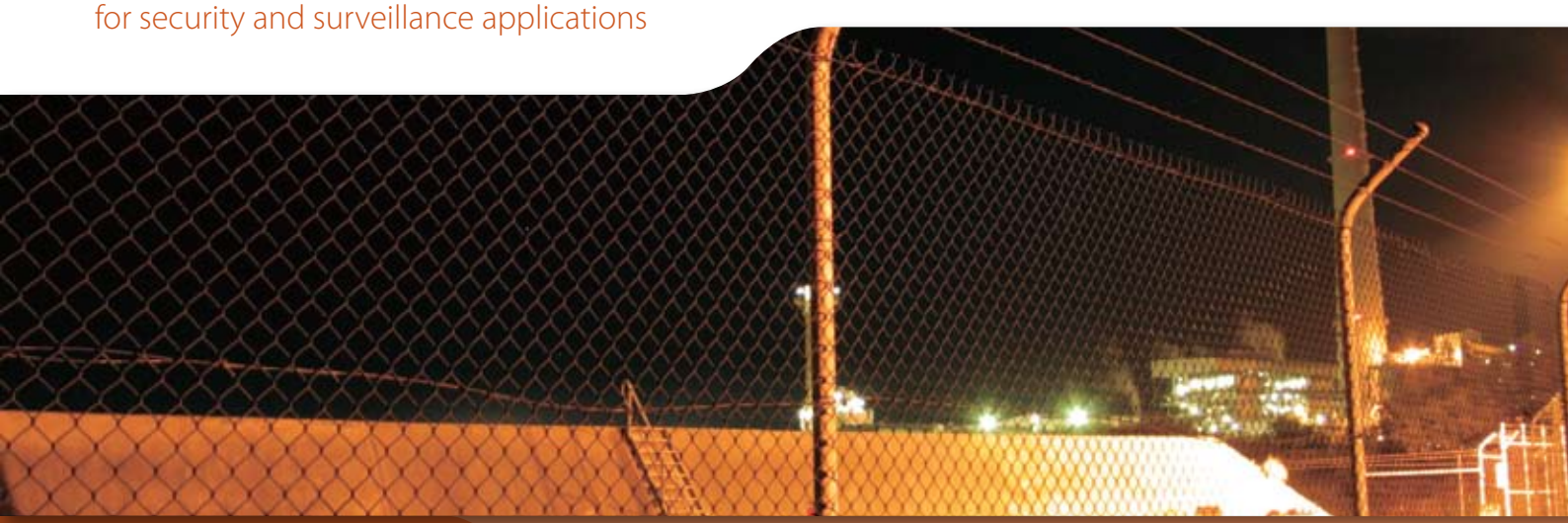
Thermal imaging cameras
for security and surveillance applications



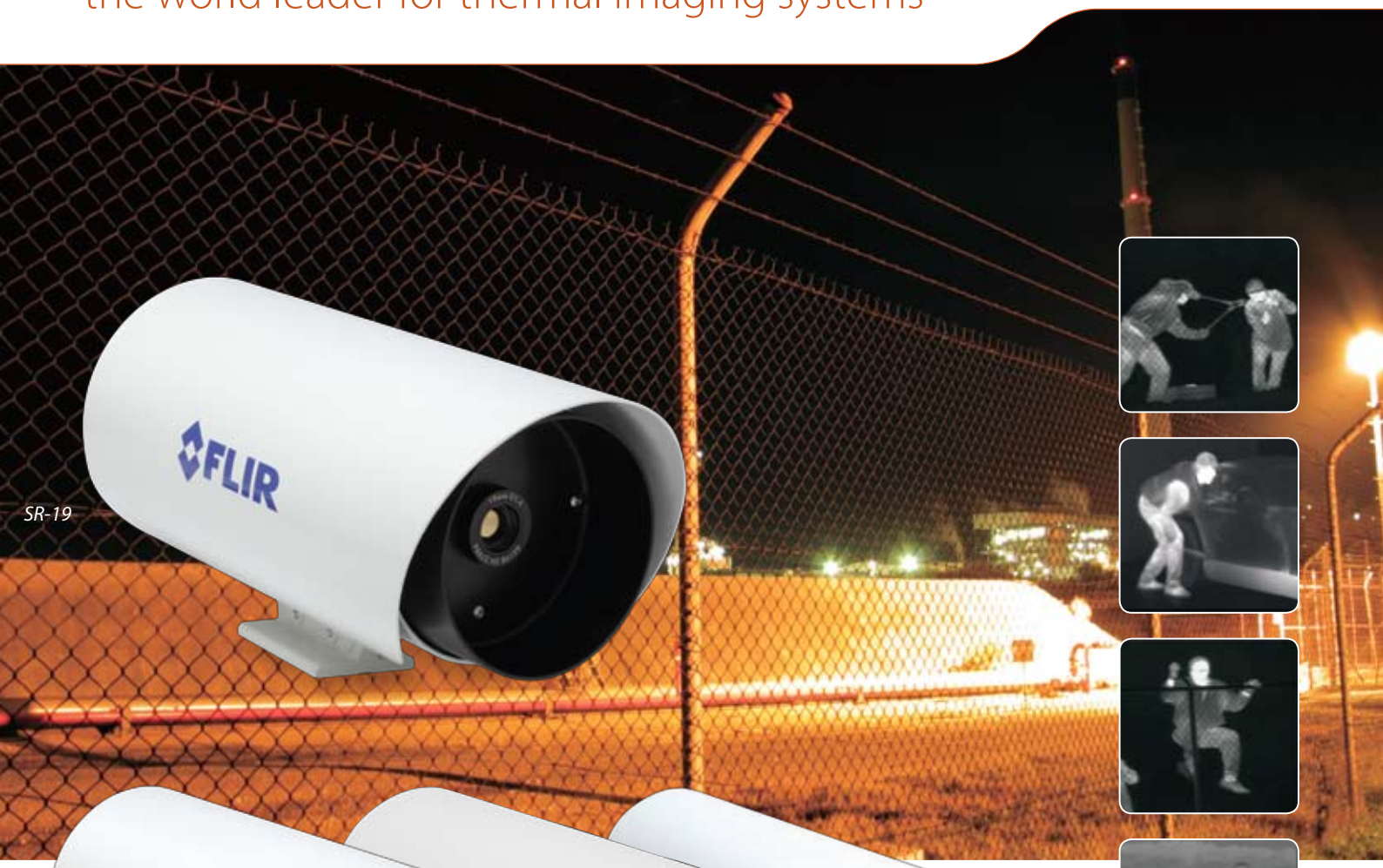
SR-19 | SR-35 | SR-50 | SR-100

Thermal imaging camera with multiple choices
to meet a variety of needs

SR-100

www.flir.com

SR-19, SR-35, SR-50, SR-100, from FLIR Systems, the world leader for thermal imaging systems



SR-19

SR-35 *SR-50* *SR-100*

The SR-19, SR-35, SR-50 and SR-100 are economic, fixed mounted thermal imagers. They provide crisp, clear thermal imagery in total darkness, light fog or smoke. They feature the same thermal imaging technology found in many of FLIR's most sophisticated security and surveillance systems, but are packaged for users who have short- to medium-range security and surveillance as their primary application. They include FLIR's advanced image processing techniques which deliver excellent contrast regardless of scene dynamics.

Unlike other night vision systems that require low amounts of light to generate an image, the SR-19, SR-35, SR-50 and SR-100 need no light at all.



Extremely affordable
The SR-19 comes at an extremely affordable price. From now on, price is no longer an object to integrate thermal imaging into your existing video security networks.

Crisp thermal images: 320 x 240 pixels
The SR-19, SR-35, SR-50 and SR-100 provide crisp, clear thermal imaging with 320 x 240 pixels. This allows the user to see more detail and detect more and smaller objects. Advanced internal camera software delivers a crisp image without the need for user adjustments. They provide high quality thermal imaging in any night- or daytime environmental conditions.

Different lenses
Different users have different needs. Therefore FLIR Systems markets the SR-cameras with different lenses. Longer lenses have a narrower field of view and give you the possibility to see targets which are further away.

The SR-19 is equipped with a 19 mm wide angle lens. It gives you an extremely wide field of view (36°), so that you can cover a large area and keep excellent situational awareness.

The SR-35 equipped with a 35 mm lens, has a horizontal field of view of 20°. The SR-50, with a 50 mm lens, has a field of view of 14°. Both are extremely suited for short range threat detection in all circumstances.

Equipped with a 100 mm lens, the SR-100 is designed for longer range security and surveillance applications. It has a 7° field of view and can be focused over RS-232 or RS-422 protocol. With the SR-100 you will be able to detect a man-sized target at a distance of almost 2km.

Easy-to-install
All three cameras can be easily connected to common power and video interfaces found in existing and new security systems. They can be easily integrated into any existing CCTV infrastructure providing early detection and visibility 24/7 all the year round. The images from the 320 x 240 pixels detector can be displayed on virtually any existing display that accepts composite video.

Designed for use in harsh environments
The SR-19, SR-35, SR-50 and SR-100 are extremely rugged systems. Their vital core is well protected, meeting Mil-Std-810E and IP66 requirements, against humidity and water. A sealed lens maintains the environmental ratings of the existing enclosure. They all operate between -32°C and +55°C. They have a built-in heater which ensures a clear lens and perfect infrared images displayed on your monitor even in extremely cold enviroments.

Lightweight
Very lightweight, all four thermal imaging cameras can be installed at any position. They can be mounted at an optimal observation point providing maximum field of view.

Easy-to-use
All four versions are easy-to-use and require no operator training.

All SR-series thermal imaging cameras can be easily installed and integrated in existing CCTV networks

Thermal imaging for security and surveillance applications
Thermal imaging cameras create a virtual security fence and are finding their way into many security and surveillance applications. Nuclear plants, petrochemical installations, warehouses, ports and airports, ... they all are vulnerable to theft, or even worse terrorist attacks, and can be protected by using thermal imaging cameras.

Terrorism, vandalism, and random violence threaten the safety of personnel and the integrity of public and private facilities. A comprehensive security program utilizing thermal imaging is the key to asset protection and risk mitigation. Thermal imaging exposes threats hidden in the darkness, concealed by adverse weather, and veiled by obscurants like dust, fog, and smoke.

Thermal imaging offers advantages over low light and daylight cameras in applications where lighting is impossible, too expensive or long range performance is required. For border security, port security, and critical infrastructure applications, thermal imaging has proven vital to threat detection initiatives. Even with the best daylight or lowlight cameras, there are many situations where a thermal imager outperforms all other sensors.

Thermal imaging cameras are a new weapon for intrusion detection. They detect intruders sooner, provide more time to react and protect people, assets, and infrastructures. They are operational 24 hours a day even in the darkest of nights, dense fog, snow, smoke, ... They monitor large areas over long distances.

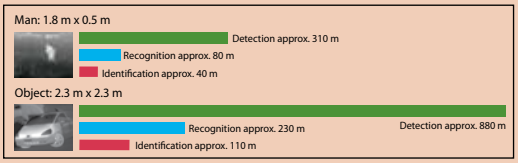
SR-19, SR-35, SR-50, SR-100

Technical specifications

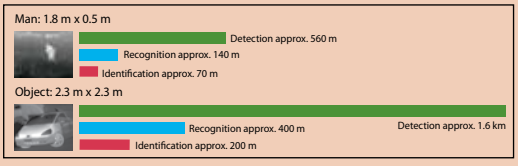
IMAGING PERFORMANCE	
Detector type	Focal Plane Array (FPA), uncooled microbolometer 320 x 240 pixels
Spectral range	7.5 to 13µm
Field of view	SR-19: 36°(H) x 27° (V) with 19 mm lens SR-35: 20° (H) x 15° (V) with 35 mm lens SR-50: 14° (H) x 10° (V) with 50 mm lens SR-100: 7° (H) x 5° (V) with 100 mm lens. Lenses are not interchangeable and must be specified at time of purchase.
Spatial resolution (IFOV)	SR-19: 2.0 mrad - SR-35: 1.1 mrad - SR-50: 0.8 mrad - SR-100: 0.4 mrad
Thermal sensitivity	85 mK at 25°C
*Image frequency**	7.5Hz (NTSC) or 8.3 Hz (PAL)*
Focus	SR-19 / SR-35 / SR-50: fixed - SR-100: manual
Electronic zoom	2x
Image processing	Automatic Gain Control (AGC), Digital Detail Enhancement (DDE)
SYSTEM FEATURES	
Remote Control	Focus: SR-100 only
Automatic heater	Yes
PelcoD compliance	SR-100 only: focus, 2x electronic zoom
IMAGE PRESENTATION	
Video output	NTSC or PAL composite video
Connector types	BNC (1) provides video output
POWER	
Requirements	14-32 V DC or 24 V AC +/- 10%
Consumption	SR-19 / SR-35 / SR-50: 6 W Nominal, 24 W startup peak, at 24V DC, at 23°C SR-100: 8 W Nominal, 36 W startup peak, at 24V DC, at 23°C
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range	-32°C to +55°C
Storage temperature range	-50°C to +85°C
Humidity	Rain
Sand/dust	Mil-Std-810E
Encapsulation	IP66
Shock	Mil-Std-810E
Vibration	Mil-Std-810E
PHYSICAL CHARACTERISTICS	
Camera Weight	SR-19 / SR-35 / SR-50: 2.7 kg, SR-100: 3.6 kg
Camera Size (L x W x H)	SR-19 / SR-35 / SR-50: 279mm x 132mm x 142 mm SR-100: 381mm x 132mm x 142 mm
Shipping weight (camera + packaging)	6.9 kg
Shipping size (camera + packaging) (L x W x H)	36 cm x 51 cm x 34 cm
INTERFACES	
Factory configured	RS-232 for SR-19, SR-35, SR-50 RS-422 for SR-100
Standard Package	Thermal imaging camera, operator manual

** 30 Hz NTSC or 25 Hz PAL available. Subject to approval of the US Department of Commerce for use outside the USA.*

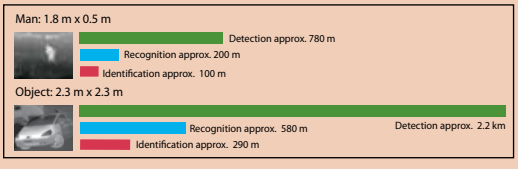
SR-19: range performance 19 mm lens



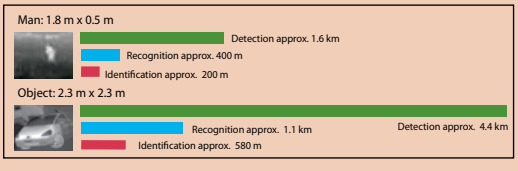
SR-35: range performance 35 mm lens



SR-50: range performance 50 mm lens



SR-100: range performance 100 mm lens



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 2°C temperature difference and 0.85 / km atmospheric attenuation factor.

SR-19

FLIR Systems: a full range of infrared cameras for thermal night vision applications

Whatever your application, FLIR Systems offers a solution to make you see clearly at night and in the most diverse weather conditions.

FLIR Systems has more than 50 years of experience in the development and production of infrared cameras for night vision applications. Recent technological developments have made it possible that know-how, which was reserved for military and high-end scientific users only, has made its way to many more applications.

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