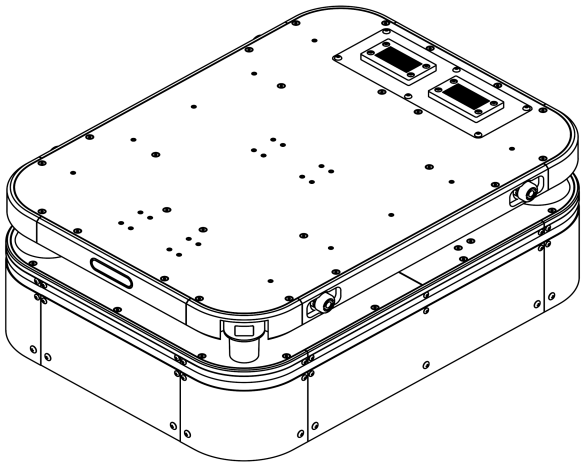
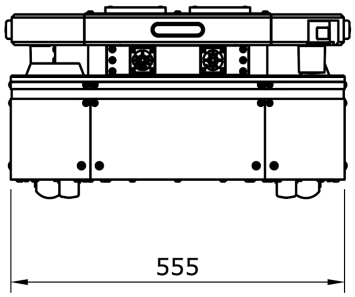
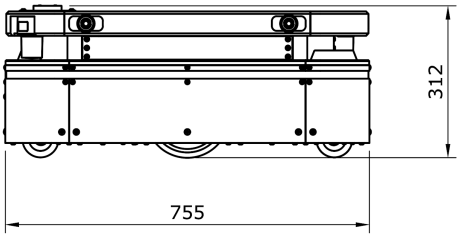
Praditya Robotics

PR400

Indoor Mobile Robot







Technical Specification		
Mobile Robot Base	BLDC with FOC & High Res Encoder	Up-To 1.5 m/s
Payload	Up-To 100Kg	
Suspension	Bogie Suspension	
Robot Controller	13th Gen Intel I5 Processor (4P + 8E Cores)	
	32GB RAM	
	500GB SSD	
	USB Type-A*1	2 x USB2.0
		2 x USB3.0
	USB Type-C	2 x Thunderbolt th 4
	Ethernet*1	2 x 2.5GbE RJ45
Bluetooth	Panel Mount Bluetooth 5.3	
Tele-Operation	PS5 Joystick Controller	
External Network	Dedicated Linux Based WiFi router	
Antenna	2 x WiFi Puck Antenna	
Mesh Network	Possible with base station routers	
Internal Network	5-port Gigabit Ethernet Switch	
Lidar	2 x 2D Lidar (LSC-C25CT3-ET)	
Depth Sensor	Intel Realsense D435 Camera	
User Power	5V	**Fused at 5A**
	12V	**Fused at 5A**
	24V	**Fused at 5A**
	Raw Battery Voltage	**Fused at 5A**
GPIO	8 x Digital Input (24V)	
	8 x Digital Output (24V NPN)	
	4 x Analog Input (-10 - 10 V / 0 - 20 mA)	
	2 x Analog Output (-10 - 10 V / 0 - 20 mA)	
Battery	50AH 24V $LiFePo_4$ Battery pack (Active Balancer) Up-To 16 Hrs operation	
Charger	360W CC-CV Charger	
Safety Relay	4 x E-Stop pushbutton	
	2 x 2d Lidar 2 speed Limit region + 1 E-Stop region	
	Soft E-Stop	
	User E-Stop loop Additional Safety devices can be added	

Terms & Conditions:
1. Some of these ports are used to connect with Internal & External Networks, Sensors, Bluetooth, Etc.

Easy To Integrate

PR400 is designed for seamless integration, offering GPIO, user power, LAN, and USB connectivity to support various peripherals. Its top plate features mounting options for easy customization, while the built-in touchscreen provides intuitive interaction. With a dedicated safety loop, the **PR400** ensures reliable operation in diverse applications, making it a versatile platform for research, development, and automation projects.

ROS 2 Ready

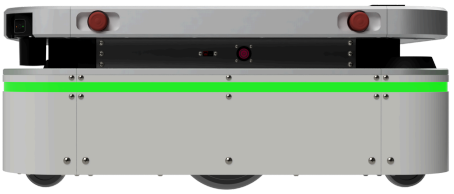
PR400 is fully ROS 2 ready, leveraging the power of open-source frameworks for seamless integration. It supports NAV2 for advanced navigation, ROS 2 Control for hardware abstraction, and, when configured as a mobile manipulator, utilizes MoveIt 2 for motion planning. Additionally, its compatibility with Dual Laser Merger enables efficient sensor fusion. With these capabilities, the **PR400** is an ideal platform for robotics research, development, and real-world applications.

Capabilities

PR400 is built for performance and adaptability, offering customization options to meet diverse application needs. As a silent-moving robot with a high battery capacity, it supports fast and online charging for continuous operation. Its unique frame and suspension design ensure exceptional stability, even with heavy payloads, while the 360-degree LED indicators enhance visibility and status communication. As both a robotics provider and system integrator, we tailor solutions to fit your specific requirements.

FRONT

SIDE



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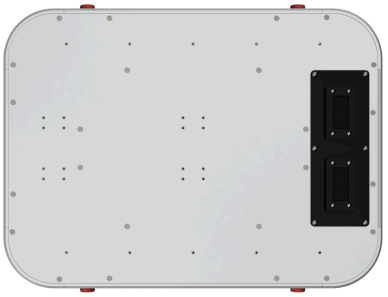

Sample Applications

Mobile Manipulator

A **mobile manipulator robot** combines a robotic arm with a mobile base, enabling autonomous movement and object manipulation in dynamic environments. It is used in industries like logistics and manufacturing for tasks requiring precision and adaptability.

100Kg Payload

A **100kg payload AMR** is a self-navigating robot designed to transport loads up to 100kg in warehouses, factories, and research settings. It uses sensors, AI, and mapping technologies to move safely and efficiently without human intervention.

Dual Arm Manipulator

A **Dual Arm Mobile Manipulator robot** combines a mobile base with two robotic arms, enabling advanced manipulation and collaboration in dynamic environments. It is used in automation, research, and manufacturing for complex tasks requiring dexterity and flexibility.

Pick & Place Robot

A **Pick and Place Mobile Manipulator robot with a table** combines a robotic arm, a mobile base, and an onboard table to transport and manipulate objects efficiently. It is ideal for automation tasks in warehouses, factories, and research, enabling flexible material handling and workspace interaction.

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