

Ranger® R5D

DUAL MODE, PERIMETER SURVEILLANCE RADAR



APPLICATIONS

DESERT ENVIRONMENTS

SECURE BORDERS

FORCE PROTECTION

INDUSTRIAL FACILITY SECURITY

CRITICAL INFRASTRUCTURE SECURITY

MONITOR PORTS, AIRPORTS, & MILITARY BASES

BENEFITS

Dual mode capability

FMCW modulation in both Fast Scan and Doppler modes

Persistent wide area surveillance

Detects tangential movement

Continuous 360° wide area surveillance

Early warning of intruders

Low false alarm rates

Slew-to-cue camera integration

Annunciator integration

Compact design

OVERVIEW

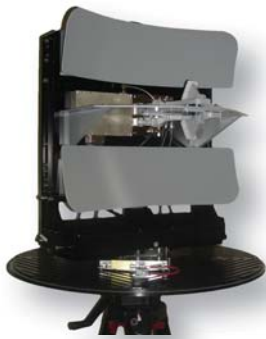
The Ranger R5D is a dual mode, ground surveillance radar designed specifically for the environmental conditions common to the Middle East region. Operating in the Ka-band, this radar has a small size to enable great portability.

As a Dual Mode radar, the Ranger R5D uses FMCW modulation and can be operated in either Fast Scan or Doppler mode. Both modes provide capability to detect tangential movement. The same antenna is used in both modes. Scan rate, RF bandwidth, and PRFs are optimized according to the mode selected.

The Fast Scan mode provides for a fast, 1 Hz target refresh rate. In Doppler mode, improved clutter rejection provides for better detectability of small and slow targets.

Unlike typical Doppler radars, the Ranger R5D has a low Minimum Detectable Velocity (MDV) and can detect quasi-tangential motion. Its high resolution and advanced tracking algorithms result in low false alarm rates while the angular sector blanking functionality allows the operator to set ON/OFF transmit zones.

The Ranger R5D is a versatile surface movement radar specifically designed as a COTS item to detect and track personnel and vehicles. When used as a cueing device, the Ranger R5D enables wide area detection, a significant advantage as compared to using typical optical systems alone.



Ranger® R5D

DETECTION PERFORMANCE

	FAST SCAN (NO DOPPLER)	DOPPLER		
		FAST	INTERMEDIATE	LONG RANGE
Instrument Range	5,600	10,500 m	10,500 m	10,500 m
Detection Pedestrian (1m ²)	3,000	4,000 m	4,600 m	5,500 m
Detection Light Vehicle (10m ²)	5,000	6,800 m	8,000 m	9,400 m

**Note: In Doppler long mode, scan angle is limited to 180°*

GENERAL SPECIFICATIONS

Target Types	Moving, Less than 0.1m/s minimum for vehicles and personnel
Target Velocity	0.1 to 50 m/s
Communications	Ethernet, wireless, fiber
XML	Yes (ICD-0100 compliant)
Target Information	Includes: ID; location: range & bearing; latitude & longitude; Confidence level; Heading; Speed; Time
Scan Rate	3 to 60 rpm, continuous or sector
Elevation Coverage	4°
Elevation Control	Up: 2°; Down: 5° (fixed settings)
Input Power	20 to 32 VDC, 24 nominal
Radiated Power	Safe for human exposure
False Alarm Rate	< 1 per 24 hours (Fast Scan)
Mask Zone(s)	One angular detection zone (Doppler) Two selectable angular detection zones (Fast Scan) Unlimited polygon detection zones
Network	Up to 8 per server; total unlimited
Dimensions	22.5" h x 21.3" diameter
Weight	37 lbs (17kg)
Power Consumption	40 watts
Operating Range	5 – 10 000 m
Detection Range	5 – 5,500 m, personnel walking 5 – 9,400 m, vehicles and watercrafts
Coverage Area	346 km ² (135 mi ²)
Temperature	-30° to +60°C (operating) -40° to +70°C (storage)
Humidity	50% to 95%, non-condensing (60°C max)
Altitude	Up to 15 000 ft (operating and storage)
Wind	Up to 140 km/hr
Weather Sealing	IP 65 rating
Protocol	ICD-0100

CORPORATE HEADQUARTERS

FLIR Systems, Inc.
27700 SW Parkway Ave.
Wilsonville, OR 97070
PH: +1.800.727.3547

WASHINGTON, D.C.

FLIR Systems, Inc.
2800 Crystal Drive, Suite 330
Arlington, VA 22202 USA
PH: +1.703.416.6666

ALPHARETTA

FLIR Systems, Inc.
5940 Cabot Parkway, Suite 100
Alpharetta, GA 30005 USA
PH: 1.800.762.4796

BOSTON

FLIR Systems, Inc.
25 Esquire Road
North Billerica, MA 01862
PH: +1.800.464.6372

HUNTSVILLE

FLIR Systems, Inc.
Huntsville, AL USA
PH: +1.256.325.3547

PITTSBURGH

FLIR Systems, Inc.
Freeport, PA USA
PH: +1.724.295.2880

STILLWATER

FLIR Systems, Inc.
1024 S. Innovation Way
Stillwater, OK 74074 USA
PH: +1.405.372.9535

EUROPE

FLIR Systems, Ltd.
West Malling, Kent
United Kingdom
PH: +44.1732.220011

CANADA

FLIR Systems, Ltd.
Burlington, ON
Canada
PH: +1.800.613.0507

FLIR Systems, Ltd.
3440 Francis-Hughes, Suite 120
Laval, QC H7L 5A9
Canada
PH: +1.450.663.4554

SWEDEN

FLIR Systems AB
Täby, Sweden
PH: +46.8.753.2500

MIDDLE EAST

FLIR Systems Middle East, FZCO
Dubai Airport Free Zone
PH: +9714.299.6898

www.flir.com

