



Thermal imaging cameras for security and surveillance



FLIR FC-Series S



FLIR SR-Series



FLIR F-Series



FLIR PT-Series



*FLIR Compact
D-Series*



FLIR A310pt



FLIR A310f



NEW



FLIR FC-Series S

Extremely affordable, network-ready fixed mount cameras

FC-Series S thermal security cameras let you see intruders and other threats to your facility clearly in total darkness and in bad weather. Fully enabled for control and operation over digital and analog networks, FC-Series S thermal imaging cameras are available in high-resolution 640 × 480, and 320 × 240 formats.



PoE (Power over Ethernet)

Communication and power supplied with only one cable.

- Standard PoE - IEEE 802.3af PSE – provides full operation with anti-icing
- PoE+ – IEEE 802.3at PSE supports de-icing for extreme cold and/or icy areas where 100% up-time is critical.



IP control

The FC-Series S can be integrated in any existing TCP/IP network and controlled and viewed by a wide range of networked devices, including a PC, NVR, smart phone or tablet using FLIR or third-party products.. No additional cables are required. Using this configuration, you can monitor all activity over the network, even when you are thousands of kilometers away. An intuitive web interface allows for easy controlling and adjusting of the camera.



Video Streaming

Multiple channels of streaming digital video are available in H.264, MPEG-4, or M-JPEG formats. Simultaneous digital and composite video output is possible.



Sunshield

Allows for protection against solar energy and precipitation.



Designed for use in harsh environments

The FC-Series S is rated IP66.



FLIR Sensors Manager

Each FC-Series S camera comes with a single sensor copy of FLIR Sensors Manager. This intuitive software allows users to manage and control an FC-Series S camera in a TCP/IP network.



* After product registration on www.flir.com

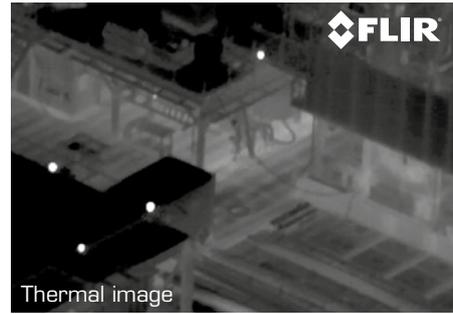


Different lens options available

The following table gives an overview of the available FC-Series S versions

	Available lens options
320 x 240 pixels*	FC-363 S : 7.5 mm lens – FOV : 63° (H) x 50° (V)
	FC-348 S : 9 mm lens – FOV : 48° (H) x 39° (V)
	FC-334 S : 13 mm lens – FOV : 34° (H) x 28° (V)
	FC-324 S : 19 mm lens – FOV : 24° (H) x 19° (V)
	FC-313 S : 35 mm lens – FOV : 13° (H) x 10° (V)
640 x 480 pixels	FC-309 S : 35 mm lens – FOV : 9° (H) x 7° (V)
	FC-690 S : 7.5 mm lens – FOV : 90° (H) x 69° (V)
	FC-669 S : 9 mm lens – FOV : 69° (H) x 56° (V)
	FC-645 S : 13 mm lens – FOV : 45° (H) x 37° (V)
	FC-632 S : 19 mm lens – FOV : 32° (H) x 26° (V)
	FC-618 S : 35 mm lens – FOV : 18° (H) x 14° (V)

* All 320 x 240 pixels FC-Series S thermal imaging cameras are equipped with an uncooled microbolometer detector with 25µm pixel pitch except for the FC-309 S which is equipped with an uncooled microbolometer detector with a 17µm pitch.



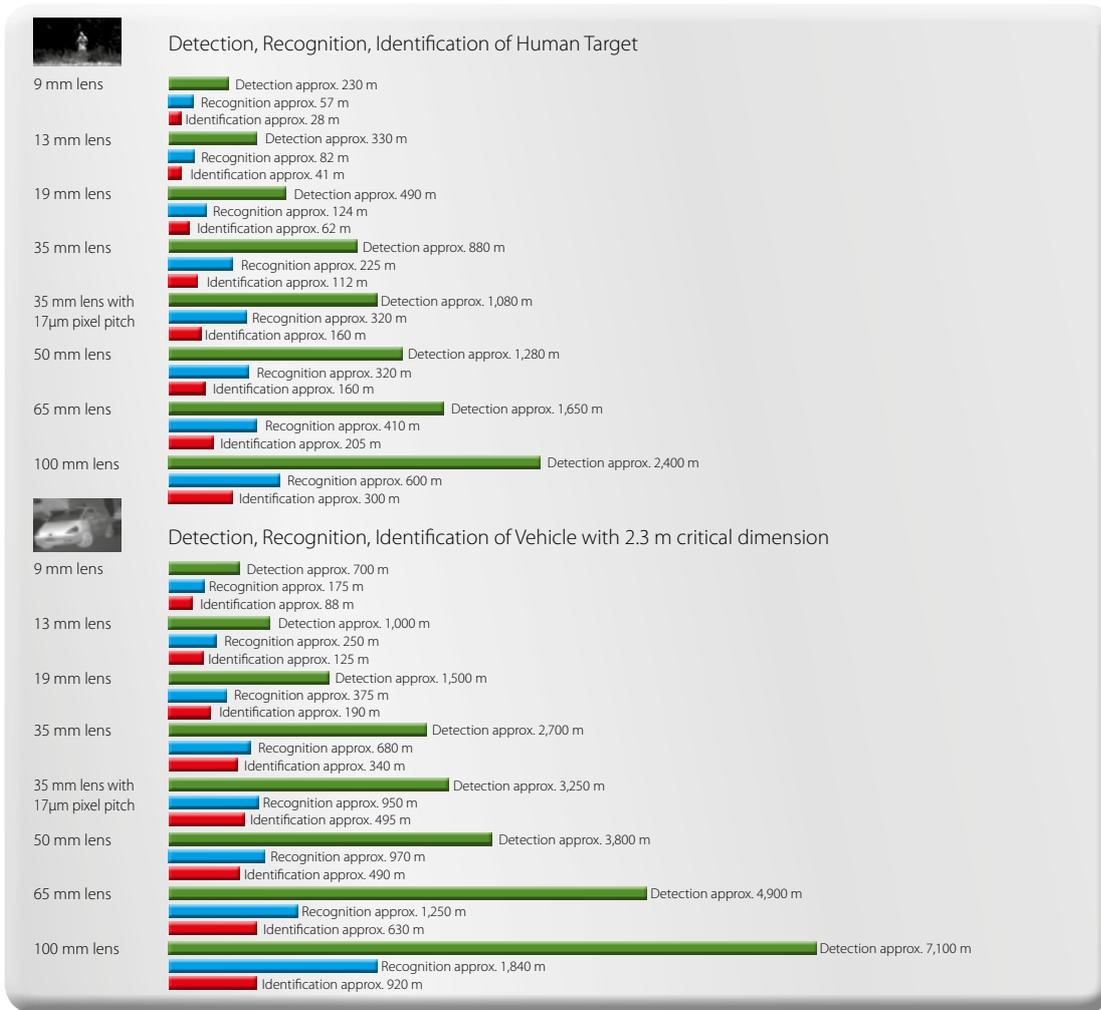
Different installation options exist for the FC-Series S. This optional pedestal mount is ideal for installation on ledges, walls and from overhead locations such as eaves, tunnel ceilings and bridge decks.



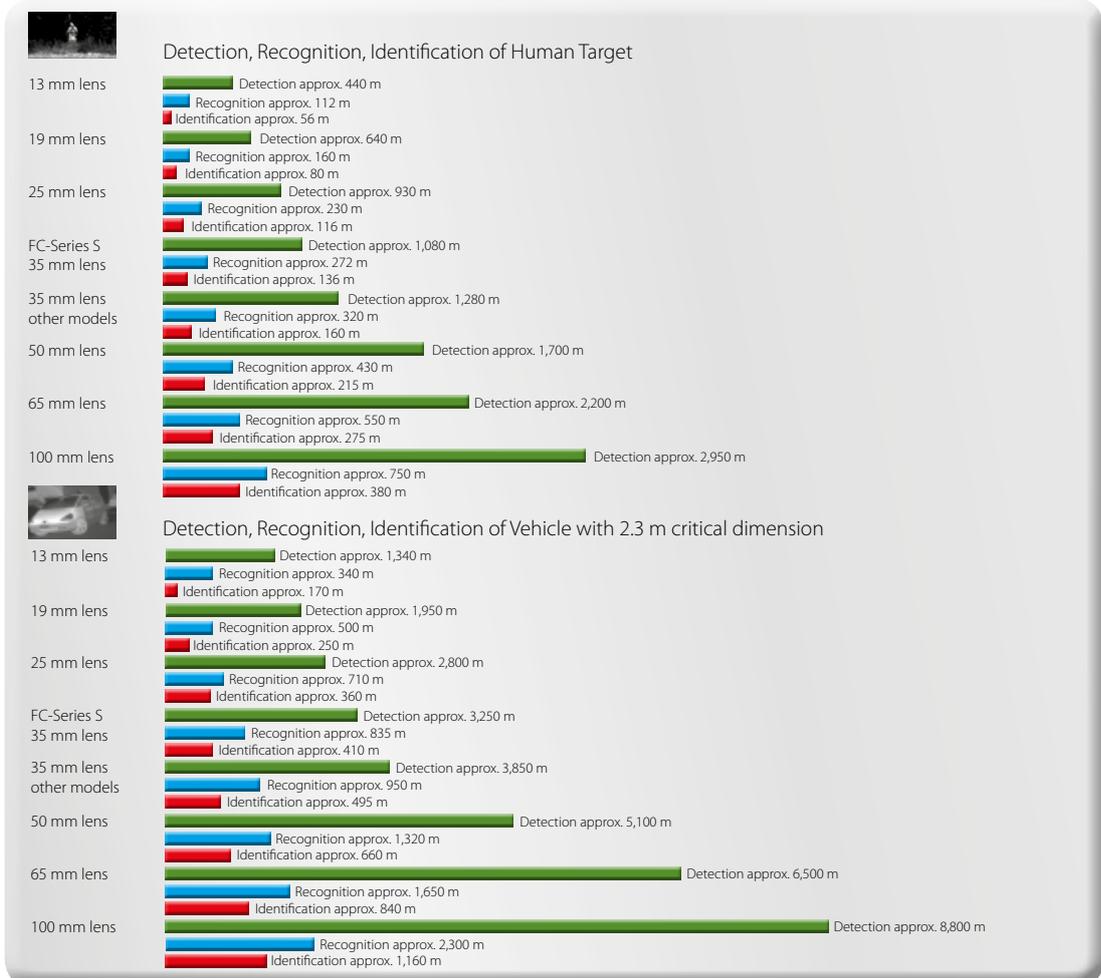
The FC-Series S is available with an optional concealed cable mounting arm bracket. This flexible mount supports simple installation in every environment. When this bracket is used for installation the camera is rated IP66.

Range Performances

Range performances for FC-S, SR-, F-, PT-, and D-Series with 320 x 240 pixels detector



Range performances for FC-S, SR-, F-, PT- and D-Series with 640 x 480 pixels detector



Actual range may vary depending on camera set-up, environmental conditions, user experience and type of monitor or display used. Assumptions: 50% probability of achieving objective at specified distance given 5°C temperature difference and 0.95 / km atmospheric attenuation factor.

FC-SERIES S

Technical specifications

FC-Series S: general specifications

Imaging performance	
Detector type	Focal Plane Array (FPA), uncooled Vanadium Oxide (Vox) microbolometer
Spectral range	7.5 to 13.5µm
Thermal sensitivity	<50 mK f/1.0
Image frequency	NTSC: 30Hz or 7.5Hz PAL: 25Hz or 8.33Hz
Focus	Focus free, athermal lens
Image processing	Automatic Gain Control (AGC), Digital Detail Enhancement (DDE)

System features	
Automatic heater	Clears ice from windows Automatic deicing, tested according to MIL-STD-810F Method 521.1

Image presentation	
Video output	PAL or NTSC, hybrid IP and analog
Video over Ethernet	Two independent channels of streaming MPEG-4, H.264, or M-JPEG
Streaming Resolutions	D1: 720x576, 4CIF: 704x576, Native: 640x512, Q-Native: 320x256, CIF: 352x288, QCIF: 176x144
Thermal AGC Modes	Auto AGC, Manual AGC, Plateau Equalization AGC, Linear AGC, Auto Dynamic Detail Enhancement (DDE), Max Gain Setting
Thermal AGC Region of Interest (ROI)	Default, Presets and User definable to insure optimal image quality on subjects of interest
Image Uniformity Optimization	Automatic Flat Field Correction (FFC) - Thermal and Temporal Triggers

Power*	
Requirements	Power over Ethernet PoE IEEE 802.3af-2003 or PoE+ (IEEE 802.3at-2009 standard) 12-38 VAC 11-56 VDC
Consumption	5 W nominal at 24 VDC 8 VA nominal at 24 VAC 21 W peak at 24VDC, with heaters 29VA peak at 24VAC, with heaters

Environmental specifications	
Operating temperature range	-50°C to +70°C (Cold start: -40°C to +70°C)
Storage temperature range	-55°C to +85°C
Encapsulation	IP66 (IEC 60529)
Shock	Mil-Std-810F
Vibration	IEC 60068-2-27

Physical characteristics	
Camera Weight	1.8 kg without sunshield 2.2 kg with sun shield
Camera Size (L x W x H)	259 mm x 114 mm x 106 mm without sunshield 282 mm x 129 mm x 115 mm with sun shield
Shipping weight (camera + packaging)	2.8 kg
Shipping size (camera + packaging) (L x W x H)	366 mm x 188 mm x 178 mm

Interfaces	
TCP/IP	Yes

Network	
Supported Protocols	IPv4, HTTP, Bonjour, UPnP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, ICMP, IGMP, DHCP, ARP, SCP
Network Application Programming Interfaces (APIs)	Nexus SDK for comprehensive system control and integration Nexus CGI for http command interfaces ONVIF 2.0 Profile S

Approvals	
EN55022:2010, Class A	
EN 61000-3-3: 2008	
EN 61000-3-2: 2006+A1: 2009 & A2 2009	
EN55024:2010	
EN51030-4: 2011	
FCC Part 15, Subpart B, Class A	
IP 66 (IEC 60529)	
IEC 60068-2-27	

Standard package	
Thermal imaging camera, sun shield, operator manual, FLIR Sensors Manager single sensor CD	

* Please consult product installation and operation guides for details of system power requirements

FC-Series S: version specific specifications

Sensor resolution	320 x 240**	640 x 480
Name/Focal length/ Field of view	<u>FC-363 S:</u> 7.5 mm lens – FOV : 63° (H) x 50° (V) <u>FC-348 S:</u> 9 mm lens – FOV : 48° (H) x 39° (V) <u>FC-334 S:</u> 13 mm lens – FOV : 34° (H) x 28° (V) <u>FC-324 S:</u> 19 mm lens – FOV : 24° (H) x 19° (V) <u>FC-313 S:</u> 35 mm lens – FOV : 13° (H) x 10° (V) <u>FC-309 S:</u> 35 mm lens – FOV : 9° (H) x 7° (V)	<u>FC-690 S:</u> 7.5 mm lens – FOV : 90° (H) x 69° (V) <u>FC-669 S:</u> 9 mm lens – FOV : 69° (H) x 56° (V) <u>FC-645 S:</u> 13 mm lens – FOV : 45° (H) x 37° (V) <u>FC-632 S:</u> 19 mm lens – FOV : 32° (H) x 26° (V) <u>FC-618 S:</u> 35 mm lens – FOV : 18° (H) x 14° (V)
Electronic zoom	up to 4x continuous	up to 4x continuous

** All 320 x 240 pixels FC-Series S thermal imaging cameras are equipped with an uncooled microbolometer detector with 25µm pixel pitch except for the FC-309 S which is equipped with an uncooled microbolometer detector with a 17µm pitch.

Specifications are subject to change without notice.
Sizes and weights are indicative.

Accessories

FC-Series S



Concealed Cable Mounting Arm

The concealed cable mount allows installation of all cabling to be routed inside of the mounting arm. Seals on the camera body insure IP66 protection. The arm can also be used with cables routed to the enclosure through the rear gland.



Pole Mount adapter

Pole mount adapter for use with FC-Series concealed arm mount. Suitable for use with 4"-8" diameter poles.



PoE+ Power Supply

Provides power for maximum de-icing in the most severe conditions.



24VAC Exterior Power Supply

Suitable for single or multiple camera installations. Supports full de-icing. Designed for installation outdoors.



24VDC Power Supply

Suitable for short distance cable runs where the power supply will be protected from the elements. Supports full de-icing.



Pedestal Mount

Ideal for installation on ledges, walls and from overhead locations such as eaves, tunnel ceilings and bridge decks.

SR-Series



Power supply

Power supply to power an SR-Series thermal imaging camera.



Hard transport case for SR-Series thermal imaging camera

Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

F-Series



F-Series pedestal mount

Mount to install an F-Series network-ready fixed mount thermal imaging camera. Typically used on a flat horizontal surface such as a wall or the top of a pole.



F-Series wall mount

Mount to install an F-Series network-ready fixed mount thermal imaging camera against a wall.



F-Series pole mount adapter

Can be used to mount an F-Series network-ready thermal imaging camera against a new or existing pole.



F-Series power supply

Power supply to power an F-Series network-ready thermal imaging camera.



Hard transport case for F-Series thermal imaging camera

Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.