such as a centrally heated house or office/workshop.

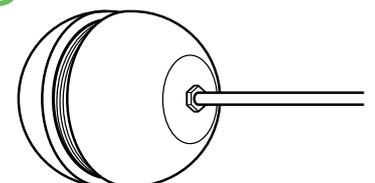
Once the moisture is removed provided the camera is installed and powered up at a stable temperature within, it will keep condensation at bay. However please keep the camera in a relatively warm stable environment until installation after removing any moisture from it.

### Example - Eyeball Cameras

#### 1 Break the seal in a warm room



#### 2 Power the camera for 24 hours



This CCTV installation tip is aimed at helping you to install CCTV equipment. If you are looking for answers on “how to fit CCTV” or perhaps “how to network a DVR or NVR” or even “how to get CCTV on your mobile phone” why not check out our full range of CCTV installation tips at: [www.systemq.com](http://www.systemq.com)

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