Athena 2.0
PRO MAX Universal Robot Platform

Specification

o Suitable for small and medium sized robot development

o Strong Adaptability

o Widely Modifiable

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I. Introduction

Athena2.0 PRO MAX is a compact, adaptive, and cost-effective robot platform developed by SLAMTEC, designed to meet the needs of small robot application development. It can be used in various commercial environments such as intelligent inspection robots, container delivery robots, and restaurant serving robots.

It is equipped with SLAMTEC's newly upgraded high-performance SLAMCUBE2 autonomous navigation and localization system, which enables it to work in various commercial settings with different applications.

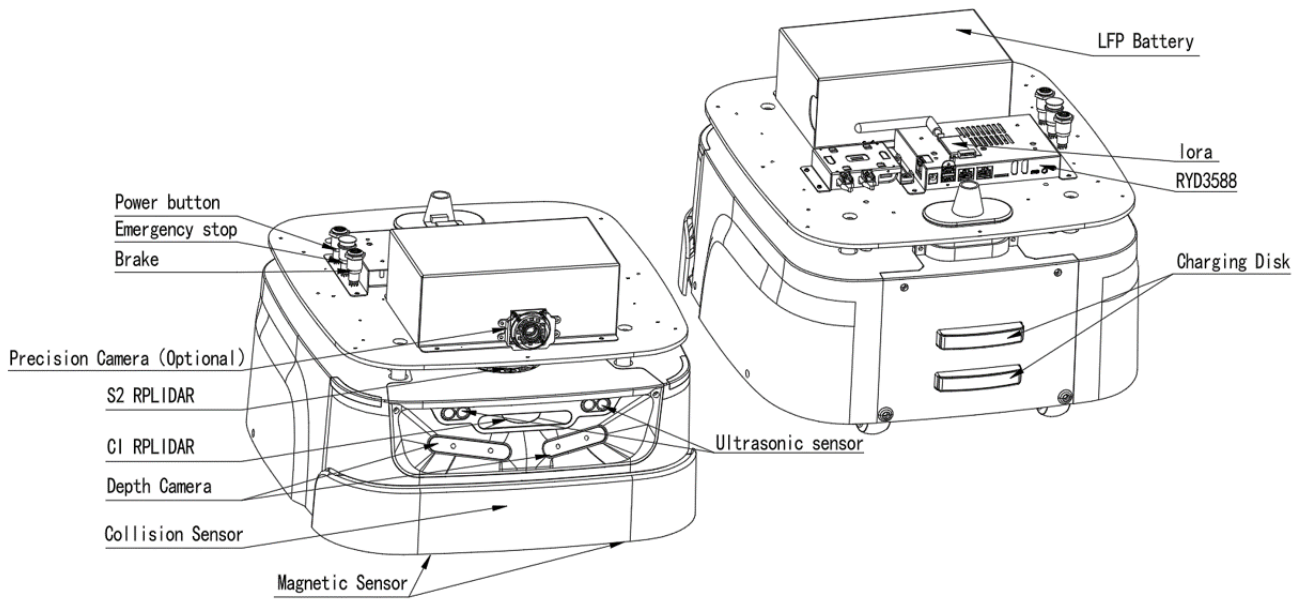## Multi-Floor movement and Simple deployment

Athena 2.0 PRO MAX is equipped with SLAMTEC's newly upgraded Intelligent Elevator Control System 4.0, which adapts to different elevator deployments from various brands, making it more versatile.

Athena2.0 PRO MAX uses the latest upgraded version of SLAMTEC's RoboStudio 2.0 deployment software, which supports one-click merging of maps for multi-floor mapping. It enhances the mapping and deployment efficiency while streamlining the deployment process, resulting in easy and quick deployment.
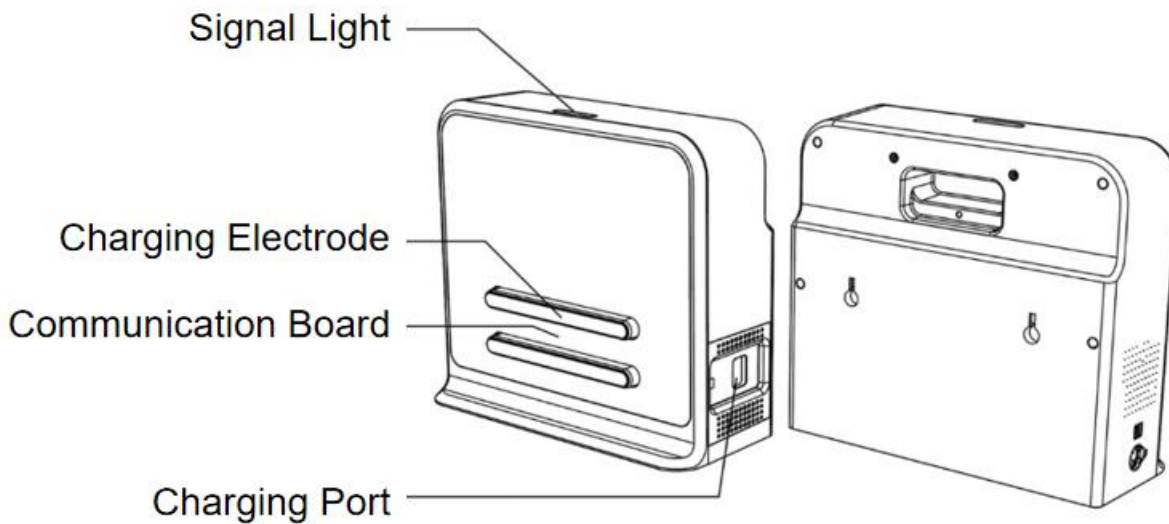
Multi-sensor data fusion

Athena2.0 PRO MAX adopts multi-sensor fusion technology, including sensor, magnetic sensor, depth camera, collision sensor, ultrasonic sensor, etc. This enables it to adapt freely to the complex and changing commercial environment, and successfully achieve autonomous mapping, localization, and navigation.

II. Exterior view

Power button
Emergency stop
Brake

Precision Camera (Optional)
S2 RPLIDAR
CI RPLIDAR
Depth Camera
Collision Sensor
Magnetic Sensor

LFP Battery

lora
RYD3588

Charging Disk

Ultrasonic sensor

III. Charging station

Signal Light

Charging Electrode

Communication Board

Charging Port

Schematic diagram of charging station

IV. List of products

Description	Quantity	Remark

| Athena 2.0 PRO MAX | 1 | Athena 2.0 PRO MAX chassis body |
| Charging station | 1 | The environment needs to be selected before deployment |

V. Product parameters

Model	Athena2.0 Pro Max Robot Base	
Core Feature	SLAMWARE™ Localization and Navigation	
Dimension and Weight	Length × Width	429*460mm
	Height	237mm（excludes controller，battery）
	Center Layer Height	21.1cm
	Minimum Ground Clearance	2.8cm
	Net Weight	22kg
	Rated Load	40kg
Sensor Performance	Precision Docking Camera (for QR Code Assistance) / Docking Accuracy	±1.5cm
	Docking Angle	±1.0°
	Ultrasonic Sensor / Quantity	2
	Model	RP S2（Dtof）
	Scanning Radius	0.05-30m (90% reflectivity, white objects) 0.05-10m (10% reflectivity, black objects)

		Distance Accuracy	±3cm
	Depth Camera	Quantity	Standard 2 unit
		Detection Range	0.3m – 2m（Varies with lighting conditions）
		Field of View (FOV)	H:121±3°；V:71±3°
	Low Obstacle & Cliff Detection Sensor	Quantity	1
		Minimum Detection Height for Low Obstacles	>3cm
	Magnetic Sensor (Default Disabled, Enabled when Needed)	Quantity	2
		Max detection range	35mm
	Bumper	Quantity	2
		Trigger Mode	Physical Collisions
		Trigger Distance	0.3~0.5cm
		Detectable Minimum Force	8N
Mapping performance		Map Resolution	15mm
		Max Mapping Area	500m x500m（5cm map resolution）

		350m x 350m（1.5cm map resolution）
	Maximum Operating Area	250,000 ㎡
	Maximum Moving speed	1.2m/s（Customizable to 1.5m/s）
	Default Moving Speed	0.7m/s
	Maximum Moving Speed in Mapping Mode	0.6m/s
Mobility Performance	Max Cross Slope	10° Slope: Max slope angle of chassis: 10°; Slope = 18% × Ramp; The height of the full-machine mass center is within 18 cm, and the safety ramp within 10°. (A 100% slope means a 45° ramp, whose height difference for 100 m is 100 m.)
	Vertical crossing height	20mm
	Horizontal crossing width	40cm
	Min Path Width (robot base)	550mm
	Alignment Accuracy（AVG）	±2cm（1.5cm map resolution）

	Alignment Accuracy (MAX)		±4cm（1.5cm map resolution）
	Min Point to Point Angle		±1.0°
	Multi-Robots Obstacles Avoidance		Supports up to 3 robots in the same scene
			LORA Model（Standard）
Wheelset	Wheelset Parameters		6.5 Inch In-Wheel-Motor*2 2.5 Inch Industrial Universal Wheel*4
User Interface	Hardware Interface	Power Connector	DC 24V 10A
		HDMI	1*HDMI
		Switch	1* Brake Release,1* Emergency Stop (I/O),1* Power Switch
		Audio	1 × 3.5mm headset socket；
			1 × LINE_MIC audio jack (co-lay with headset socket)
			1 × Dual-channel 5w/8Ω amplifier jack
	Network Interface	Ethernet	2*RJ45 Gigabit Ethernet port
		Wi-Fi	2.4GHz/5GHz（need customized）

		SLAMWARE™	HTTP APIs support different programming languages and platforms, such as Windows, iOS, Android, and Linux
Software Interface			
Ethernet		Wi-Fi	Network environment without authentication
		4G	Supports 4G SIM cards from domestic and international carriers (customized according to needs)
Battery and Capacity		Capacity Specification	20Ah（Lithium Iron Phosphate Battery）（Add-on）
		Stationary State	>19H（No-load, Ambient Temperature Environment）
		No-load Operating Time	>15H（No-load, Ambient Temperature Environment）
		Full-load Operating Time	8H(40KG，Ambient Temperature Environment）
		Charging Time	2.5~3 h
		Battery Life	Capacity decreases to 60% of the initial capacity after 2000 full charge and discharge cycles

Power Consumption	Standby Power Consumption	33W(No-load)
	Full-load Rated Power Consumption (40kg)	56W （Moving）
	Max Power Consumption with External Load	240W
Noise	Operating Noise Level	≤60db
Operating Environment	Operating Temperature	0℃～ 40℃
	Transport and Storage Temperature	-25-+55℃
	Operating Humidity	20～ 90%rh
	Operating Altitude	≤2000m
Certification		CR

Charging station	
Overall Dimensions	W360mm*D150mm*H320mm
Color	White
Rated Input	100-240V 50/60Hz 3A MAX
Rated output	DC 25.5V 10A