SLAMTEC

Athena2.0

Universal Robot Platform

Specification

- Suitable for small and medium-sized robot development
- Strong Adaptability
- Widely Modifiable

Learn more >

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Please read this document carefully before use

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I. Introduction

Athena 2.0 is a compact, adaptive, and cost-effective robotics platform developed by SLAMTEC to cater to the needs of small robot application development. It can be used for various applications such as smart inspection robots, container delivery robots, restaurant serving robots, and so on.

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

Multi-Floor movement and Simple deployment

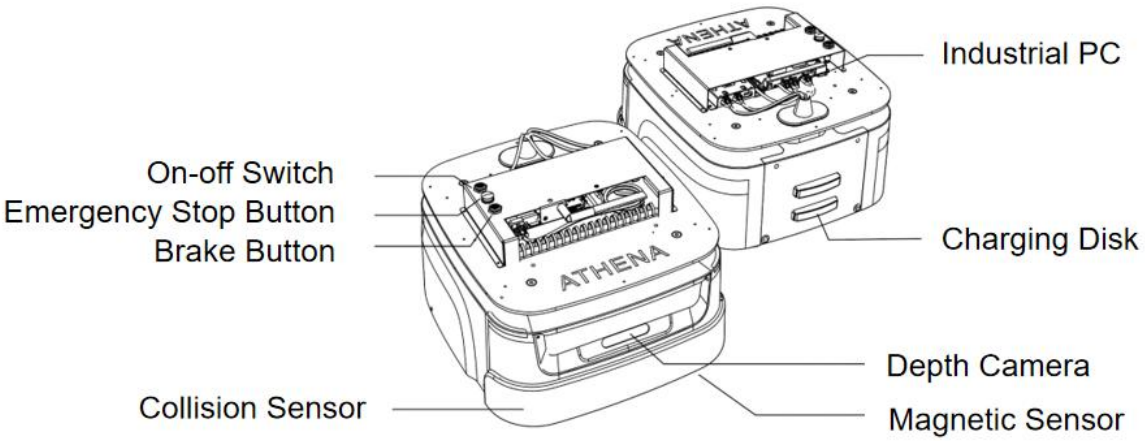
Athena 2.0 is equipped with SLAMTEC's newly upgraded Intelligent Elevator Control System 4.0, which is able to adapt to the deployment of elevators of different brands, making it more versatile.

Athena 2.0 uses the latest upgraded version of SLAMTEC's RoboStudio 2.0 deployment software, which supports the one-click merging of maps for multi-floor mapping. This enhances mapping and deployment efficiency while streamlining the deployment process, and resulting in quick and easy deployment.

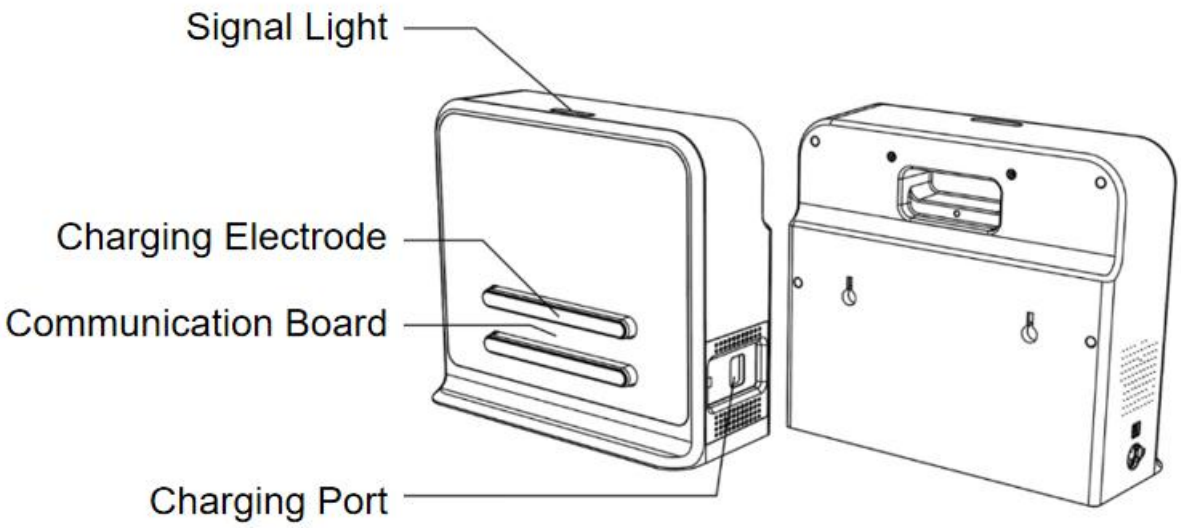
Multi-sensor data fusion

Athena 2.0 adopts multi-sensor fusion technology, including LiDAR sensors, magnetic sensors, depth cameras, collision sensors, etc. This enables it to adapt to complex and changing commercial environments and successfully achieve autonomous mapping, localization, and navigation.

II. Exterior view



III. Charging Dock



Schematic diagram of charging dock

IV. List of products

Description	Quantity	Remark
Athena 2.0	1	Athena 2.0 chassis body
Charging Dock	1	The environment needs to be selected before deployment

V. Product Parameters

Product Model		Athena 2.0 Chassis	
Core Function		SLAMWARE™ Localization and Navigation	
Dimension and Weight		Length*Width	428*460mm
		Height	232mm (w/o control board)
		Net Weight	22kg
		Rec.Weight Capacity	40kg
		Maximum Weight Capacity (Flat Concrete Pavement)	60kg
Sensor Performance Parameters	LiDAR Sensors	Maximum Scanning Radius (90% Reflective Surface)	30m (Tof S2 radar)
	Depth Camera Sensor	Quantity	1
		Detection Range	0.3m - 3.5m (varies with lighting conditions)
		Field of View (FOV)	H:75±3°; V:51±3°
	Magnetic Sensors	Quantity	2
		Maximum Detection Range	35mm
	Collision Sensors	Quantity	2
		Trigger Method	Physical Collision
		Trigger Force	8N
Mapping Performance		Map Resolution	50mm
		Maximum Mapping Area	300m x 300m

Movement Parameters	Maximum Travel Speed	1.2m/s
	Default Travel Speed	0.7m/s
	Maximum Travel Speed during Mapping	0.6m/s

		Maximum Slope Angle	10° Ramp The chassis has a maximum slope angle of 10°, and it can safely navigate slopes with a gradient of up to 18%. The overall height of the vehicle's center of gravity is within 180mm to safely handle slopes of up to 10°. (Note: A slope with a gradient of 100% refers to a 45° incline, where a height difference of 100m is covered over a distance of 100m.)
		Traverse Bump Height	20mm
		Minimum Path Width (per wheel)	40mm
		Minimum Path Width (per chassis)	550mm
Motors		Wheel Set	2 x 6.5-inch Hub Motors 4 x 2.5" Universal Wheels
User Interface	Hardware Interface	Power Input	DC 24V 9.5A
			DC 12V 2A
		HDMI	1 x HDMI
		Sound	1 x 3.5mm Headset Socket
			1 x LINE_MIC Audio Pin (Co-lay with Headset Socket)
			1 x Bi-Channel 5w/8Ω Amplifier Speaker Pins
	Network Interface	Ethernet	1 x RJ45 Gigabit Ethernet Port
		Wi-Fi Band	2.4GHz
	Software Interface	SLAMWARE™	http protocol interface Can support different development languages and platforms, such as Windows/iOS/Android/Linux

Network	Wi-Fi	
	4G	Supports 4G SIM of domestic and foreign carriers (customized upon request)
Battery Life & Capacity	Capacity	18 AH 18650 Lithium-ion ternary battery cell (standard)
	Stationary State	>19H (no load, room temperature)
	No-load Running Time	>10H (no load, room temperature)
	Full Load Range	8H (40KG, room temperature environment)
	Charging Time	4~5 h (standard charging dock)
	Battery life	800 charge/discharge cycles down to 60% of initial capacity
Power Consumption	Standby Power Consumption	17W (no load)
	Full Load Power Consumption (rec. load 40 kg)	40W (moving)
	Maximum Power Consumption with External Loads	228W
	Rated Output	25.2V 2A
Noise	Noise Level	≤60db
Operating Environment	Operating Temperature	0℃ ~ 40℃
	Transportation & Storage Conditions	-25-+55°C
	Operating Humidity	20-90%rh (no condensation)
	Operating Altitude	≤2000m

Charging Dock	
Overall Dimensions	W360mm*D150mm*H320mm
Color	White
Rated Input	100-240V 50/60Hz 3A MAX
Rated output	DC 25.5V 6A
Certification	CR