The FLIR Ranger® family of perimeter surveillance radars provide accurate, high resolution detection of vehicles and personnel. These ground-based radars work in virtually any climate, weather or lighting condition, providing 24/7 security at ranges including 350 m, 700 m, 1400 m and 2800 m.

FLIR mid-range perimeter surveillance radars scan a full 360 degrees every second effectively monitoring up to 1.5/6/25 square kilometers (0.6/2.4/9.6 square miles). Multiple units can be installed with overlapping coverage areas to protect larger areas such as borders. As part of the FLIR integrated product suite, multiple units may be networked with any or all of the full range of FLIR radars and imagers to conform to terrain profiles and secure areas inside and outside a perimeter. Using the radars’ advantage in detecting intruders, pan-tilt-zoom (PTZ) cameras can focus on their strength – identifying and assessing threats – for a more efficient and cost effective solution.

The accuracy, simple integration and easy operation of FLIR radars, separate them from the competition. Whether to secure airports, sea ports, borders and critical infrastructure, or for force protection, the FLIR suite of radars is today’s answer for detecting and tracking intruders as part of any wide area surveillance solution.
### GENERAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Target Types</th>
<th>Moving, Greater than 0.1 m/s minimum Vehicles and personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Velocity</td>
<td>0.1 to 50 m/s</td>
</tr>
<tr>
<td>Frequency</td>
<td>Ka Band</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.3 m range, 1° azimuth</td>
</tr>
<tr>
<td>Scan Rate</td>
<td>One revolution per second (60 rpm)</td>
</tr>
<tr>
<td>Azimuth Beamwidth</td>
<td>1° (2-way)</td>
</tr>
<tr>
<td>Elevation Beamwidth</td>
<td>6° (2-way)</td>
</tr>
<tr>
<td>Elevation Control</td>
<td>Up: 2°; Down: 10° (fixed settings)</td>
</tr>
<tr>
<td>Input Power</td>
<td>20 to 32 VDC, 24 nominal</td>
</tr>
<tr>
<td>Radiated Power</td>
<td>Safe for human exposure</td>
</tr>
<tr>
<td>Communications</td>
<td>Ethernet, wireless, fiber</td>
</tr>
<tr>
<td>XML</td>
<td>Yes</td>
</tr>
<tr>
<td>False Alarm Rates</td>
<td>&lt; 1 per 24 hours</td>
</tr>
<tr>
<td>Mask Zone(s)</td>
<td>Two selectable angular blank sectors Unlimited polygon detection zones</td>
</tr>
<tr>
<td>Network</td>
<td>8 per server; total unlimited</td>
</tr>
<tr>
<td>Dimensions</td>
<td>13&quot; h x 17&quot; diameter</td>
</tr>
<tr>
<td>Weight</td>
<td>24 lbs (11 kg)</td>
</tr>
</tbody>
</table>

### RANGER® R1

- **Operating Range**: 5 - 700 m
- **Detection Range**: 5 - 700 m, personnel walking  
  5 - 700 m, personnel running  
  5 - 500 m, personnel crawling (low crawl)  
  5 - 700 m, personnel crawling (hands & knees)  
  5 - 500 m, personnel swimming  
  5 - 700 m, vehicles and watercrafts
- **Coverage Area**: 1.54 km² (0.60 mi²)

### RANGER® R2

- **Operating Range**: 5 - 1400 m
- **Detection Range**: 5 - 1400 m, personnel walking  
  5 - 1400 m, personnel running  
  5 - 500 m, personnel crawling (low crawl)  
  5 - 1400 m, personnel crawling (hands & knees)  
  5 - 500 m, personnel swimming  
  5 - 1400 m, vehicles and watercrafts
- **Coverage Area**: 6.16 km² (2.41 mi²)

### RANGER® R3

- **Operating Range**: 5 - 2800 m
- **Detection Range**: 5 - 1900 m, personnel walking  
  5 - 1900 m, personnel running  
  5 - 500 m, personnel crawling (low crawl)  
  5 - 1900 m, personnel crawling (hands & knees)  
  5 - 500 m, personnel swimming  
  5 - 2800 m, vehicles and watercrafts
- **Coverage Area**: 24.53 km² (9.62 mi²)

### ENVIRONMENTAL

| Temperature       | -30° to +60°C (operating)  
  -40° to +70°C (storage) |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity</td>
<td>50% +/- 5 to 95% +/- 4, non-condensing (60°C max)</td>
</tr>
<tr>
<td>Altitude</td>
<td>Up to 15,000 ft (operating and storage)</td>
</tr>
<tr>
<td>Vibration</td>
<td>MIL-STD-810F</td>
</tr>
</tbody>
</table>
| 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 | 45 watts                    |
| Ratings           | FCC Class B, EN 301480, Parts 1 & 3;  
  CE: EN 60215 EN 300019-1-4 (Class 4.1E with -40°C)  
  EN 300019-1-5 (Class 5.2, including mechanical class 5M3) |
| Network           | 8 per server; total unlimited |
| Environmental Ratings | NEMA 4                      |
| Data Bandwidth    | Maximum: 1 MBits without PPI  
  Maximum: 7 MBits with PPI |
| Protocol          | ICD 0100                    |

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**FLIR**

Extraordinary Protection

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