



ROBOTICS

Setting the standard for robotic systems that augment human performance to improve safety and enhance efficiency in unstructured environments.

## GUARDIAN™S



**The Guardian S remote visual inspection robot is a robust, multi-purpose, man-portable mobile IoT platform that carries multiple sensor payloads, providing real-time information while keeping the human operator out of harm's way.** Optimized for unstructured and unpredictable environments, the Guardian S robot is designed specifically to navigate uneven, challenging terrain and to access small, confined spaces. With the capability for safe teleoperation from remote locations, the Guardian S robot goes where humans either can't or shouldn't go.

# GUARDIAN™ S



Ideally suited for commercial, industrial, public safety, and defense applications, the Guardian S robot delivers extended run times and long-range wireless operations, making inspections and remote surveillance safer and more effective than ever before.

## Multi-purpose, man-portable mobile IoT platform

Built-in sensor module gathers real-time information

Able to transport 10-pound (4.55 kg) sensor payload while traversing a horizontal surface

Flexibility to add task-specific sensors via its payload bracket

## Two-way, real-time video, voice, and data communication

Built-in, enhanced Wi-Fi and radio connection between the operator control unit (OCU) and robot

Built-in LTE (at 700 MHz operation) for future cloud-based services

Two-way audio between OCU and robot (half-duplex PTT)

Audio and video encrypted using 256-bit AES encryption

## All-terrain, state-of-the-art visual surveillance

Teleoperates and traverses challenging terrain: stairs, pipes, tanks, culverts, and vertical ferromagnetic surfaces

Slim form factor enables access to confined spaces –7" (17.8 cm) diameter openings)

Up to 12 hours of surveillance time or a ~3-mile (~4.8 km) travel range

High-resolution visual inspection enabled by six 4k cameras with digital zoom and autofocus

The Guardian S robot implements optional cloud computing functionality through the Sarcos® Command Center. It incorporates all aspects of robot control, data gathering and analysis in an easy-to-use cloud-based platform.

### ▶ Asset management

Trace, track and understand robot location and health

### ▶ Authorization and Authentication

Authorizes access to robotic control or sensor data

### ▶ Mission Management and Review

Set-up, execution and post-operation review of the sequences of missions and operations

### ▶ Data Collection and Storage

Managed collection and storage

### ▶ Data Analysis

Easy-to-use tools for analyzing collected data

The Guardian S robot supports a variety of industries, including public safety (SWAT, EOD, HAZMAT, fire, disaster recovery), mining, oil & gas, infrastructure inspections, maritime, power generation, petrochemical and more.



## Specifications

	Guardian S	Guardian S Magnetic	Operator Control Unit
<b>Dimensions</b>			
Snake mode	52 in L x 4.7 in W x 5.2 in H (132.1 cm L x 12 cm W x 13.2 cm H)		8.2 in L x 16.5 in W x 3.25 in H (20.9 cm L x 42 cm W x 8.3 cm H)
Tank mode	21.7 in L x 17.4 in W x 5.2 in H (55.1 cm L x 44.2 cm W x 13.2 cm H)		
<b>Weight</b> (w/o external radio)	~17 lb (~7.7 kg)	~18 lb (~8.2 kg)	8 lb (3.7 kg)
<b>Touchscreen</b>	—	—	10 in.
<b>Max Speed</b> (unloaded)	1.4 mph (2.25 kph)	0.6 mph (.97 kph)	—
<b>Max Payload</b>			
Horizontal Surface	10 lb (4.55 kg)	10 lb (4.55kg)	—
Vertical Surface	—	5 lb (2.27 kg)	
<b>Operating Temperature</b>	-4 to 140 °F (-20 to 60 °C)		41 to 95 °F (5 to 35 °C)
<b>Ingress Protection</b>	IP65		IP62
<b>Battery Usage</b>	3 Lithium-ion (user swappable)		1 Lithium-ion (hot swappable; 2 batteries provided)
Rated Voltage	14.4 V		14.4 V
Total Energy Capacity	147 Wh		98 Wh
<b>Charging Times</b>	~3 hrs		~3 hrs
<b>I/O</b>	one USB2 (power only)		one USB2
<b>Communications</b>	Wireless: Wi-Fi IEEE 802.11ac Options: RF Module (multiple ISM bands: 915 MHz, 2.4 GHz, 4.9 GHz and 5.75 GHz LTE)		
<b>Built-in Sensors*</b>	Variable LED illumination, normal visual range 360° cameras, navigation camera, thermal camera, GPS, Inertial Measurement Unit (IMU)  *Guardian S can support/carry third-party sensors via optional payload platform with tripod mount adapter		—
<b>Video</b>	4k color cameras with digital zoom (5), 5MP camera (1), and LWIR thermal camera (1)		—
<b>Audio</b>	Built-in microphone and speaker to enable two-way audio between the OCU and robot (half-duplex PTT)		
<b>Accessories</b>	Two-bay battery charger  Options: Payload platform with tripod mount adapter, safety tether, Picatinny rail, six-bay battery charger, hard and soft carrying cases		—



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Contact us for more information on how Sarcos Robotics can help your personnel maximize their potential:

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