

Using infrared and white light LED for effective surveillance lighting

By Roy Alves



Naturally, humans have inferior night vision compared to other animals.

To compensate for this, we have come up with several ingenious inventions, one of these being infrared lighting. Infrared light is electromagnetic radiation of a wavelength longer than that of light that is visible to the human eye.

By incorporating this into image capturing devices such as binoculars and cameras, we have been able to experience night vision similar to that of our counterparts in the animal kingdom.

Bringing infrared technology into surveillance cameras was a natural evolution for the surveillance market. This is because most surveillance installations serve the main purpose of crime prevention, and most criminal activity takes place under the cover of darkness.

As the lights go off in office parks, stores and warehouses, ordinary cameras succumb to the same limitations as the human eye. The same logic, however, does not apply to network cameras with built-in infrared lighting. Such day/night cameras offer excellent night vision even in environments with very little natural or artificial lighting.

Infrared light produced by the camera is invisible to the human eye, apart from a red glow from the unit itself, but can provide light in an area with distances reaching up to 370 metres.

To complement infrared cameras in a surveillance installation, one can also deploy white light LED lighting. White light LED products can provide light for distances up to 150 metres from the light source and has a number of advantages over conventional lighting. White light LED lighting shines much brighter than conventional artificial lighting, offers significant energy savings, requires fewer physical units to light an area and has a working life of up to 10 years – a conventional light bulb could fail within months.

With the recently announced increase in electricity prices, using infrared and white light LED lighting will go a long way in saving South African companies' already stretched resources. Also, most end-users do not consider the maintenance costs of lighting. Bulbs have a very short life and typically it is the cost of labour to replace the bulb, rather than the bulb itself that increases the total cost of ownership."

Lighting for surveillance should be the preserve of the security community, it is too important to be left to others.

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