

FLIR FC-T Series

Thermal imaging sensors for traffic monitoring



FLIR FC-T sensors are perfect for traffic monitoring. The thermal sensor can “see” vehicles in all conditions. Vehicles in traffic look the same to the sensor in broad day light or in the darkest of nights. They can operate in poor weather and through light fog. Thermal sensors produce an image in practically all weather conditions and can even see through certain types of smoke.

Thermal sensors are not hindered by reflections from sun glare, shadows, or headlights on wet pavement.

FLIR FC-T sensors can be positioned so the horizon is in the field of view. This allows for more advanced detection than typical optical sensor systems.

- *VEHICLE DETECTION AT INTERSECTIONS*
- *ROAD SIDE MONITORING*
- *MONITORING TRAFFIC IN TUNNELS*
- *HIGHWAY TRAFFIC MANAGEMENT*



Normal vision



Thermal vision

HIGH IMAGE QUALITY

The FLIR FC T-Series are equipped with a maintenance free uncooled microbolometer detector that produces high quality thermal images on which the smallest of details can be seen.

DIFFERENT LENS OPTIONS

FLIR Systems offers the FLIR FC T-Series with different lens options. They are available with a 7.5mm, 9 mm, 13mm 19mm, or 35mm lens. Longer lenses offer a narrower field of view so that you can see farther.

EASY TO INSTALL

All FLIR FC-T Series thermal imaging sensor can be installed on existing infrastructure. There is no need for huge civil works or to open up the road. They can be easily integrated into any existing infrastructure providing early detection and visibility 24/7 all the year round. They also provide two methods for connecting the video output cable: BNC and Connector-Less.

DESIGNED FOR USE IN HARSH ENVIRONMENTS

The FC-T Series are extremely rugged systems. Their vital core is well protected, meeting IP66 requirements, against dust and water ingress. They operate between -50 °C and +75 °C. Perfect for all climates.

VIDEO ANALYTICS

The FLIR FC-T Series works perfectly together with video analytics, such as FLIR's VIP 3D Detection Boards. Thermal images are often used for vehicle presence detection at signalized intersections, and for 24/7 traffic monitoring



FC-T Series: version specific specifications

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

Imaging Specifications

System Overview	FLIR FC-T Series
Imaging performance	24.6 mm (0.97 in.)
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
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, analog
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	90-240VAC, single phase 50-60Hz
Consumption	1.7 W nominal at 110 VAC 18 W peak with heaters
Environmental specifications	
Operating temperature range	-50°C to +75°C (Cold start: -40°C to +70°C) -58°F to +167°F (Cold start: -40°F to +158°F)
Storage temperature range	-55°C to +85°C (-67°F to +185°F)
Encapsulation	IP66 + IP 67 (IEC 60529)
Shock	Mil-Std-810F
Vibration	IEC 60068-2-27
Physical characteristics	
Sensor Weight	1.8 kg (3.97 lbs.) without sunshield 2.2 kg (4.85 lbs.) with sun shield
Sensor Size (L x W x H)	259 mm x 114 mm x 106 mm without sunshield 10.2 in. x 4.49 in. x 4.17 in. without sunshield 282 mm x 129 mm x 115 mm with sun shield 11.1 in. x 5.08 in. x 4.53 in. with sun shield
Shipping weight (sensor + packaging)	2.8 kg (6.18 lbs.)
Shipping size (sensor + packaging) (L x W x H)	366 mm x 188 mm x 178 mm 14.41 in. x 7.40 in. x 7.01 in.

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 + IP 67 (IEC 60529)
IEC 60068-2-27
Standard package
Thermal imaging sensor, sun shield, operator manual

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Specifications are subject to change without notice
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