



**TRANSPORTABLE, MID-RANGE
MULTI-SENSOR SURVEILLANCE SYSTEM**

FLIR Ranger® MS-UC DefendIR

The Ranger® MS-UC DefendIR is an industry-leading mid-range thermal imager that can see in complete darkness and through a multitude of environmental conditions, including smoke, rain, snow, dust, and dense fog. The Ranger DefendIR is ideally suited for day and night perimeter security, maritime surveillance, and DHS/DoD applications. The ruggedized housing is environmentally sealed and certified to meet NEMA4X, IP66 and MIL-STD-810F specifications, standing up to the most challenging weather and temperature conditions.

Pan/tilt, continuous optical zoom, and multiple lens options allow vast areas to be monitored in real time. Capable of continuous 360° panning and a +/- 80° tilt in ambient temperatures ranging from -40° C to 65° C, DefendIR can interface with VMD, radar, UGS, and other trigger sensors. Payload includes an uncooled LWIR sensor and CCD camera; using VisionSense™ technology, an operator can blend the thermal and CCD camera imagery for clearer contextual outputs.

FEATURES

THERMAL/VISIBLE LIGHT CAMERA SYSTEM

Blend imagery from the uncooled IR and CCD cameras with VisionSense™ to penetrate glare and see through glass or water.

PAN/TILT AND ZOOM ADVANTAGES

Continuous optical zoom lets the user stay focused on the target. Tilt and continuous 360° pan allows for easier tracking.

READY OUT-OF-THE-BOX

Integrates easily into existing fiber, wireless, or IP systems, and supports most protocols used in commercial and military applications CE tested.

SIMPLE INTEGRATION

One cable, four bolts, and multiple lens options – integrator and operator can secure an entire installation with one camera and choose whichever lens is needed to cover every required field of view and detection range.

RUGGEDIZED FOR CHALLENGING ENVIRONMENTS

Environmentally sealed and certified to meet NEMA4X and I66 specifications, DefendIR can withstand extreme weather and temperatures.

APPLICATIONS

FORCE PROTECTION

BORDER SURVEILLANCE

TACTICAL RECONNAISSANCE

TRAINING RANGE APPLICATIONS

FIXED AND MOBILE SECURITY

SKYWATCH DETAILS

RANGER MC-US DEFENDIR

Video Outputs	Two video channels - one thermal and one mixed (CCD EO and thermal), varying from 0 to 100% CCD EO
Serial Interface	RS-422 and 10/100 Ethernet
Power Input	15-24 VDC \pm 20% or 220/110 VAC 50/60 Hz
Power Consumption	<22 Watts (nominal) / 45 Watts (peak)
Weight	<28 lbs. (12.7 kg) (Varies by configuration)
Operating Temperature	-40° to +65° C
Environmentally Sealed	NEMA 4 and IP66 Certified, MIL STD 810F tested
MIL-STD-810F tests	Methods 501.4, 502.4, 503.4, 505.4, 506.4, 507.4, 508.5, 509.4, 510.4, 514.5, 516.5 and 521.2
Azimuth Control	Continuous 360°
Elevation Control	45mm/135mm model: -25° to +80° All other models: -80° to +80°
Pan & Tilt Slew Rate	0.25-60°/sec Controlled (varies by configuration)
Pointing Accuracy & Pan Repeatability	Pan \pm 0.25° (varies by configuration) Tilt \pm 0.1° (varies by configuration)

THERMAL CAMERA

Detector	Uncooled, Vanadium Oxide Microbolometer
Frame Rate	30 Hz (NTSC) and 25 Hz (PAL)
Resolution	640 x 480
Spectral Response	LWIR
IR Lens Options	25mm, 50mm, 100mm 30/90mm Continuous zoom, 45/135mm Continuous zoom
Optical IR Zoom	30/90mm 3X continuous 45/135mm 3X continuous
Digital IR Zoom	Continuous Digital Zoom 1x to 4x
Focus	Remote focus
Gain / Level Controls	Automatic or Manual

CCD CAMERA

CCD Camera	Narrow FOV 1.6°, Wide FOV 42°
Image Stabilization	By software command
Zoom	Optical: 26x Digital: 12x Total: 312x
Minimum Illumination	0.6 lux typical, 1/60 sec (NTSC) 0.04 lux typical 1/4 sec (NTSC)



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

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

FLIR Systems AB
Antennvägen 6,
PO Box 737
SE-187 66 Täby
Sweden
Office: +46 (0)8 753 25 00

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

For More Information contact
surveillance_sales@flir.com

www.flir.com
NASDAQ: FLIR

Equipment described herein is subject to US export regulations and may require a license prior to export. Diversion contrary to US law is prohibited. Imagery for illustration purposes only. Specifications are subject to change without notice. ©2019 FLIR Systems, Inc. All rights reserved. 01/02/19

18-0682-SUR-LND-DefendIR-Specsheet A4



The World's Sixth Sense®