In security you cannot choose the second best option.
Radar sensor for intrusion and obstacles detection

Introduction

The DIO radar is a short-to-medium range surveillance radar designed for low-cost and high-resolution radar systems under adverse weather conditions. The DIO system constitutes the ultimate achievement of Indra Sistemas in the field of security systems by using radar techniques. The DIO radar is a short-to-medium range surveillance radar with high-resolution capabilities under adverse weather conditions. The DIO system is a hybrid system that combines the advantages of radar and optical technology. The DIO sensor is made up of a fully solid-state and highly integrated radio frequency equipment, which is characterized by a low-power pulsed waveform that ensures the security of the DIO radar for those persons in the surrounding area. The DIO system allows to detect both objects and persons in complex environments with high accuracy.

Technical specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>95 W</td>
</tr>
<tr>
<td>Minimum distance</td>
<td>3.1 Km</td>
</tr>
<tr>
<td>Power supply</td>
<td>28 VDC V; 115 V-240 CA V</td>
</tr>
<tr>
<td>Waveform</td>
<td>Pulsed</td>
</tr>
<tr>
<td>Speed resolution</td>
<td>1 Km/h</td>
</tr>
<tr>
<td>Angular accuracy</td>
<td>2º in all range</td>
</tr>
<tr>
<td>Distance accuracy</td>
<td>5 meters in all range</td>
</tr>
<tr>
<td>Antenna elevation tilts</td>
<td>-30º to +45º</td>
</tr>
<tr>
<td>Number of tracking targets (TWS)</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Weight</td>
<td>20-30 Kg</td>
</tr>
<tr>
<td>Size</td>
<td>Diameter=500 mm; height=800 mm</td>
</tr>
<tr>
<td>Communication interface</td>
<td>Ethernet WIFI</td>
</tr>
</tbody>
</table>

Radar sensor

The DIO system is a hybrid system that combines the advantages of radar and optical technology. The DIO sensor comprises a high-resolution radar sensor, a processing hardware unit, a rotor for its positioning, and a hardware for wireless communication. The DIO system control is fully autonomous, with the possibility of being monitored by long-range wireless communication as well as the possibility of setting up the operation parameters. The processing hardware unit consists of a powerful chip board, which carries out the performance, the monitoring and the acquisition of the continuous measure. It also performs all the control, the positioning tracking and data processing function, which leads into the indication of an alarm.
### Introduction

The DIO system constitutes the ultimate achievement in Indra Sistemas security by using radar techniques. The DIO is a medium-range surveillance radar with high-resolution capabilities, characterized by its performance under adverse weather conditions such as rain, snow, mist, dust...

### Technical specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Radar sensor</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Transmission frequency</strong></td>
<td>Ku band</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>95 W</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>20-30 Kg</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>Diam. 500 mm; Height 800 mm</td>
</tr>
<tr>
<td><strong>Communication interface</strong></td>
<td>Ethernet, WIFI, Fiber Optic</td>
</tr>
<tr>
<td><strong>Adaptable radar parameters</strong></td>
<td>to the operational environment</td>
</tr>
<tr>
<td><strong>User Interface software</strong></td>
<td>Desktop PC's standard Windows platform</td>
</tr>
<tr>
<td><strong>Processing and communication hardware unit</strong></td>
<td>Built-in control of TV-CCD and thermal cameras</td>
</tr>
</tbody>
</table>

### General description

The DIO is a short-to-medium range surveillance radar, adaptable to a variety of operational environments and user needs. The DIO can be used either as an autonomous radar or as part of an integrated network of sensors. The DIO is a medium-range surveillance radar, providing high-resolution images, under adverse weather conditions. It is also designed for long-range, real-time, high-definition detection of persons and vehicles.

### Radar sensor

The DIO radar is a short-to-medium range surveillance radar, adaptable to a variety of operational environments and user needs. The DIO radar is characterized by its performance under adverse weather conditions such as rain, snow, mist, dust... The DIO radar is a short-to-medium range surveillance radar, adaptable to a variety of operational environments and user needs. The DIO radar is characterized by its performance under adverse weather conditions such as rain, snow, mist, dust... The DIO radar is a short-to-medium range surveillance radar, adaptable to a variety of operational environments and user needs. The DIO radar is characterized by its performance under adverse weather conditions such as rain, snow, mist, dust... The DIO radar is a short-to-medium range surveillance radar, adaptable to a variety of operational environments and user needs. The DIO radar is characterized by its performance under adverse weather conditions such as rain, snow, mist, dust...
Radar Sensor for Intrusion and Obstacles Detection

A medium-range surveillance radar with high-resolution capabilities under adverse weather.

Technical Specifications

- **Transmission frequency:** Ku band
- **Detection range:**
  - **persons (1 m²):** 0.3 W
  - **vehicles/small boat (10 m²):** 8 W
  - **heavy vehicles (100 m²):** 1.7 Km
  - **frigates (5000 m²):** 3.4 Km
- **Power consumption:**
  - **minimum distance:** 3.1 Km
  - **power supply:** 6.1 Km
- **Power consumption:**
  - **power supply:** 5.5 Km
  - **power supply:** 10.9 km
- **Transmission frequency:**
  - **power consumption:** 15 Km
  - **transmission frequency:** 29 Km
- **Power consumption:**
  - **remote:** 95 W
  - **local:** 155 W
- **Waveform:** Pulsed
- **Speed resolution:** 1 Km/h
- **Rotation rate:** 360º continuous rotation
- **Angular accuracy:** 8.6 to 60 RPM
- **Distance accuracy:** 2º in all the range
- **Antenna elevation tilts:** 5 meters in all range
- **Number of tracking targets (TWS):** >100
- **Weight:** 20-30 Kg
- **Size:** Diameter=500 mm; height=800 mm
- **Communication interface:** Ethernet (Cooper cable, Fiber Optic, WIFI/WIMAX)
- **Adaptable radar parameters to the operational environment:**
  - **Adaptable radar parameters to the operational environment:**
  - **Adaptable radar parameters to the operational environment:**
  - **Adaptable radar parameters to the operational environment:**
- **User Interface software:** Desktop PC's standard Windows platform
- **Built-in control of TV-CCD and thermal cameras:**
- **Monitoring center:**
  - **Sensor 1 of M:** Ethernet
  - **Sensor 2 of M:** Ethernet
  - **Sensor 3 of M:** Ethernet

The DIO system is developed to be easily adaptable to requirements. It has a low cost, making it attractive for a wide variety of applications such as military or civil use, parks, power stations, oil stations, prey and marshes, frontier checkpoints, monitoring of seaports, monitoring of traffic, ...
SECURITY SYSTEMS

Radar Sensor for Intrusion and Obstacles Detection

In security, you cannot choose the second best option.

Indra reserves the right to modify these specifications without prior notice.

DIO

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