TELEDYNE | FLIR Defense

RANGER® R2

Mid-Range Perimeter Surveillance Radar

APPLICATIONS

SECURE BORDERS

MONITOR PORTS

GUARD INDUSTRIAL FACILITIES

FORCE PROTECTION

CRITICAL INFRASTRUCTURE PROTECTION



The Ranger® R2 is a high-resolution radar that accurately detects personnel and vehicles at a range of up to 1,400 m. This ground-based radar works in virtually any climate, weather, or lighting condition, providing 24/7 security. Additional units – such as a short-range Ranger® R1 – can be networked in an overlapping array to protect larger areas, stitching together an impassable radar area outside and inside your perimeter.

The Ranger R2 scans a full 360° every second, covering more than 6 square km (2.4 square miles). Operating in the Ka-band, this radar is compact and highly portable. R2 is ideal for force protection and securing borders, airports, seaports, and critical infrastructure. R2 provides fast and accurate detection of up to 128 threats simultaneously. Ethernet XML target data in GIS coordinates, as well as wireless and fiber connectivity, makes R2 integration a snap.

FEATURES

MULTIPLE SECURITY APPLICATIONS

Whether securing airports, seaports, borders, critical infrastructure, or for force protection, FLIR radars provide an ideal wide-area surveillance solution.

LOW FALSE ALARM RATE

Accuracy, ease of operation, and the lowest false alarm rate in the industry, separates FLIR Ranger radars from the competition.

THE POWER OF RADAR + IMAGING

Using the radar's advantage in continuously detecting multiple targets allows linked thermal and EO cameras to focus on quickly classifying each threat.

FAST, ACCURATE THREAT DETECTION

R2 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:
surveillance_sales@TeledyneFLIR.com

SPECIFICATIONS

Ranger R2	
Target Types	Moving, Greater than 0.1 m/s minimum Vehicles and personnel
Target Velocity	0.1 to 50 m/s
Frequency	Ka Band
Resolution	0.3 m range, 1° azimuth
Scan Rate	One revolution per second (60 rpm)
Elevation Control	Up: 2°; Down: 10° (fixed settings)
Input Power	20 to 32 VDC, 24 nominal
Radiated Power	Safe for human exposure
Communications	Ethernet, wireless, fiber
XML	Yes
False Alarm Rates	< 1 per 24 hours
Mask Zone(s)	Two selectable angular blank sectors Unlimited polygon detection zones
Network	8 per server; total unlimited
Size	14.4" height x 18.25" diameter (364 x 461mm)
Weight	29 lbs (13.1 kg)
Range	
Operating Range	5 – 1400 m
Detection Range	5 - 1400 m, personnel walking 5 - 1400 m, personnel running 5 - 1400 m, personnel crawling (hands & knees) 5 - 500 m, personnel swimming 5 - 1400 m, vehicles and watercrafts
Coverage Area	6.16 km^2 (2.41 mi^2)
Environmental	
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)
Vibration	MIL-STD-810F
Shock	40 g peak for 20 ms, half sine (with vibration mount)
Wind	Up to 120 km/hr
Weather	Sealing Weather resistant (rain, snow, dust, sand, salt spray)
Power Consumption	30 watts
Environmental Ratings	NEMA 4
Data Bandwidth	Maximum: 1 MBits without PPI Maximum: 7 MBits with PPI
Protocol	ICD 0100



AMERICAS
27700 SW Parkway Ave
Wilsonville, OR 97070

EUROPE
2 Kings Hill Avenue - Kings Hill
West Malling, Kent ME19 4AQ
United Kingdom

Antennvägen 6,
PO Box 737
SE-187 66 Täby
Sweden

MIDDLE EAST
Wadi Al Fey St.
Building 60, Office # 302
New Ministries Exit /
Khalifa Park Area
Abu Dhabi, U.A.E.

Office 127, First Floor
Akaria Plaza Building, Olaya Street
Riyadh, 11481, Saudi Arabia

ASIA
Meguro Tokyu Bldg. 5F,
2-13-17
Kami-Osaki, Shinagawa-ku.
Tokyo, 141-0021, Japan

Equipment described herein pertains to a Canadian origin product that is not controlled by the Canadian government. For assistance with confirming the Jurisdiction & Classification of Teledyne FLIR Defense Inc., please contact exportquestions@flir.com
©2026 Teledyne FLIR Defense Inc. All rights reserved.

Revised on 03/25/26
Ranger R2_Datasheet-A4 26-0324