

GOVERNMENT & DEFENSE

SkyRanger R60

RUGGED. RELIABLE. BATTLE-TESTED.



Lancashire Fire and Rescue Services flies a SkyRanger for hotspot identification and response coordination during an industrial fire.





WHEN LIVES ARE ON THE LINE

AN EYE IN THE SKY CAN MAKE ALL THE DIFFERENCE.

Trusted by military, public safety and industrial customers around the world, FLIR's integrated small Unmanned Aircraft Systems (UAS) deliver unmatched security, reliability and performance.

In addition to our hands-on pilot training and dedicated customer support, we partner with our law enforcement and fire operators to build successful UAS programs that save time, resources, and lives.

The FLIR SkyRanger is a rugged, reliable, and field-tested drone that aids in a wide range of applications from search and rescue operations to emergency and disaster response. Today, SkyRangers are deployed with customers in over 30 countries.

A COMPLETE UAS SOLUTION



Field-Tested Drones

The FLIR SkyRanger R60 sets the standard for real-time, secure, aerial intelligence across a wide range of applications from search and rescue operations to emergency and disaster response. The R60's powerful long-range zoom and infrared imaging payloads provide secure situational awareness and eyes on target from over a mile away.



Mission-Specific Software

FLIR software provides UAS operators everything you need to easily plan, capture, and distribute aerial intelligence from your UAS. By streaming live video feeds and aircraft telemetry to your emergency command center or personnel on the ground, FLIR Command is your hub for real-time UAS missions. From planning flight paths to automatically logging pilot currency and post flight analytics, FLIR's flight operations software helps you build a scalable UAS program for your agency.



Flight Training & Support

We are there for you every step of the way, from understanding and defining your program requirements to deploying your UAS. Our law enforcement and aviation experts will assess your program requirements, integrate with your existing systems, provide hands-on training to your team, and sustain your FLIR UAS fleet so you can focus on what matters most – keeping your community safe.

YOUR SUCCESS IS OUR PRIORITY.

SKYRANGER R60

THIS IS NOT A HOBBYIST'S DRONE

Fly in Inclement Weather

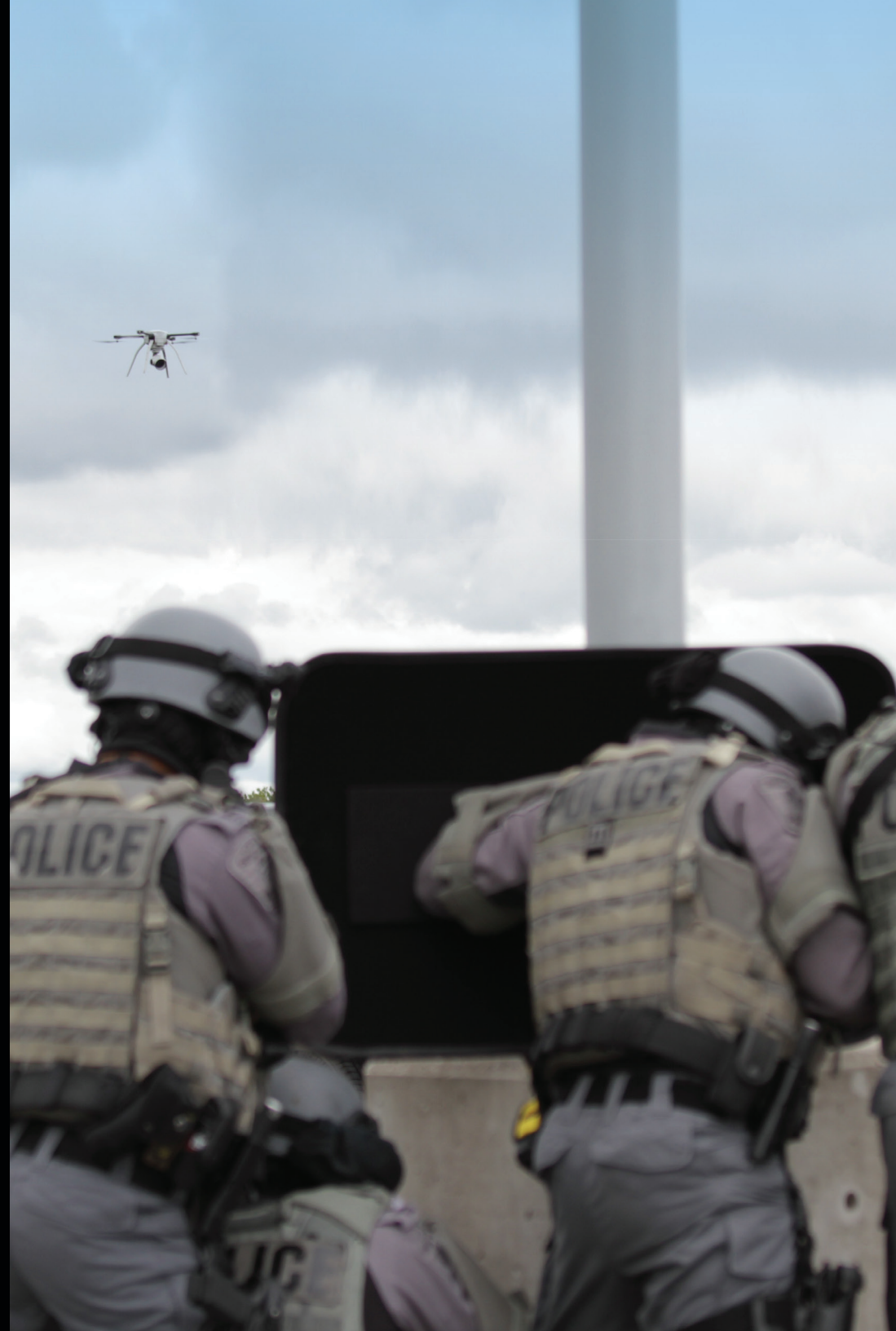
IP-53 rated airframe and water resistant payloads provides safe operations in bad weather- because the weather shouldn't stop you from responding to the call.

High Wind Stability

Stable operations in sustained 40 mph (65 kph) winds and 55 mph (90 kph) gusts so you can still fly safely on windy days.

Military-Grade Security

SkyRanger uses an AES-256 Encrypted Local Network that securely stores data only when you want to- unlike other drone manufacturers that store your data overseas.



RUGGED. RELIABLE. FIELD-TESTED.

Patented Folding Airframe

Compact, folding design is easy to transport in a standard rucksack and is deployable in minutes by a single operator without tools.

Advanced Imaging Payloads for Long-Range ISR

Infrared and zoom imaging payloads deliver electro-optical and infrared imagery and video for versatility in day or night missions.

Real-time onboard image and video processing for tracking of people and other moving objects.



Carbon Fiber Reinforced Polycarbonate Arms & Legs

Rugged materials stand up to daily wear and tear.

Intelligent Flight Control & Propulsion System

Delivers reliable performance in demanding conditions like high winds, extreme temperatures and inclement weather.

Simple Tablet-Based Mission Control Software

Autonomous capabilities and simple touchscreen controls require minimal training for operators.

All-digital AES-256 encrypted network with multiple frequency and waveform options.

SKYRANGER R60

HIGHLIGHTS

90 Seconds

From pack to airborne

Sustained Persistence

With Automatic In-Air Replacement

6+ Miles

Extended operational range

PERFORMANCE SPECIFICATIONS

ENDURANCE	30-50 minutes* <i>*Actual flight time varies based on payload and operating conditions</i>
MAX RANGE	3km (1.86 miles) with standard base station 10km (6.21 miles) with directional antenna
PAYLOAD CAPACITY	1.5 lbs (0.7kg)
MAX CEILING	15,000' MSL
WIND TOLERANCE	65kph sustained, 90kph gusting (40mph, 55mph)
OPERATING TEMPERATURES	-30°C to 50°C (-22°F to 122°F)
FREQUENCY	915MHz, 922MHz, 1380MHz, 2.4Ghz + other frequencies
GROUND CONTROL STATION	FLIR Mission Control Station (MCS) Software Running on Panasonic FZG-1 Toughpad
VIDEO METADATA	Embedded STANAG 4609 KLV metadata
ENCRYPTION	Secure Network Pairing: AES256 Bit Encryption with Physical Key Exchange
ENVIRONMENTAL TOLERANCES	Weather-rated to IP-53
WEIGHT	Aircraft 2.4kg (5.3lbs) – Airframe, arms, legs, batteries, no payload Standard Pack 5kg (11lbs) – Aircraft, Base Station, HDZoom 30
FLIGHT TRAINING	3-Day Course + FLIR eLearning Academics <i>Mission-specific training and train-the-trainer programs are also available</i>

SKYRANGER PAYLOAD

HDZoom 30

Long-Range Zoom

Read a license plate from 1,000 feet with the FLIR HDZoom 30 which delivers up to 30x optical zoom and 60x enhanced digital zoom for eyes-on-target at distances up to 5 km.



PERFORMANCE SPECIFICATIONS

SHUTTER TYPE	Mechanical
IMAGE STILLS	20 megapixels (5184 x 3888 pixels)
ZOOM	30x optical 60x digital
FIELD OF VIEW	68.6° to 2.6° (30x), 1.3° (60x)
VIDEO RESOLUTION	1080p60 H.264 HD recorded
REMOVABLE MEMORY	SDHC, SDXC
VIDEO METADATA	Embedded STANAG 4609 KLV Metadata
ENVIRONMENTAL TOLERANCES	All-weather operations, IP-53 compliant
WEIGHT	24 oz (670 g)

ACTUAL IMAGE FROM 300 METERS



ACTUAL IMAGE FROM 2KM

SKYRANGER PAYLOAD

EO/IR Mk-II

High-Fidelity Infrared

The FLIR EO/IR Mk-II delivers high-fidelity daylight and thermal imagery in a weather-resistant, 3-axis stabilized gimbal.



PERFORMANCE SPECIFICATIONS

MAKE & MODEL	SONY FCB_MA132 + FLIR TAU2
IMAGE STILLS	EO: 13 megapixels (4192 x 3104 pixels) IR: (640 x 512 pixels)
FIELD OF VIEW	EO: 58° IR: 45° (13mm) or 32° (19mm)
ZOOM	4x digital
VIDEO RESOLUTION	640 x 512, 8.33 FPS H.264 recorded
COLOR PALETTES	White-hot, Black-hot, Rainbow, Ironbow
VIDEO METADATA	Embedded STANAG 4609 KLV Metadata
DIGITAL ENHANCEMENTS	Active Contrast Enhancement (ACE) Digital Detail Enhancement (DDE) Information Based Histogram Equalization (IBHEQ) Isotherms
ENVIRONMENTAL TOLERANCES	All-weather operations, IP-53 compliant
WEIGHT	20 oz (575 g)

CAPTURE DAYLIGHT AND THERMAL IMAGERY AT THE SAME TIME.

Ideal for both day and night operations, the EO/IR Mk-II imaging payload provides:

- Enhanced thermal (IR) imagery in a range of color palettes – white-hot, black-hot, rainbow, and ironbow
- Secure HD 1080p video streaming to the pilot and remote personnel anywhere in the world
- Choice of IR lenses – 19 mm focal length (tactical applications) and 13 mm (thermal mapping or SAR applications)
- Advanced radiometric temperature measurement, accurate to +/- 90° F (50° C)

FIND AND TRACK MOVING OBJECTS

Moving Target Identification in Both EO and IR

FLIR's Vector™ real-time video processing software automatically targets and tracks moving objects up to 3 miles away. The tracking algorithm adapts in real-time to changes in target shape and maintains a hold on the target even when its position changes or another object obstructs the view.

- Automatically track targets
- Identify up to 10 moving objects
- Calculate target geolocation,
- heading and speed

VECTOR'S MOVING TARGET INDICATOR (the green box) automatically annotates up to 10 moving objects within the camera's field of view and can provide real-time calculation of target heading and speed in both (EO) and Infrared (IR).

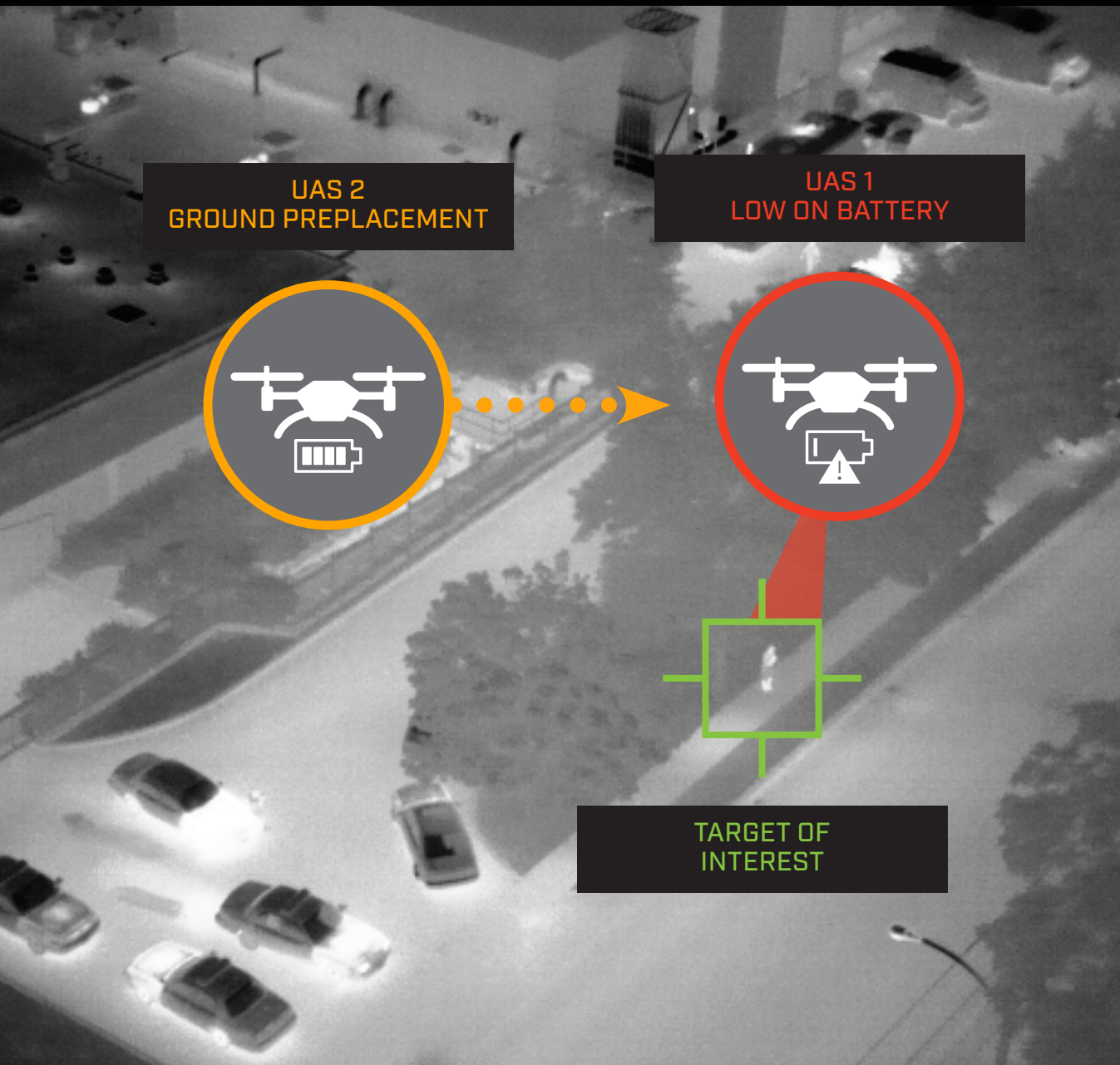


KEEP EYES ON TARGET FOR HOURS

Gain Persistent Eyes on Target with Automatic In-Air Replacement (AIR)

AIR allows a fully charged, ready-to-launch SkyRanger to automatically replace another airborne SkyRanger when its battery is depleted or it needs to land.

AIR also provides real-time payload swaps for when conditions or operational requirements change (daylight into night operations) where a SkyRanger flying an EO/IR Mk-II replaces a SkyRanger flying an HDZoom 30 for improved nighttime ISR.



AUTOMATIC TARGET HANDOFF SCENARIO IN IR BETWEEN MULTIPLE SKYRANGERS USING AIR

ADVANCED CAPABILITIES FOR A BROAD RANGE OF MISSION SETS

SEARCH & RESCUE



Find People Faster

With SAR operations, the sooner search efforts start, the better the chance of a successful outcome. SkyRanger can be airborne within minutes of first responders arriving on scene. Pre-planned flight paths and Vector motion tracking enable the operator to easily fly a grid search in a given area and automatically spot moving objects. Both infrared and daylight cameras help spot people hidden in tree cover and rough terrain.

TACTICAL OPERATIONS



Make Better Decisions

Warrants, raids, barricades, and hostage situations are some of the most dangerous operations for police officers. An aerial perspective can help officers gain critical situational awareness while maintaining a safe standoff distance. SkyRanger is ideal for providing critical monitoring of any high-risk situation where decisions need to be made quickly and can remain on-station to stream live multicast video to officers and command posts simultaneously.

DISASTER RESPONSE



Direct Aid Where It's Needed Most

From forest fires, to hurricanes, to tornadoes, first responders need to be prepared to quickly assemble a response in the aftermath of a natural disaster. SkyRanger enables rescue teams to fly before other manned aircraft arrive on scene, quickly assessing damage, locating survivors and providing the intelligence needed to determine where aid is needed most.

EMERGENCY RESPONSE



Gain a Clear Vantage Point

When a freight train carrying hazardous materials derailed outside Louisville Kentucky first responders needed to quickly assess the scene, while maintaining a safe standoff distance. With the nearest helicopter down for maintenance, R60 provided critical imagery of the derailment, and the aerial vantage point necessary to ensure the investigation, documentation and clean up went smoothly.

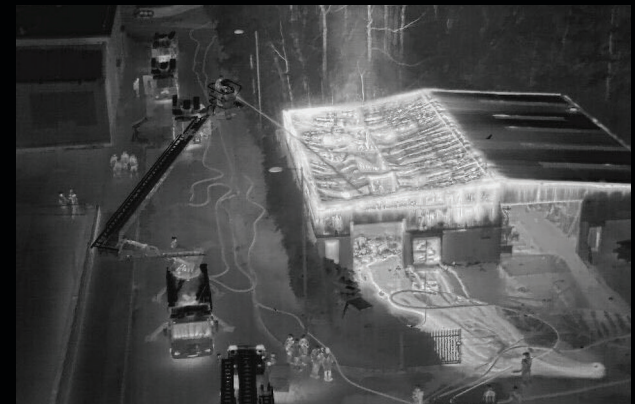
CRASH RECONSTRUCTION



Clear Roads 4x Faster

Investigating a collision requires a fine balance between two competing demands – the requirement for collecting thorough, lasting evidence and the need to open roads as quickly as possible. The R60 provides a full range of aerial mapping and automated point cloud solutions that enable first responders and investigation teams to map and clear a site up to 4 times faster than with a Total Station or traditional measures.

FIRE OPERATIONS



Find Hot Spots

SkyRanger enables the persistent observation and monitoring of a fire and can fly when darkness or smoke prevents manned aircraft or ground crews from getting near a blaze. The FLIR MK-II EO/IR camera is a vital tool to help you see through smoke and monitor the fire's spread, so you can quickly visualize your plan of attack, locate hot spots, and save lives.

INTEGRATED MISSION MANAGEMENT WITH FLIR COMMAND

Share Critical Information With Your Chain of Command

FLIR Command gets the right data to the right people, at the right time, enabling prompt and accurate decision making.

COORDINATE YOUR EMERGENCY RESPONSE

- Stream live video & telemetry
- Toggle between EO/IR camera feeds
- Quickly upload stills & videos
- Remotely designate targets & waypoints

MANAGE YOUR UAS PROGRAM

- Plan & schedule flights
- Manage your UAS fleet & track pilot stats
- Store & organize media
- Automatically generate reports & logs

COMING SOON

- See the location of your personnel with BLUE FORCE TRACKING
- Integrate cell phone & other video feeds

QUICKLY DISTRIBUTE THE SKYRANGER LIVE VIDEO FEED TO YOUR MOBILE COMMAND TRUCK, EMERGENCY RESPONSE CENTER OR OFFICERS IN THE FIELD.

"As a first-response agency, it's critical that our chain of command sees what the SkyRanger sees, without delay. Watching the live video as well as telemetry gives everyone involved the critical data that's needed when responding to incidents."

MARK FAIRCLOUGH

STATION MANAGER,
GREATER MANCHESTER
FIRE AND RESCUE SERVICE





REQUEST A QUOTE

READY TO ADD SKYRANGER TO YOUR FLEET?

Send us an email with your contact information to:
surveillance_sales@flir.com

We look forward to working with you.

For more information and videos on
SkyRanger visit: www.flir.com

We're Not Your Typical Drone Provider

- 10 Years of UAS experience
- Hands-on flight training
- Dedicated support team
- Made in North America

FLIR SYSTEMS GOVERNMENT & DEFENSE

AMERICAS

FLIR Systems, Inc.
Corporate Headquarters
27700 SW Parkway Ave
Wilsonville, OR 97070
Office: +1 877.773.3547

FLIR Systems, Inc.
DC Headquarters
1201 S. Joyce Street
Suite C006
Arlington, VA 22202
Office: +1 703.682.3400

FLIR Systems, Inc.
7055 Troy Hill Dr. Suite 300
Elkridge, MD 21075
Office: + 1 877.692.2120

FLIR Systems, Inc.
575 Kumpf Dr.
Waterloo, ON N2V 1K3, Canada
Office: +1 519.489.6726

FLIR Systems, Inc.
1001 17th St #680
Denver, CO 80202
Office: +1 720.442.7410

EUROPE

FLIR Systems
2 Kings Hill Avenue - Kings Hill
West Malling, Kent ME19 4AQ
United Kingdom
Office: +44 (0)1732 220 011
Fax: +44 (0)1732 843 707

MIDDLE EAST

FLIR Systems B.V. - Abu Dhabi
Wadi Al Fey St.
Building 60, Office # 302
New Ministries Exit / Khalifa Park Area
Abu Dhabi, U.A.E.
Office: +971 2 666 1561
e-Fax: +1 503 914 1591

FLIR Systems Saudi Arabia
Office 127, First Floor
Akaria Plaza Building, Olaya
Street
Riyadh, 11481, Saudi Arabia
Office: +966 11 464 5323
Fax: +966 11 464 0438

ASIA

FLIR Systems Japan K.K.
Meguro Tokyu Bldg. 5F,
2-13-17
Kami-Osaki, Shinagawa-ku.
Tokyo, 141-0021, Japan
Office: +81-3-6721-6648

Equipment described herein may require US Government authorization for export purposes.
Diversion contrary to US law is prohibited. ©2019 FLIR Systems, Inc. Specifications are subject to change.
19-0251-SUR-R60MIL_Brochure - Updated 01/30/19

saleshelp@flir.com



The World's **Sixth Sense**®