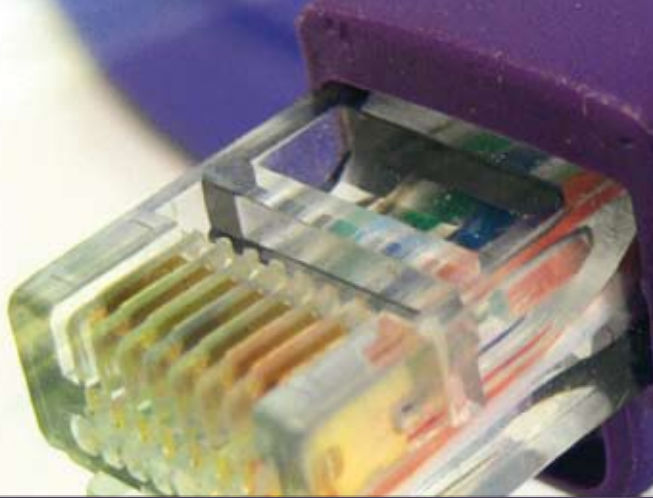


Intelligent devices for sensor networks



Software Developers Kit (SDK)

Easy discovery, monitoring and command & control of FLIR Systems thermal imaging cameras in new or existing networks.

The Software Developers Kit (SDK) is a tool that helps systems integrators to deploy FLIR Systems thermal imaging cameras in large, existing or new, security networks. The SDK will accelerate any application programming with FLIR Systems thermal imaging cameras. If you are a systems integrator that wants to build its own system utilizing thermal imaging cameras for a security application, then the SDK together with FLIR Systems' thermal imaging cameras will give you a jump start in your task. The SDK will allow you to fully exploit the possibilities that FLIR's unique infrared camera connectivity technology offers and combine camera functionality with other sensors and detection devices.

More and more, TCP/IP networks are being used as a base to build security & surveillance command and control applications. Developed by system integrators, the SDK toolkit allows for "plug & play" installation of FLIR Systems thermal imaging cameras into today's TCP/IP infrastructures.

Drivers for FLIR Systems thermal imaging cameras

Thanks to their embedded connectivity technology and the SDK toolkit, FLIR Systems thermal imaging cameras become manageable network nodes for your application.

Most of FLIR Systems' thermal imaging cameras offer Ethernet based plug & play connectivity. The SDK toolkit allows integrators to discover and control multiple cameras and use them from multiple operator workstations on a Commercial of the Shelf (COTS) network. Optional Developer Tools allow integration of active map displays, video monitoring, and VMD or target detection with intelligent video alarms.

The SDK libraries are offered for Windows Visual Studio (C, VC++ or VB) and .NET development platforms as well as for different Linux/Unix environments.

Connectivity to other sensors

A security network consists of various types of sensors that need to work together in order to offer maximum coverage. Radar, perimeter and ground sensors, CCTV cameras, thermal imaging cameras and other sensors need to be connected in "slew to cue" configurations. The SDK allows integrators to easily command FLIR thermal imaging cameras to be a slave to other sensors like radars and fences. The SDK toolkit allows for easy integration of all these systems into turnkey applications. New Drivers can be easily built by FLIR Systems to support new customer furnished devices, making them new plug & play elements in their sensor networks.

The SDK toolkit allows you to discover and control FLIR Systems thermal imaging cameras, but also many other legacy devices into this network. These devices are controlled by sensor server nodes using serial ports, analog video, TASS or Pelco-D.

Network administration

The SDK toolkit allows multiple users to monitor and adjust multiple sensors throughout the security network. Users can remotely position sensors on an IP network and, in real-time, monitor camera video and configure camera field of view, camera tilt angle, focus, sensitivity and contrast. Rules, with variable authority, can be set up to define which user has access to configure or control certain sensors.

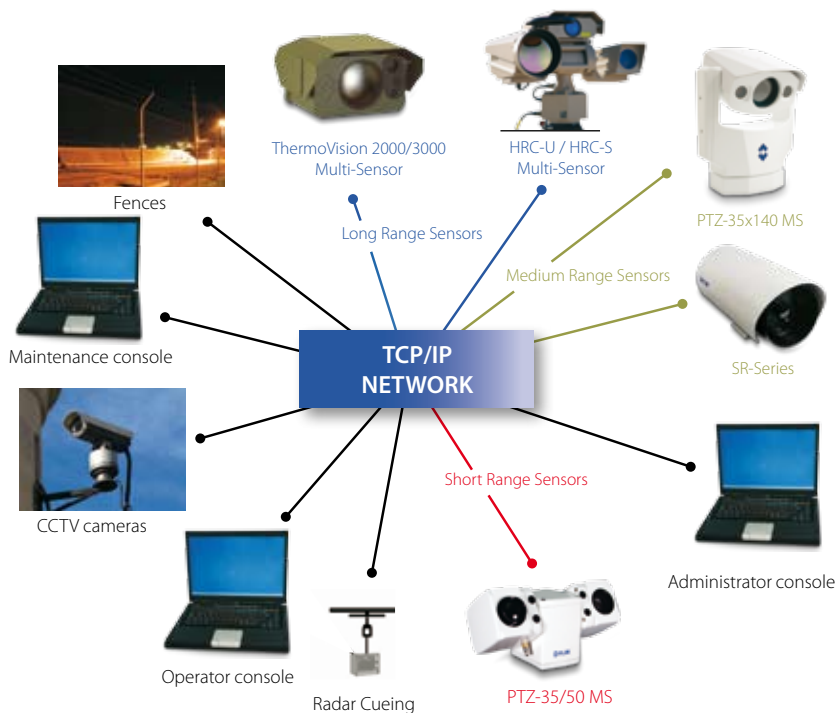
Thanks to the SDK toolkit the user can mix and match sensors and controllers to the particular application without spending undue effort designing for different scenarios. It also helps with obsolescence management. The SDK is part of a Development Platform that is continuously being updated.

Customizable User Interfaces

By using the SDK toolkit you can focus on the design of your own user interface to control multiple security sensors or integrate FLIR Systems thermal imaging cameras into existing command and control applications. A sample console is available to demonstrate the SDK capabilities, and use it as reference or test point for your own development.

Image post-processing options

An optional Windows DirectShow Based Video Player ActiveX grants integrators access to embed advanced image post-processing functions like electronic stabilization. Long range cameras for border protection are often installed on a mast or tower which is susceptible to extreme climatic conditions. Using the electronic stabilization option, the thermal image on your monitor will be stable even when the tower or mast is slightly moving. Other filters, like histogram or look-up tables, can also be inserted to enhance or tune the image on each operator workstation.



Example of a Graphical User Interface developed with the Software Developers Kit.

Geo-referencing / mapping

FLIR Systems plug & play thermal camera models incorporate embedded geo-referencing intelligence and associated algorithms. This capability, accessible via SDK functions, allows the integrator to easily set-up each sensor and record images with time-stamped, geo-reference information in association with alarms, or display real time coverage on a map. Any thermal imaging camera using this technology can be slewed to look at certain coordinates with a simple and generic "goto" function.

An optional Windows ActiveX library allows systems integrators to easily embed in their applications display and control of multiple Nexus geo-referenced sensors and alarms over standard map layers. This mapping library offers powerful tools for scales, distances and map management. It is sold separately as "FLIR Sensor Maps Tool".

Video analytics and tracking options

The optional Video Player with Image Processing Filters allows integrators to embed the following functionalities in their applications:

- Spatial rules and alarms: this DirectShow player allows real time drawing of visual rules on the video image, with flexible shapes as polygons and poly-lines. In target acquisition mode, classified targets crossing a line in one or the other direction or entering/leaving an area will generate an event that the application can process.
- Video Motion Detection (VMD): gives an alarm when motion is detected in the defined areas within the image.
- Motion Tracker: A target tracking algorithm provides information on an "engaged target" so that the application can easily close the loop with the SDK and follow this target.

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Part numbers

FNS200.DEV.SDK.V2

FLIR Sensors SDK
The FLIR Sensors SDK is downloadable from FLIR Networked Systems website, free of charge. You must first apply for registration at "FLIR Developers Network" (<http://ns.flir.com>)

FNS500.SUP.DEVTOOLS.1YRSIL

Nexus Developers Network
Annual Subscription

FLIR Systems SDK Toolkit allows to:

- Discover, Control and Monitor FLIR Systems thermal imaging cameras over a TCP/IP network
- Model co-operation of FLIR Systems thermal imaging cameras with other sensors (e.g. slew to cue or radar track engage)
- Cue thermal imaging cameras to map coordinates
- Have real time on-line status and health info for the camera's devices
- Create and share over the network georeferenced scan lists or panoramas
- Set-up automatic response to alarms (slew to alarm)

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