ROBOTIC HARDWARE SYSTEMS
UGV : SUMMIT-XL STEEL MOBILE ROBOT

Robotnik

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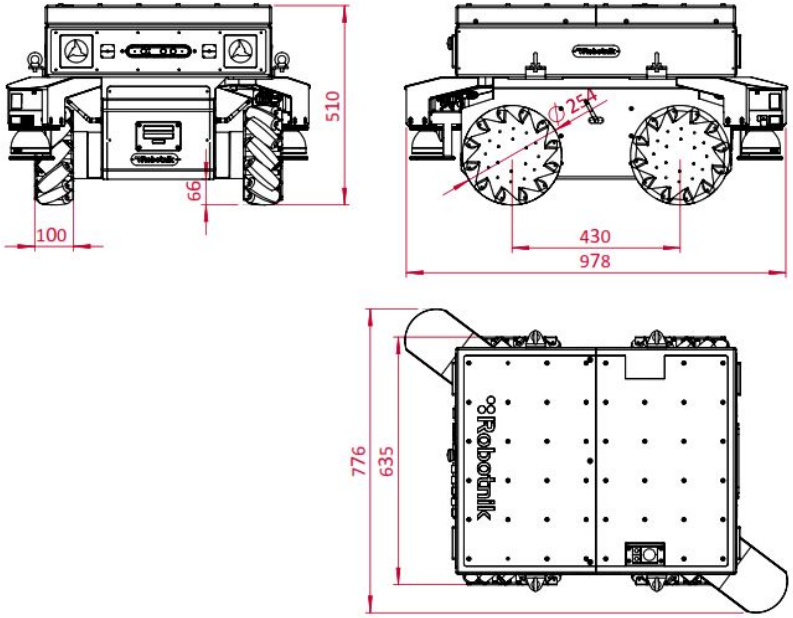
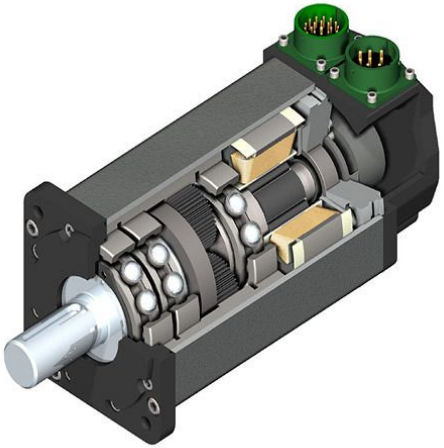
ROBOT BODY DESIGN



MOBILE ROBOT WITH MECHANICAL STEEL STRUCTURE

1. Dimensions 978 x 776 x 510 mm
2. Weight 105 kg
3. Payload 130 kg / 250 kg
4. Environment
5. Indoor
6. Enclosure class IP52 / IP64



ACTUATORS & LOCOMOTIONS

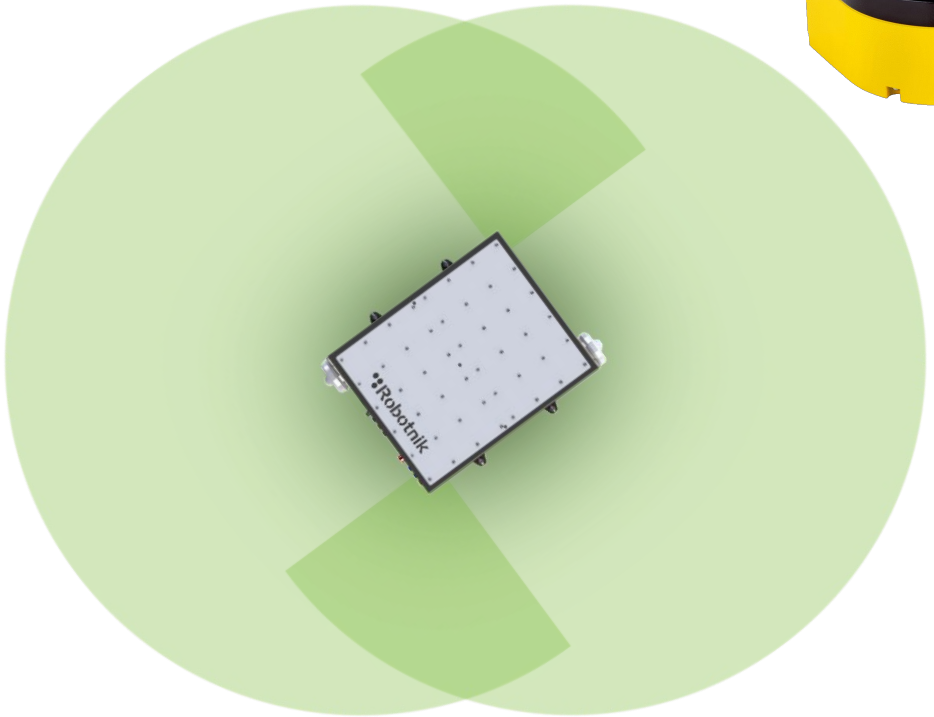
The mobile platform has omnidirectional kinematics based on 4 high-power mechanum drive wheels. Each wheel integrates a brushless motor with a high precision odometer sensor.

- Traction motors: 4 x 500 W brushless servomotors with safety brake

NAVIGATION SYSTEM & CONTROLLER

Safety Laser Scanner - SICK microScan3

- 275° scanning angle
- 5.5 m field range



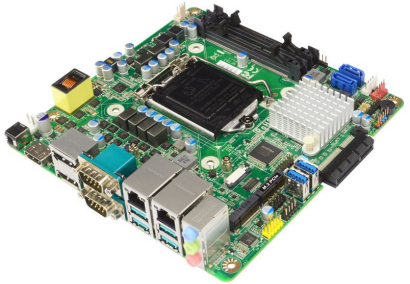
NAVIGATION SYSTEM & CONTROLLER

Wheel Encoders

- Built-in
- Calculate odometry

Depth Camera - Intel Realsense D435

- Closed-range navigation
- Dynamic obstacle avoidance
- Realtime video for teleoperation



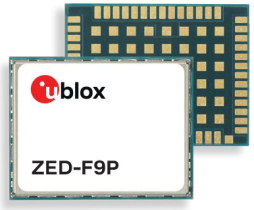
Controller - JNF797-Q370

- Embedded PC with Linux
- i7, 8th Gen, 8GB RAM, 250GB M.2 SSD
- ROS Architecture

NAVIGATION SYSTEM & CONTROLLER

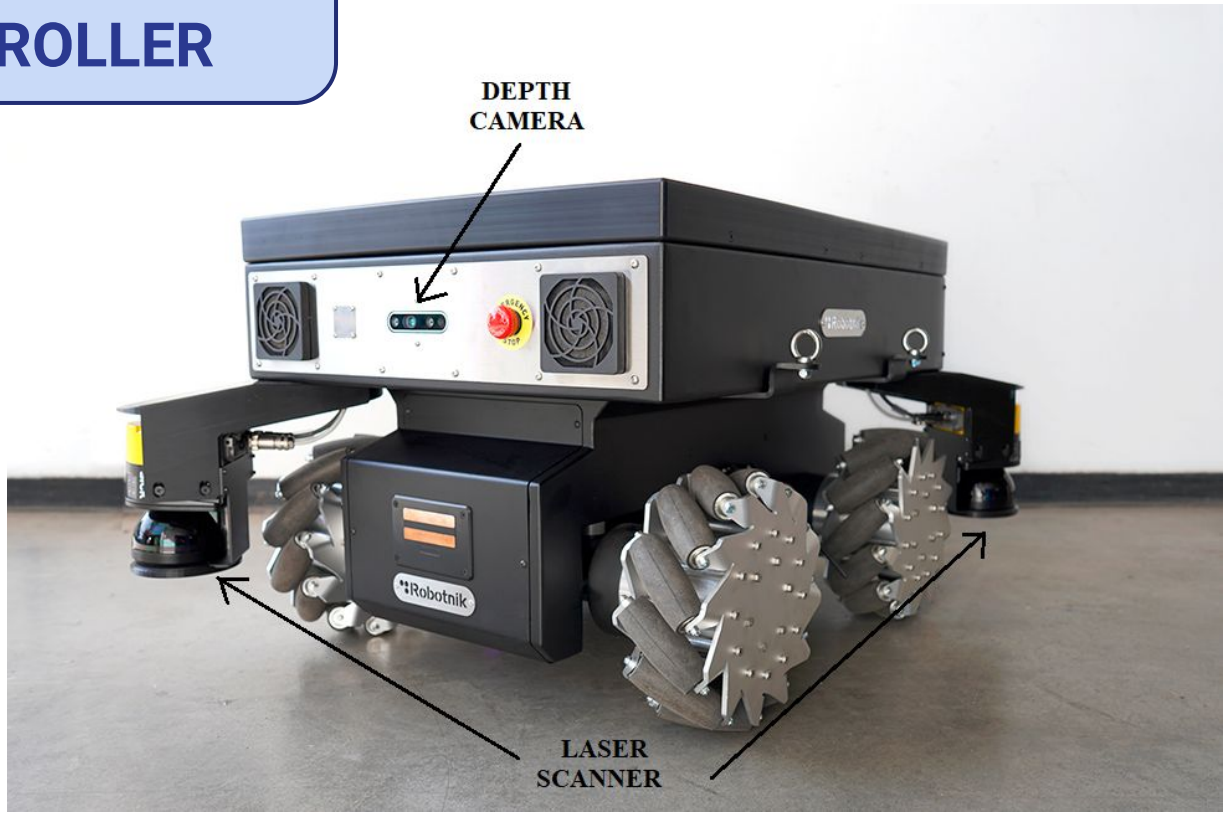
IMU - Vector Nav VN-100

GPS - ZED-F9P module



IMU - Pixhawk

NAVIGATION SYSTEM & CONTROLLER



DATA COLLECTION

- Logistics
- Industrial Applications
- Surveillance & Monitoring
- Research & Development

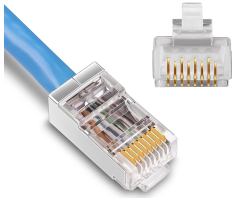
DATA TRANSMISSION

WiFi
802.11
a/b/g/n/ac

Bluetooth 5.1

RS 232 Serial
Communication

USB



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Communication

Internal
Connection

External Connection

POWER SYSTEM MANAGEMENT

LiFePO4
15/30 Ah @
48VDC

Charging Process

Docking Station

- Internal circuitry and a magnetic sensor
- Adjustable voltage and can charge up to 800W
- 1.2 hours full charge (standard battery)
- Autocentered feature using AR tag