

RANGER® R8-3DX

Air and Ground Drone Surveillance Radar

APPLICATIONS

FORCE PROTECTION

BORDER SECURITY

VEHICLE DISMOUNT

UAS DETECTION



The man-portable Ranger® R8-3DX has the vertical coverage, low minimum detection velocity and algorithms to detect and track up to 512 threats simultaneously, including drones, while filtering bird detections. The R8-3DX can monitor the coverage area twice per second, running 24/7, detecting all ground and aerial threats in virtually any climate, day and night. Compact and lightweight, it fits in a backpack, draws only 145 W, while costing much less than its vehicle-sized counterparts.

R8-3DX detects micro UAS targets up to 1.8 km out, pedestrians up to 4.5 km out, and light vehicles up to 7.8 km out. Scan mode options include fixed sector and alternating sector. Depending on configuration, total backpack weight maxes out at 38.6 pounds. Fast 2-Hz refresh improves detection and tracking of micro drones. One cable, four mounting bolts, an XML command set make it easy to integrate.

FEATURES

FULL PERIMETER PROTECTION

Wide 45° beam elevation provides complete hemispherical detection of virtually every land and aerial target, including micro UAS. With the pan/tilt mount, the R8-3DX covers 360°.

TARGET CLASSIFICATION

R8-3DX mitigates bird false alarms and informs the operator if the target is a person, vehicle, UAS, bird, or unknown.

INTEGRATION WITH OTHER SENSORS

R8-3DX reports target elevation and automatically points cameras and countermeasures to target.

FAST, ACCURATE THREAT DETECTION

R8-3DX quickly detects one or up to 512 ground and airborne threats simultaneously while accurately displaying each target's location and elevation – whether it's alone or part of a drone swarm.

MAN PORTABLE

R8-3DX can be transported in a backpack of a dismounted soldier and draws only 145W giving it extreme deployment flexibility.

SPECIFICATIONS

Parameters	R8-3DX
Instrumented range	7,800 m
Detection Range	
Person	4.5 km
Light Vehicle	7.8 km
Large Vehicle	7.8 km
MicroUAS	1.8 km
MiniUAS	3.2 km
Small UAS	5.6 km
Minimum Detection Range	20 m
Scan sector	± 45° (fixed) - 360° with P/T
Vertical coverage	≥ 45°
Number of simultaneously displayed tracks	Up to 512
Electronic scan rate	2 Hz
Minimum Detection Velocity (MDV)	< 0.1 m/s
Accuracy	
Range Accuracy	± 3 m
Angular Accuracy (azimuth)	< 0.8 degree
Angular Accuracy (elevation)	< 0.6 degree
Power	
Power consumption	145 W nominal
Operating voltage	20 - 48 VDC
Overview	
Size (in)	14.7" x 14.4" x 4.3" (37 x 36 x 11 cm)
Weight	≤ 23.1 lbs (10.5 kg)
Operating frequency	X-Band
Connectivity	Ethernet
Environmental	MIL-STD-461G, IP67, MIL-STD-810H, FCC/CE
Other Features	
Built-in GPS	Yes
Built-in compass	Yes



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

Equipment described herein pertains to a Canadian origin product that is controlled as dual-use by the Canadian government. When in the United States or possessed by a US person it may be subject to US Jurisdictions, which may require authorization to re-transfer to a foreign person. Imagery for illustration purposes only. For assistance with confirming the Jurisdiction & Classification of Teledyne FLIR, LLC products, please contact exportquestions@flir.com. ©2024 Teledyne FLIR LLC. All rights reserved.

Revised on 04/18/24
Ranger R8-3DX_Datasheet-LTR 24-0215