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With the development of optical information technology, the

infrared network camera infrared light semiconductor laser development quickly, from the initial homogeneous PN junction type heterojunction type, distributed feedback quantum-well vertical-cavity surface-emitting type, the micro-cavity , as well as fiber lasers and photonic crystal lasers, etc., light-emitting power from small to large, full range, everything available for security need to select. General, the infrared camera infrared semiconductor lasers using metal package and a dedicated power supply and temperature control technology through advanced semiconductor products always set a reasonable temperature, life can be better guaranteed. Infrared laser light and infrared ip camera with a long focal length lens combination, you can achieve better night-time remote monitoring. Particularly suitable for large-scale projects of national border control, coastal defense, forest fire prevention, and traffic engineering. But because the process is more complex, the yield is relatively low, its price higher than the LED light source; and the laser power is too large there are certain side effects on human health, and thus need to choose the value of the security.

The first generation: the traditional LED earliest single infrared LED conversion efficiency is very low (5%), the use of infrared remote control and simple products. After repeated practice and development of night vision applications, through the combination of a single infrared LED package, fixed around the lens, to surveillance ip camerato take as active fill light. Traditional small power LED is the first for the

internet ip camera and an infrared light source are still a lot of use, they are the first generation of LED. Its main advantage is low prices, which are widely used, and occupies 95% of the share of the market of infrared machine. But the quality is poor, so the price difference. Its main drawback is that: â‘ The short life. Traditional LED heat dissipation is poor, resulting in the ambient temperature is too high to affect the life of nearby electronic components (such as the camera board, control board and other perishable, and shortened life expectancy); 2 light attenuation too fast. "Epoxy resin" as a lens material due to the traditional LED, but the epoxy resin when exposed to heat will produce a fracture, a long time, the fracture surface is more and more. Infrared light through each fracture surface, some light through, but also part of the light reflects back. Other non-fracture material (such as silica gel) to replace the epoxy resin, its production costs in turn increase (over more than a few times now), which has lost market competitiveness. â‘¢ power is small.

Second generation: the low-power array of LED dot matrix LED that the second generation of the LED array, which integrates more than a small power LED in a small area, and made a "thermoelectric separation" so that the entire part placed in any size, any shape on the heat sink, so as to solve the heat dissipation problem, no longer hurt the other surrounding electronic components due to high temperature. And non-rupture of the packaging materials greatly reduces the light attenuation, an increase of 5 to 10 times the life than traditional LED. Small size and heat treatment, the advantages of long life. Its main drawback is that: (1) low-power array of LED price far higher than traditional LED; â‘¡ The brightness is lower than the same power of the traditional LED. Send light to narrow the angle because it is used in order to meet the point of view of the

hd ip camera lens and the lens, inevitably many luminous points deviated from the center of the lens and send light inefficient, and thus "not bright enough.

The third generation: the third generation of high-power array LED infrared LED array using innovative semiconductor technology, high-performance light-emitting crystal array arrangement, a

special package, the formation of high-power light-emitting diode array (LEDArray). It was first produced by the U.S. PacificCybervision developed by each tablet LEDArray can be integrated with 60 LED light crystal when the optical output of 800mw ~ 1000mw. , Of single LEDArray a new generation of optical output has done the highest 4000mW. It has the second-generation infrared LED lights, small size, heat treatment, the advantages of long life, but also solve the second-generation infrared LED light source is not bright enough, the shortcomings due to eccentric. Close to or lower than the traditional LED, the price of this high-power LED Array is part 1 generation, second generation of the advantages of one, and completely avoid the shortcomings of the latest generation of infrared LED light source.

The third laser beam of infrared light is thin and strong, to illuminate the scene of a range of beam expander lens beam expander. The biggest advantage of the light source applications is that the laser has a high luminous efficiency, luminous intensity and the direction, the electro-optical conversion efficiency of up to 80%, which can greatly reduce energy consumption, increase the lighting, distance, used for more than 1km distance Monitor

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