



Robotnik



SUMMIT-X

SUMMIT-X is a mobile robot designed for indoor and outdoor tasks. The main feature is its scissor mechanism that allows to reach considerable heights, also speeds up to 3 m/s.

Product

SUMMIT-X is a dual configuration mobile platform designed mainly for indoor tasks, although it also can work outdoor. SUMMIT-X robot can be raised to a considerable height (such a table, for example). The scissor mechanism of the mobile robot, has also the ability to lower its CDG allowing it to reach speeds up to 3m/s.

On the other hand, SUMMIT-X has omnidirectional or skid-steering kinematics based on 4 high-power motor wheels. Each wheel integrates a hub brushless motor with gearbox, speed sensors and optional encoder. The odometry is computed with the use of the four independent wheels speeds and a high precision angular sensor mounted inside the chassis.

The robot base can navigate autonomously or teleoperated by means of a PTZ camera that transmits video in real time.

The common sensor options include a Hokuyo laser scanner and a range of RTK-GPS kits. It also has internal (USB, RS232, GPIO) and external connectivity (USB, RJ45, power supplies 5, 12 VDC and battery) to add custom components easily.

The control architecture of SUMMIT-X is open-source and modular, based on ROS (<http://www.ros.org>).

ROS framework defines a well organized robot soft-ware architecture and includes hundreds of user contributed packages and sets of packages called stacks, that implement functionalities as localization and mapping, planning, manipulation, perception, etc.

This characteristic simplifies the software development cycle and allows easy integration and reutilization of software components whether they are device drivers or state of the art algorithms in vision, SLAM, point cloud processing, grasping, planning, swarming, etc.

Applications

- Mobile manipulation
- Research and education
- Robot assistant
- Telepresence
- Remote monitoring



Technical specifications

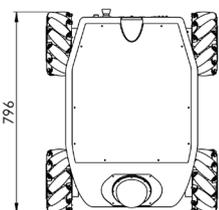
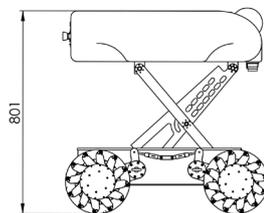
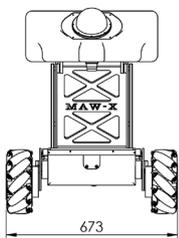
Mechanical

Dimensions	796 x 673 x 445 mm (Folded)
	796 x 673 x 801 mm (Spread out)
Weight	72 Kg
Load capacity	40 Kg
Speed	3 m/s
Enclosure class	IP 54
Traction system	4 wheels
Autonomy	5 h. continuous motion
	20 h. standard lab use
Batteries	8x3.3V LiFePO4
Traction motors	4 brushless motors
Temperature range	0° a +50°C



Control

Controlador	Open architecture ROS Embedded PC with Linux (Intel BayTrail J1900 or similar)
Comunicación	WiFi 802.11n
Conectividad	Internal: USB, RS232 and GPIO External: USB, RJ45, 12 VDC and battery



ROS.org

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