FOURIER

Fourier GR-1 General-Purpose Humanoid Robot



FOURIER GR-1

The Fourier GR-1 breaks new ground in humanoid robotics for practical applications. With a versatile body structure and advanced motion control, it replicates human-like degrees of freedom. Boasting a peak torque of 230N·m, GR-1 navigates obstacles and diverse terrains with unmatched agility and precision.

Application Scenarios







Performances and Exhibitions







Physical Dexterity

Fourier's Smart Actuator (FSA) integrates the motor, driver, reducer, and encoder into a single module, providing GR-1 with powerful and flexible mobility for dynamic and precise movements.







7*2 Arm DOFs

7 degrees of freedom design, end-effector capable of reaching any position and angle in three-dimensional space.



6*2 Leg DOFs An intricate ankle design to adapt and traverse on various terrains.





3 Head DOFs

Head movement includes pitch, roll, and rotation for flexible perception and interaction.



3 Waist DOFs Designed for performing tasks and enables 360-degree observation without movement.



6*2 Hand DOFs Human-like hand design for versatile grasping.

Technical Specifications



Mechanical Specifications

Product Model

Standing Size	1650X515X320mm	1650X515X320mm	1650X515X320mm	1650X515X320mm
Arm Span	1665mm	1680mm	1665mm	1680mm
Weight	≈55kg	≈55kg	≈60kg	≈60kg
Material	Aluminium alloy + Engineering plastic			

Electronic Parameters

Supply Voltage	46.2V	46.2V	46.2V	46.2V
Maximum Power	≈550W	≈550W	≈550W	≈550W

Performance Parameters

Speed	5km/h	5km/h	5km/h	5km/h
Single-handed Payload	3kg	3kg	3kg	3kg
Processing Power	i7–13700h 6P+8E 20thread 1.6/5.0GHz	i7–13700h 6P+8E 20thread 1.6/5.0GHz	i7–13700h 6P+8E 20thread 1.6/5.0GHz	i7–13700h 6P+8E 20thread 1.6/5.0GHz

Joint Parameters

Max Torque	230N·m	230N · m	230N·m	230N·m
Total Actuators	34	44	34	44
End-point Execution	Gripper	Dexterous Hand	Gripper	Dexterous Hand
Waist Flexibility	3	3	3	3
Head Flexibility	3	3	3	3
Ankle Flexibility	2	2	2	2

Product Model	GR–1L	GR–1	GR–1L Pro	GR–1 Pro

Sensor Parameters

Depth Camera	Realsense	Realsense	Realsense	Realsense
IMU	•	•	•	•
Ring Microphone	_	_	•	•

Features

Motion Mode	Static Standing Gait Motion Stationary Movement End Effector Gripping			
Protective Casing	Skeleton Casing	Skeleton Casing	Enclosed Casing	Enclosed Casing
Waist Safety Handle	—	-	•	•
One-Click Start	_	_	•	•
Control Terminal	Touchscreen Remote Controller	Touchscreen Remote Controller	Touchscreen Remote Controller	Touchscreen Remote Controller
Voice Control	—	—	•	•
Cluster Control	_	_	•	•
Curved Screen	_	_	•	•
WiFi	•	٠	•	•
Bluetooth	•	٠	•	•
Secondary Development	•	٠	•	•

Battery Life

Battery Capacity	460Wh	460Wh	460Wh	460Wh
Charging	46V 2A	46V 2A	46V 2A	46V 2A

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Leverage full-stack robotics technology to enrich people's life.

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