TELEDYNE | FLIR Defense

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



The Ranger® R5D is a dual mode, ground surveillance radar designed specifically for the environmental conditions common to the Middle East region. As a dual mode radar, the Ranger R5D uses FMCW modulation and can be operated in either Fast Scan or Doppler mode with a Fast Scan range up to 5km. Low minimum detection velocity (MDV), high resolution, and advanced tracking algorithms result in low false alarm rates.

Operating in the Ka-band, this radar is compact and highly portable. It scans 360° every second, 24/7, monitoring large areas in most climates in real time. Easily network other Teledyne FLIR radars and EO/IR images for slew-to-cue capabilities. Ideal for desert environments, border security, and force protection, R5D provides fast and accurate detection of up to 128 threats simultaneously.

FEATURES

FMCW DOPPLER CAPABILITY

Ranger R5D Doppler provides extended range coverage in almost any terrain. Overcome blind target ranges/velocities by switching to Fast Scan/FMCW.

DUAL-MODE FLEXIBILITY

Both modes share one antenna and detect tangential movement. Scan rate, RF bandwidth, and PRFs are optimized per selected mode.

INTEGRATED PROTECTION

Network multiple Teledyne FLIR radars and EO/IR imagers with Teledyne FLIR command and control to form a single powerful, integrated surveillance system.

FAST, ACCURATE THREAT DETECTION

R5D quickly detects up to 128 threats simultaneously while accurately displaying each target's location.

RELIABLE OPERATION & EASY INTEGRATION

High availability rate saves on costs for spare systems or repairs, and it requires only one cable and four bolts for integration.

For more information contact:
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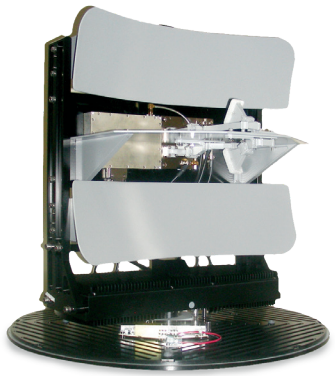
SPECIFICATIONS

R5D	
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
Command & Control	
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
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
Environmental	
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 +65°C (operating) -40° to +70°C (storage)
Humidity	Up 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	XML

DETECTION PERFORMANCE

	Fast Scan (no Doppler)	Fast	Doppler Intermediate	Long Range
Instrument Range	5,600 m	10,500 m	10,500 m	10,500 m
Detection Pedestrian	3,000 m	4,000 m	4,600 m	5,500 m
Detection Light Vehicle	5,000 m	6,800 m	8,000 m	9,400 m

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



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