



Safeguarding your perimeter protection investment

FLIR's FC-Series S is protected against a wide range of adverse conditions, including RF interference, electrostatic discharge, fast transients, power surges, voltage variations and voltage interruptions.

Thermal imaging cameras are a proven and cost-effective solution for perimeter protection, providing you a clear view of the surveilled area day and night and in the most adverse weather conditions. This does not mean that thermal imaging cameras don't have to endure much, due to their outdoor installation. Lightning strikes for example can cause irreparable damage to outdoor cameras. Outdoor cameras are often installed in remote locations which require them to rely on sometimes poor quality power. Poor input power quality may be compounded by the injection of noise, voltage spikes and transients onto the power, ethernet and video coax cables along the long cable runs to each camera.

In order to better protect its FC-Series S thermal security cameras and safeguard the investment made, FLIR Systems provides a thoughtful design that ensures the survivability of the camera in electrically

adverse environments. The cameras have been engineered to provide a high degree of protection against a variety of problematic power, communication and video signal conditions that can cause problems for cameras. More specifically, the cameras are designed and tested to meet the requirements of EN55022 Class A, EN61000-3-3 and EN50130-4 standards. *The benefits of this added protection include: uninterrupted operation in a wide range of conditions, a high degree of protection against electrical storms and immunity to electrical noise in industrial environments.

Physical characteristics

The FC-Series S is fully enabled for control and operation over digital and analog networks and is available in high-resolution 640 x 480, and 320 x 240 formats. The camera uses a rugged aluminum alloy case. In addition to physical endurance and protection, the case provides significant shielding. It

In addition to the physical protection and durability provided by the alloy enclosure, the FC-Series S also provides significant electromagnetic shielding.



FC-Series S is intended for outdoor applications and has protection circuitry that only allows the intended signaling to pass through.

**EN55022 Class A: Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
EN61000-3-3: Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection
EN50130-4: Alarm systems - Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems*



fully encloses the electronics inside and minimizes any interference from the local environment with the camera operation. The case is intended to be connected to an earth ground, and a threaded stud is provided for this purpose. This ground connection is a critical part of the protection technologies. This allows any discharges to be quickly and safely conducted to ground.

Internal installer access

The human body is charged, so normally it should always be grounded while handling an electronic device, in order to avoid static discharge and subsequent component damage. However, through the use of proprietary circuitry protection, the FC-Series S cameras are fully protected against Electrostatic Discharge (ESD) damage which could be induced by an ungrounded installer. The FC-Series S is intended to be opened for easy cable installation. Installers do not need to take special precautions (static wrist straps, etc.) when connecting wiring since all the contact points are fully protected against static discharge. FC-Series S complies with EN55024: 2010 for a +/-4KV contact discharge test.



Installers do not need to take special precautions (static wrist straps, etc.) when connecting wiring since all the contact points are fully protected against static discharge.



The danger from lightning is not that the camera will be hit by lightning, but that nearby lightning will cause large electrical surges on wiring.

Lightning protection

FC-Series S is designed for applications that are exposed (prominent location on a pole) and has protection circuitry that only allows the intended signaling to pass through. The danger from lightning is not that the camera will be hit by lightning (a rare event) but that nearby lightning will cause large electrical surges on wiring. The FC-Series S provides protection from 4000V surges on its interfaces, while typical products provide 1000V of protection. As is common in high-risk environments, FLIR recommends that the built-in protection of the FC-Series S camera be augmented with primary lightning protection at the installation site, including lightning rods and arresters. The level of lightning protection at each site will be dictated by the local environmental conditions.

Noisy or 'dirty' power sources

Poor quality power supplies which do not effectively filter power, poor quality local power, power disturbances, or a significant distance between the power supply and the camera can all be sources of voltage dips and surges.

FC-Series S has significant immunity to abnormalities on its power lines. In addition to the lightning protection mentioned above, FC-Series S provides immunity against voltage dips and surges, fast transients, short interruptions, and conducted RF

disturbances. The EN 61000 standard, which provides test guidelines, was used to verify its performance. FC-Series S passes all of the EN 61000 tests at their highest level.

Sun shield

The FC-Series S camera includes a sun shield which should be used for any installation where the camera is exposed to direct sunlight or precipitation. If the camera is mounted with the top mounting holes, the sun shield is not used. Depending on the needs of the installation, the sun shield can be positioned in the neutral (middle) position, or slightly forward or backward.

Designed for use in harsh environments

FC-Series S cameras are extremely rugged systems. Their vital core is well protected, meeting IP66 and IP67 requirements, against dust and water ingress (even in case of heavy water jets) or submersion under water as deep as 1 meter.

For more information about thermal imaging cameras or about this application, please contact:

FLIR Commercial Systems B.V.
Luxemburgstraat 2
2321 Meer
Belgium
Tel. : +32 (0) 3665 5100
Fax : +32 (0) 3303 5624
e-mail : flir@flir.com
www.flir.com

The images displayed may not be representative of the actual resolution of the camera shown. Images for illustrative purposes only.