



# Skyfend Defender

HIGH ACCURACY, LOW SWAP-C

## FEATURES

### Low SWaP-C Design

Defender is characterized by its small size, lightweight and low cost, making it currently the industry's smallest active phased array radar capable of detecting micro unmanned aerial vehicles at the 1 km level.

### Micro-Doppler Identification

With the integration of clutter suppression technology and Micro-Doppler technology, Defender can accurately identify small unmanned aerial vehicles (SUAVs) from other flying objects to reduce missed and false alarms. At the same time, with the support of Micro-Doppler technology, the Defender is also able to identify hovering drones.

### Flexible Networking

Defender can be used individually or via a wireless connection, with just four radars capable of providing 360° coverage in the area.

### Rapid Deployment

When connecting Defender in a group, there is no need for cables, resulting in saved installation time, simplified operating procedures and a direct reduction of installation costs.

### High Stability

The self-developed data transmission module of Defender incorporates private communication protocols, ensuring a high-performance, reliable and stable wireless connection for the radar array.

### Unattended Protection

Defender can achieve real-time wireless communication with Guider, allowing seamless data exchange. Guider collects data from all SkyFend devices to analyze the threat level and autonomously deploy countermeasures to eliminate the identified threats.



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Defender is a compact and cost-effective K-band FMCW radar that provides close-range surveillance for land, sea and air applications. It's ideal for portable scenario and high-value target defense, such as government buildings, official residences and prisons. It utilizes advanced environmental perception and target recognition algorithms to deliver rapid target detection and deployment capabilities.

## SPECIFICATIONS

### SWaP

**Dimensions (mm)**

210×215×64

**Weight (kg)**

2.5

**Power (W)**

85

**Power Supply (V):** 18~32

### Radar System

**Frequency (GHz):** 24.05~24.25

**Scanning Method:** AESA

**Waveform:** FMCW

**Tracking Method:** TWS / TAS

**Interface:** Gigabit Ethernet / Wireless

### Reliability

**Operating Temperature (°C):** -40 ~ +55

**Storage Temperature (°C):** -55 ~ +95

**IP Rating:** IP67

**Drop Resistance (m):** 2

**Upgrade:** OTA Supported



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### Performance

#### Detection Range (m)

10~6,000 / >1,000 (SUAV)

>2,600 (Human) / >4,600 (Vehicle)

**Distance Accuracy (m):** 2

**Distance Resolution (m):** 3

#### FOV

Azimuth: 120°      Elevation: 40°

#### Angular Accuracy

Azimuth:  $\pm 1.0^\circ$       Elevation:  $\pm 3.0^\circ$

**120°Az x  $\pm 20^\circ$ EI Airspace Search Time (s):**  $\leq 1$

#### Tracking Qty

5~20 (TAS) / 200 (TWS)

**Track Target Update Rate (Hz):** 5~20

#### Speed Range (m/s)

$\pm 50$  or 120 (based pattern)

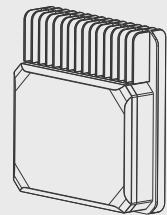
**Speed Accuracy (m/s):** 0.6

**Speed Resolution (m/s):**  $\leq 0.9$

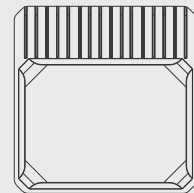
#### Identification Capabilities

Rotor UAV / Fixed Wing UAV / Birds

### High-Power



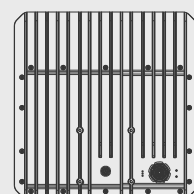
PICTORIAL VIEW



FRONT VIEW



SIDE VIEW



REAR VIEW