ROKAE

ROKAE - Helios Series Wheeled Humanoid Robot



Binocular RGB-D Camera
| Depth Perception

Fisheye Camera
| 360° Panoramic Video

Chest-Mounted RGB-D Camera
| Depth Perception

Computing Platform
| High-Performance Configuration: Optional NVIDIA T5000 128 GB
| Standard Configuration: NVIDIA AGX Orin 64GB

Arms: 7 DoF
| Payload per Arm: 5 kg
| Force-Controlled Joints

Wrist-Mounted RGB-D Camera
| Depth Perception

Dexterous Hand
| Supports Multiple Brands and Models
| Communication: CAN-FD / RS485

Mobile Base:
4 Wheels, 4 Steering Wheels
| Speed: 1.5 m/s
| Mobility: Omnidirectional

Microphone Array
| 360° Sound Source Localization
| Noise Reduction and Echo Cancellation

Speaker Array
| Minimum Resonant Frequency: 180 Hz ±20%
| Rated Power: 10 W

Fisheye Camera
| 360° Panoramic Video

Neck: 2 DoF
| Head Pitch, Head Yaw
| Force-Controlled Joints

Emergency Stop Button

Power Button

Service & Debug Panel
| HDMI ×1
| USB3.0*2
| Gigabit Ethernet ×1
| Emergency Stop Terminal ×1

Waist: 2 DoF
| Rotation, Pitch
| Force-Controlled Joints

Legs: 2 DoF
| Folding, Lifting
| Force-Controlled Joints

3D LiDAR ×2
| 360° Omnidirectional Coverage

Emergency Stop Button ×2

TOF Obstacle-Avoidance Camera

Charging Port

| 23 DoF | Whole-Body Force Control | Omnidirectional Mobility
| Integrated Brain-Body Coordinated Control

Parameter Specifications



Parameters		Helios II – 5
Basic Parameters	Dimensions (L × W × H)	750×650×1493~2000 mm
	Total Weight	185 kg
	Degrees of Freedom	Total: 23 — Neck: 2, Waist: 2, Chassis: 3, Arms: 7 × 2, Legs: 2
	Operating Environment	0~40 ℃
		10%~90%RH (non-condensing)
Actuation	Arms	7 DoF × 2
	Payload per Arm	5 kg
	Force Control	Whole-body force control for the arms, waist, neck and Legs
	Force Control Technology	Joint force sensors
	End Effectors	Supports electric grippers, dexterous hands, and electric vacuum grippers (optional)
	Chassis Drive Type	Omnidirectional
	Number of Drive Wheels	4
	Maximum Travel Speed	1.5 m/s
	Chassis Docking Accuracy	±10 mm
Perception	3D Navigation LiDAR	2
	Head Stereo Camera	1
	Fisheye Cameras (optional)	3
	IMU	1
	Chest Stereo Camera (optional)	1
	Wrist Camera (optional)	Optional
	Microphone Array (optional)	Four-microphone circular array, 360° voice pickup Noise reduction and echo cancellation
	Speaker (optional)	10W × 2
Runtime	Battery Capacity	18Ah × 2, dual batteries, 36Ah total
	Charging Methods	Direct charging, battery swapping, and autonomous recharging (optional charging station required)
	Runtime	4 hours
	Charging Time	2 hours, 10%~90%
	Charger Output	54.75V 10A
Main Controller	Communication Interfaces	Wi-Fi 2.4/5GHz Bluetooth 5G (optional)
	Computing (select one)	NVIDIA AGX Orin 64GB 275TOPS NVIDIA Thor T5000 2070TFLOPS
Other	LED Light Strip	Equipped
	Debug Ports	HDMI, USB3.0*2, RJ45
	External Emergency Stop	Reserved connector
	Wireless Emergency Stop	Optional
	Gamepad Control (optional)	Gamepad control
Software System	Secondary Development	Supports ROS2 and Python SDK

Applications

Suitable for Mobile Manipulation in Warehouses and Workshops:
Data Collection / Loading & Unloading / Material Handling / Picking / Assembly / Inspection

400-010-8700
www.rokae.com
sales@rokae.com