

# **FOURIER GR-3**

A Caring and Capable Companion



### **GR-3 Series Humaniod Robot**

The GR-3 Series marks Fourier's third generation in humanoid robotics. Guided by the philosophy "Love, above all functionality," GR-3 redefines how humans interact with robots. The series combines a powerful technical foundation with a presence that feels more human. The lineup features GR-3 for interactive service and GR-3C for functional performance.



#### GR-3 "Meow-bot"

GR-3 is Fourier's first full-size "Care-bot" designed for wellness companionship. Beyond functionality, it is designed to foster emotional connection — introducing a new class of Al robots for human-centered scenarios.

#### GR-3C "Cosmo"

GR-3C builds on the standard model with an LED ring-head display and reinforced shell, supporting precise operation in complex environments. Its all-white finish and head design evoke an "astronaut" look, while the durable, easy-to-maintain outer shell ensures long-term reliability.



### **Groundbreaking Concept Innovation**

Fourier has long been guided by a human-centered approach, designing robots to serve people first. Beyond pure functionality, we add the element of companionship. Human-robot interaction should surpass a simple user-tool relationship, but be both useful and full of care.

#### Social Companion

GR-3 is designed to engage with people in public settings. It can act as a service assistant, a comforting presence for children, or a responsive companion for the seniors.



#### **Assistive Companion**

GR-3C is expected to expand into assistive practices. Potential applications include research, high-risk operations, and rehab training, bringing support to both work and daily life.



### Solid and Robust Performance Base

The GR-3 Series builds on two generations of innovation. It features advanced motion control, whole-body teleoperation, and a modular design that integrates sensors and computing units with ease, delivering both precision and reliability for real-world tasks.

Equipped with Fourier's high-performance actuators and multi-DoF dexterous hands, GR-3 handles complex operations with stability and accuracy. Its refined structure is lighter, more compact, and energy-efficient. Dual hot-swappable batteries keep the robot running around the clock, with faster charging and fewer swaps, ensuring uninterrupted performance.

### Soft Design, Smart Technology

Beyond emotional intelligence, GR-3 features enhanced hardware and character-rich locomotion—enabling more intuitive and lifelike interactions at every touchpoint.

Drawing on training data and market feedback from its predecessors, the robots' whole-body structure has been redesigned for greater flexibility and a more compact form. It features Fourier's high-performance actuators and multi-DoF dexterous hands, supporting a wide range of tasks from interaction and navigation to practical assistance.



The GR-3 Series can also support customizable features, including a lifelike standby mode. For further advanced configurations, please contact our sales team.

### Advanced Feature: Whole-Body Teleoperation

The GR-3 Series supports whole-body teleoperation, enabling real-time mapping of human movements through high-precision motion capture and low-latency transmission.

By extending human reach beyond physical limits, it delivers a new level of interaction and collaboration across diverse scenarios.



### Adaptive Framework, Faster Integration

Fourier prioritizes user experience. Based on feedback from previous generations, the GR-3 Series features an upgraded backend UI/UX and supports algorithm development on a client-server architecture.

Built as an embodied intelligence platform, GR-3 supports a wide range of algorithms and third-party applications. Its client-server architecture allows researchers, automation engineers and Al developers to get started quickly and tailor functions for real-world use.







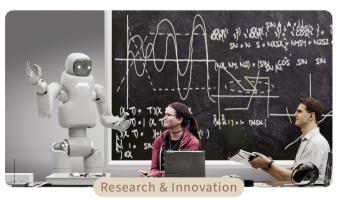
### Real-World Applications

GR-3 Series marks a new phase in Fourier's pursuit of human-robot integration.

It's built to support meaningful interaction across diverse real-world settings, from public services and academic research to clinical use and, eventually, personal spaces. Designed to operate alongside people, the robot adapts to evolving needs and complex environments.





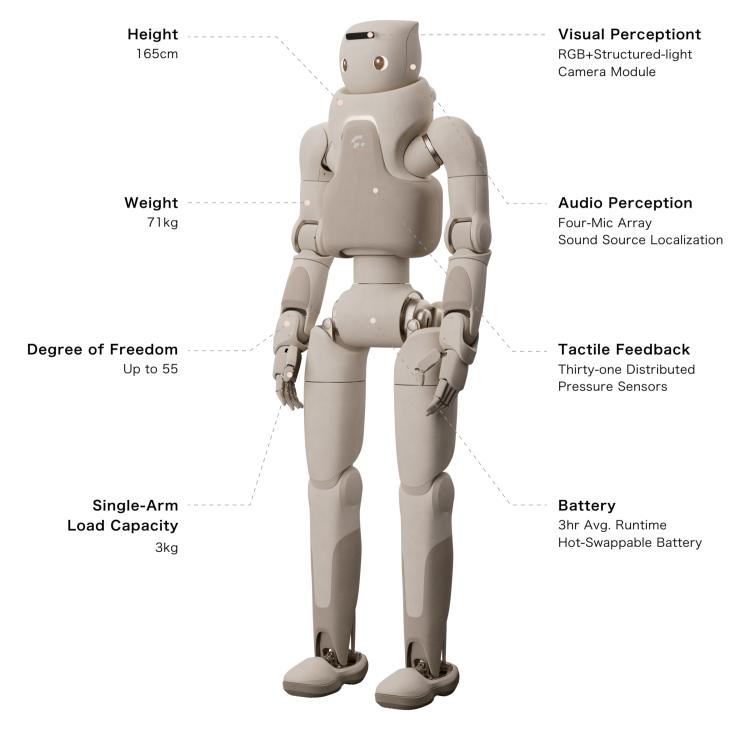




### **GR-3: A Softer Presence of Intelligent Agents**

Breaking away from traditional metallic hardware, GR-3 features an innovative soft-shell design. Its exterior pairs premium automotive-grade upholstery with environmentally friendly foam padding, striking a balance between flexibility and structural support.

The carefully treated surface maintains industrial-grade durability while delivering a more approachable look and user-friendly engagement, making GR-3 both highly functional and inviting.



Fourier GR-3

### A New Standard in Emotional Interaction

GR-3 features Fourier's proprietary Multimodal Interaction System, integrating vision, audio, and tactile feedback into a unified real-time emotional processing engine.

The dual-path response architecture supports both rapid reflexive actions via rule-based control and deep contextual understanding powered by a large language model for complex, situational dialogue generation.





Visual Recognition

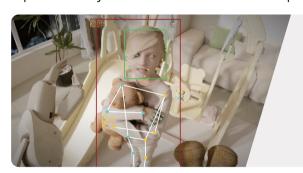


Tactile Feedback



### Innovative, Reliable, Accessible

Powered by an advanced attention management system, the robot dynamically prioritizes sensory inputs and synchronizes multimodal outputs to deliver smooth, humanlike responses.



#### Visual Recognition

The robot's RGB and structured-light camera module provides reliable facial recognition and dynamic tracking, keeping users within GR-3's expressive visual field.

### **Audio Perception**

A four-mic array enables omnidirectional voice activation, echo cancellation, and precise sound source localization. GR-3 orients to speakers with synchronized eye contact, enhancing natural vocal interaction.



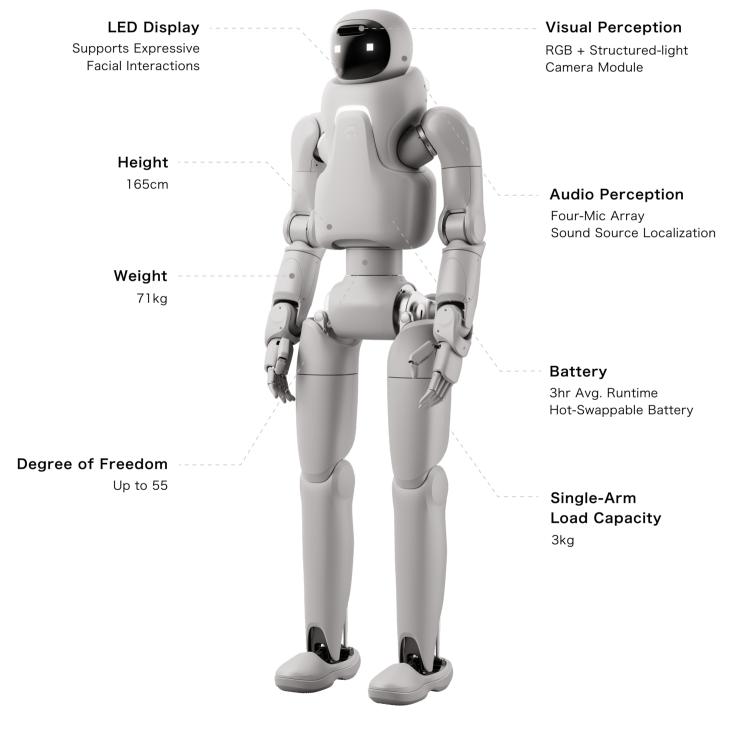
#### Tactile Feedback

Thirty-one distributed pressure sensors enable real-time touch detection. Combined with animated micro-expressions, GR-3 responds to touch with lifelike social cues.

### GR-3C: A Futuristic and Capable Assistant

The GR-3C offers additional options to meet diverse application needs. Users can select from a range of add-ons, such as vision modules and dexterous hands, providing reliable performance and easy adaptability

Its reinforced aluminum and engineering-plastic shell balances lightweight design with structural strength for durability and easy maintenance. The LED ring-screen head enables expressive facial interactions and extended displays, enhancing human-robot collaboration.



Fourier GR-3C

### **General Technical Specifications**

| Mechanical<br>Spec.           | Height, Length, Width               | 1642mm x 552mm x 292mm                   |                            |                     |  |
|-------------------------------|-------------------------------------|--|----------------------------|---------------------|--|
|                               | Weight                              | ≈ 71kg                                   | Lower-Limb                 | 425mm + 408mm       |  |
|                               | Arm Reach                           | 1395mm                                   | Arm Reach + Hand           | Up to 1795mm        |  |
| Joint Spec.                   | No. of Actuators                    | Up to 55 (12-DoF Dexterous Hand Version) |                            |                     |  |
|                               | Head                                | 2  | Leg                        | 6                   |  |
|                               | Waist                               | 3  | Arm                        | 7                   |  |
|                               | Basic Dexterous Hand                | 6  | Enhanced<br>Dexterous Hand | 12 *                |  |
|                               | Max. Peak Torque                    | 440N.m                                   | Dual encoders              | Support             |  |
|                               | Communication Protocol              | Ethernet                                 |                            |                     |  |
| Electronic<br>Spec.           | Supply Voltage                      | 46.8V                                    | Rated Voltage              | ≈ 936W              |  |
| Performace                    | Walking Speed                       | ≥ 6km/h                                  | Single-Arm Payload         | ≈ 3kg               |  |
|                               | Standard Computing Power            | 8-Core High Performance CPU              |                            |                     |  |
|                               | High-Performance<br>Computing Power | Jetson AGX Orin/Thor *                   |                            |                     |  |
| Battery                       | Battery Capacity                    | Dual Battery 702Wh + 234Wh               |                            |                     |  |
|                               | Total Weight                        | 3.8kg + 1.3kg                            | Battery Type               | Lithium-lon Battery |  |
|                               | Charging Voltage Limit              | 54.6V                                    | Nominal Voltage            | 46.8V               |  |
|                               | Average Runtime                     | ≈ 3h                                     | Life Cycle                 | ≥ 500 (80%DoD)      |  |
|                               | Charging Time                       | ≈ 1.5h                                   | Hot-Swappable              | Support             |  |
|                               | Adapter Input Parameters            | 90 ~ 260VAC, 50/60Hz                     |                            |                     |  |
|                               | Adapter Output Parameters           | 54.6V, 12A MAX                           |                            |                     |  |
| Central<br>Processing<br>Unit | Operating System                    | Ubuntu 22.04                             | Processor                  | AMD Ryzen           |  |
|                               | I/O Ports                           | Type-C、USB3.0、RJ45                       |                            |                     |  |

<sup>\*</sup>Optional extensions available. Please contact sales for more information.

## **Configurable Specifications**





| Model                       |                                 |   | Fourier GR-3 | Fourier GR-3C |
|-----------------------------|---------------------------------|---|--------------|---------------|
| Sensor<br>Spec.             | Camera                          | RGB + Structured-light<br>Camera Module *                   |              | •             |
|                             | IMU                             | 6-Axis (Supports Acceleration and Angular Velocity Sensing) |              | •             |
|                             | Screen                          | LED Display<br>Facial Expression Supported                  |              | •             |
|                             | Microphone                      | 4-Mic Array   |              |               |
|                             | Speaker                         | 15W   |              |               |
|                             | Tactile<br>Sensor               | Head  |              |               |
|                             |                                 | Torso   |              |               |
|                             |                                 | Hand (12-DoF Dexterous Hand)                                |              | •             |
| Material                    | Struture                        | Aluminium Alloy + Engineering<br>Plastic                    |              | •             |
|                             | Surface                         | Alcantara   |              |               |
|                             | Stuffing                        | Foamed Material   |              |               |
| Interaction<br>Capabilities | Tele-<br>operation              | Real-time Remote Control<br>Systems                         |              | •             |
|                             | Voice<br>Interaction            | Echo Elimination  |              | •             |
|                             |                                 | Sound Source Locolization                                   |              |               |
|                             |                                 | LLM   |              | •             |
|                             | Visual<br>Perception            | Visual Recognition  |              |               |
|                             |                                 | Visual Tracking   |              |               |
|                             | Tactile Feedback (Head + Torso) |   |              |               |
|                             | Communication Light             |   |              | •             |
|                             | Standby Mode                    |   |              |               |

<sup>\*</sup>Optional extensions available. Please contact sales for more information.



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