



## MOBILE ROBOT

### DESCRIPTION

Sigma-Rover is a multi-purpose **Mobile Robot** equipped with **integrated intelligence**.

It's powered by a battery that ensures **high autonomy** and which could be charged through an innovative and efficient inductive power transfer system.

The robot could be operated **autonomously** or **manually** by a remote pilot through a stable wireless link and meets all regulatory requirements.

## CORE FEATURES

### SYSTEM DETAILS

- 4 wheel drive
- 4 steering wheels
- 18" Michelin airless tires (high durability and maintainability)
- Suitable for rough terrain or light-mud
- Lightweight and optimized chassis with multiple payload interfaces
- Safety sensors on-board
- Powered by a rechargeable battery
- Wireless charger available\*
- Portable Ground Control Station
- Wi-Fi stable communication
- 4G mobile backup communication\*
- Autonomous Navigation System\*
- Variety of payloads:
  - Visible, IR, multispectral sensors
  - Full HD PTZ camera (with real-time video transmission)
  - Robotic arm with tools
  - Tank and sprayers for precision agriculture or fire-fighting
  - Multirotor drone platform
  - Tethered drone
- Compliant with CE Machinery Directive
- On-board datalogger

## THE SYSTEM

### TECHNICAL SPECIFICATIONS

#### Mobile Robot

- Speed: up to 15 km/h
- Motors: four 48VDC 750W electric motors
- Tires: four Michelin 18" Tweels (airless)
- Battery: 48V, 100Ah, Lithium Iron Phosphate, cycle life: ~6000 cycles
- Battery capacity: at least 4 hours of constant travel
- Lightweight aluminium chassis
- Controller with CanOpen protocol standard
- Integrated safety laser scanners
- Redundant IMU and GPS
- Operating temperature: -20°C to 50°C
- Could operate with moderate rain, fog or snow
- Customizable payload configuration (up to 150 kg)
- 360° motion capabilities

- Automated GPS motion control through planned path
- Size: 190 W x 140 D x 85 H cm
- Empty Weight (including battery): 350 kg

#### Ground Control Station (GCS)

- Lightweight, rugged and waterproof case
- Industrial 2-axis joystick
- 7" touch-screen for telemetry
- Battery: 12VDC, 20Ah, Lithium (easily replaceable)
- Size: about 50 W x 40 D x 20 H cm
- Foldable antennas (battery powered) for wireless communication
- Wi-Fi compliant with IEEE 802.11b/g standards
- 10" HD monitor for real-time video stream

## OPTIONAL

### CUSTOM FUNCTIONS

- Autonomous Navigation System
- Wireless charger
- 4G mobile backup communication

\*Optional

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