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LE-6321

Thermal Imaging Camera System - 6" LCD Monitor, (1) Wireless Remote - White

Product ID: 69008

Please see last page for supporting documentation for this product(certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

LE-6321 Thermal Camera
Technology: Infrared
Dimensions: -
Remote Qty: (1) Wireless Remote
Weight: -
Voltage: 12V DC
Total Watts: -
Total Candela: -
Beam Distance: -
Luminous Efficacy: -
LED Life Expectancy: -
Infrared Band: -
Correlated Color Temperature: -
Beam Angle: -
Lighting Configuration: -
Rotation: 360° - Continuous
Elevation Angle: 135°
Rotation Speed: 19° per Second (Fast), 19° per Second (Slow)
Elevation Speed: 11° per Second
Amps: -
Ambient Operating Temp Range: -30°C to +70°C
Housing Material: Acrylonitrile Styrene Acrylate (ASA)
Lens Material: Hardened Polycarbonate
Mounting: Surface Mount
Wiring: 16` Cable w/ Cigarette Plug
Housing Color: White

Ratings/Approvals
Thermal Imaging Infrared Camera
6" LCD Monitor

Special Orders - Special Requirements
Contact us for special requirements
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The Larson Electronics LE-6321 Thermal Imaging Infrared Camera System with LCD Monitor is a small white thermal sensing camera mounted in a remote controlled frame that can detect heat differentials between 32°-240° F. This system operates on 12V DC and comes with a wireless remote control.

The LCD monitor is supported by a flexible neck and can be mounted to a dashboard or a window with its suction cup base, or mounted anywhere else with simple installation. With this particular unit, the white color indicates a hot substance, whereas the black color indicates a cold subject.

The remote controlled thermal imaging infrared camera system with 6 inch LCD monitor is available with a wireless remote. The device offers left, right, up and down motor control as well as fast and slow motor speed control. The operator can also turn the camera on and off from the controller.

The Remote Controlled Thermal Imaging Infrared Camera runs off 12V DC and has a frequency of 30 hertz. It is equipped with a 16 foot, outdoor rated cord with a cigarette plug. Weather tight connector enables operators to disconnect cord at 12 inches from the light for storage or vehicle portability. Larson Electronics offers an alternative 24V DC setup for military applications.

Heated objects are displayed as white hot on the LCD screen.

The picture above demonstrates the thermal imaging camera system in use focusing on a fluorescent warehouse light. The light is on and displays the white hot light of the active bulbs.

The picture above demonstrates the same fluorescent warehouse light using a digital camera with flash.

How Does Thermal Imaging Work?

Thermal energy is a part of the electromagnetic spectrum. It makes up the upper portion of the infrared light spectrum. You cannot see thermal energy because it is emitted from objects as heat, not reflected as light. The hotter an object is, the more thermal energy it emits. Hotter objects will appear whiter on the monitor. However, all objects even inanimate ones, such as buildings, or even ice cubes, emit some form of thermal energy. Infrared thermal imaging cameras are able to capture this thermal energy and transform it into an image you can see. Objects producing less thermal energy will be a duller white, while objects generating more thermal energy (higher temperature) will produce a brighter white image.

The process by which a thermal imaging camera transforms thermal energy into visible light consists of five basic steps. These steps are:

Utilize a specially designed lens to focus the infrared radiation that is given off from all objects within the field of view of the camera lens.

Infrared detectors are then used to scan this focused radiation. The detectors create what is called a thermo-gram, or temperature map.

The thermo-gram is then translated into electric impulses.

The electric impulses are then sent to a signal-processing unit where they are translated into data. The signal-processing unit is a tiny chip that is embedded on a circuit board, which is used to translate the electric impulses into usable data. Once translated, the signal-processing unit sends the data to the monitor where it then becomes visible to the viewer.

Since thermal imaging cameras work solely by capturing infrared radiation given off from an object, no light at all is required for the device to function. A thermal imaging camera can function optimally no matter what the surrounding lighting conditions, bright or dim.

In addition to the ability to function in a wide array of lighting conditions, thermal imaging cameras can be used to reveal aspects about ones surroundings where no visible sign of evidence exists. For example, a thermal imaging camera might reveal an area of ground that has been dug up to bury something. Another example could include an area of a wall that has been painted or repaired recently. It will appear slightly darker through a thermal imaging camera. This unique ability to detect and gather evidence that would have previously gone undetected makes thermal imaging cameras invaluable devices for law enforcement and military personnel.

Thermal imaging cameras were first designed for use by the military to help locate enemy targets. As improvements were made to the technology, these camera devices became more and more practical for commercial uses such as perimeter surveillance and other security applications. Now more than ever, thermal imaging cameras are continuing to be used on a much broader scale. There are several other applications where thermal imaging technology can be very useful. These include security and surveillance, navigation, hunting, law enforcement, and hidden object detection. Within the commercial space, manufacturing companies, petrochemical companies and utility companies use thermal imaging to inspect equipment and detect problems.

Thermal Imaging Applications

A thermal imaging camera is a reliable non contact instrument which is able to scan and visualize the temperature distribution of entire surfaces of machinery and electrical equipment quickly and accurately. Thermography programs have contributed to substantial cost savings for our customers around the world in a variety of industries. While military and security applications in low light conditions remain paramount, industries ranging from utilities to manufacturing and service companies are using thermal imaging cameras to identify issues, prevent larger problems and save money.

Detect Problem Areas Before the Real Problems Occur

In production plants, office facilities, hospitals or hotels, an infrared camera instantly makes hot spots visible on a clear thermal image. You can scan electrical cabinets and components and survey multiple wires and connections to get an instant picture of potential trouble. Detect the problem area and repair it before real problems occur. Common electrical targets are fuses, electrical panels, bolted connections and switchgear.

Utilities

For utilities, failure is not an option. That's why infrared thermography has become the core of utility predictive maintenance programs around the world. Utilities depend on thermography to avoid costly failures in power generation, transmission and distribution as infrared cameras help find anomalies before trouble strikes and service is affected.

Manufacturing

At manufacturing facilities, thermal imaging cameras are used for inspecting a countless number of production equipment and components as well as the complete electrical power supply system. An infrared image, including accurate temperature data, provides the maintenance expert with important information about the condition of the inspected object. Inspections are done with the production process in full operation. In many cases the use of a thermal imaging camera can help optimize the production process itself.

Some examples of mechanical equipment where thermography is used:

Pumps (overheated connections, fuse problems, overloaded electrical cables, etc)
Process valves (open, closed, leakage)
Storage tanks (sludge levels)
Pipelines (check if and where there are abnormalities, for example locate build up of scale)
Motors (overheating bearings, misalignment, overheated windings)
Conveyor belts (overheated bearings)

Some examples of electrical equipment where thermography is used:

Primary power source (i.e. outdoor high voltage switchyard)
Switchgear
Transformers
Low voltage installations (i.e. breaker panels, faulty electrical outlets/wall sockets)
Fuse panels
Motor Control Centers (MCC)
Electrical cabinets
Energy Efficiency and Green Programs

To get even more out of your camera investment, you can use your infrared camera to audit energy efficiency of your plant environment, including roofing, heating and cooling systems, and building structures.

Oil and Gas

The use of infrared cameras has already become a standard practice in many oil and gas companies. It's a proactive way to identify sources of Volatile Organic Compound (VOC) emissions and repair leaking components before it is too late. By using the most advanced VOC detection you will improve safety and productivity and minimize emissions.

Infrared cameras for the oil and gas industry are preventative maintenance solutions that help spot leaks in tanks, pipelines and facilities that will improve safety and profitability and minimize emissions with less risk of business interruption due to actions from regulatory agencies.

Thermal Imaging in Use



The picture above shows a suv at night; picture was taken with a digital camera, no flash.



This picture shows the same suv through the 6" LCD thermal imaging screen. Notice the white from the heat the vehicle is emitting.

In this picture, the thermal imaging is used to destinguish the difference between

a car completely powered off, to a car sitting idle.
At Larson Electronics, we do more than meet your lighting needs. We also provide replacement, retrofit, and upgrade parts as well as industrial grade power accessories. Our craftsmen can custom build any lighting system and/or accessories to fit the unique demands of your operation. A commitment to honesty, quality, and dependability has made Larson Electronics a leader in the lighting and electronics business since 1973. Contact us today at 800-369-6671 or message sales@larsonelectronics.com for more information about our custom options tailored to meet your specific industry needs.

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Frequently Asked Questions (FAQ)







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Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **SpecSheetSpanish**
- **HigResPic1**
- **HigResPic2**
- **HigResPic3**
- **HigResPic4**
- **Video1**
- **ISO 9001 Certification**
- **Business Certificate**
- **Shipping Time Map**