QUAKELOGIC

QL-Booster-T1

HUMANOID ROBOT FOR DEVELOPERS

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The QL-Booster T1 is a lightweight humanoid robot platform designed for developers, robotics research, AI experimentation, and advanced motion control applications. It combines dynamic locomotion capability, multimodal interaction, onboard AI computing, and open development support in a compact humanoid form factor.

Product Features

Lightweight

- Height about 1.2 m
- Weight about 30 kg

Easy to lift by a single person.

Flexible

- Extra large joint movement space
- Capable of performing actions challenging for humans.

Durable

- Wear-resistant and anti-fall
- By using topology optimization, high-strength metals, and engineering plastics, the robot has improved structural strength while remaining lightweight and fall-resistant.

Rich Mobility Capabilities:

Walking Abilities

- Forward
- Backward
- Lateral
- Rotational
- Omni-directional

Push Recovery & Fall Recovery

- Withstands 15 N·s impact
- Fall recovery
- Get up

Soccer Skills

- Autonomous soccer game
- Dribble and high-kick
- Throw-in

Motion Library

- Push-ups
- Kung-fu
- Dance

- **Edge LLM Support —** Can easily deploy edge LLM models and achieve various functions.

Developer Platform & Interaction

Developer Friendly

- **API** — High-level motion interface,
- Low-level hardware interface,
- Status feedback interface.

Popular Simulation Environment Support

- Isaac Sim,
- Mujoco,
- Webots.

ROS Support

- Compatible with ROS2 ecosystem.

APP Support

- Quickly operate the robot and view its status.

Multimodal Interaction

Edge LLM

- Optional edge LLM support

TTS / ASR

- Supports TTS and ASR

Vision AI

- Supports recognition algorithms such as YOLO

Long Text RAG Tasks

- Can easily deploy edge LLM models and achieve various functions including Long text RAG Tasks.

Computing Unit Specification

Item	Specification
Computing Power	NVIDIA Jetson AGX Orin, provides 200 TOPS AI performance
CPU	14-core high performance processor
Network	1000M Wired, WiFi 6, 5G (Optional)
Video	Depth Camera
Audio	Speaker, Microphone

System Configuration

Voice Module	Circular 6 mic array + speaker
Vision Module	Depth Camera
Computing Power	Provides 200 TOPS AI performance
Battery	2h walking · 4h standing
Joint	Peak torque of 130 N·m · Dual encoders

Degrees of Freedom:

31 Total DoFs

End Effector:

Integrated Dual Grippers

Note: The offered configuration is the 31 DoF gripper-equipped version of QL-Booster T1. The total DoF count above reflects the offered configuration.

Technical Specifications

Specification	QL-Booster T1
Size	118 × 47 × 23 cm
Calf-Thigh Length	57 cm
Arm Span	45 cm
Weight	About 30 kg
Total Degrees of Freedom	31
Max Torque of Knee Joint	130 N·m
Joint Encoder	Dual Encoder
End Effector	Integrated Dual Grippers
Joint Movement Space	Wrist Joint: ±58° · Hip Joint: P+118°, R-21°+88°, Y±58° · Knee Joint: -11°~123° · Ankle Joint: P-50°~20°, R±25°
CPU	14-core high-performance processor
GPU	NVIDIA Jetson AGX Orin, provides 200 TOPS AI performance
Vision Module	Depth Camera
IMU	9-axis IMU
Voice Module	Microphone Array, Speaker
Battery	10.5Ah
Battery Life	2h (Walking), 4h (Standing)
WiFi 6	Yes
Bluetooth	5.2
5G	Optional
Interface	USB, Ethernet
Firmware Upgrade	Yes
Edge LLM	MiniCPM (Optional)
Secondary Development	Yes
Warranty Period	1 Year

Connect with QuakeLogic – QL-Booster-T1

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For humanoid robotics, AI development platforms, research solutions, and advanced automation integration projects.

Our Unwavering Commitment to Operational Excellence

Certified Quality Assurance

Compliant with advanced robotics engineering standards, ensuring reliable performance, safe operation, and consistent system stability in AI and automation environments.

Advanced Motion & AI Performance

Delivering high-precision motion control, dynamic locomotion, and real-time AI processing, enabling accurate interaction, stable operation, and advanced autonomous capabilities.

Dedicated Client Success

Providing installation guidance, system integration, developer support, and post-deployment assistance to ensure reliable operation and long-term platform performance.

Explore Advanced Robotics & AI Solutions

Scan to Explore Advanced Robotics & AI Solutions

Discover how the QL-Booster-T1 humanoid robot platform enables advanced robotics development, AI experimentation, and dynamic motion applications

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Designed for developers, researchers, and innovation-driven industries, the system delivers powerful onboard AI computing, flexible motion capabilities, and seamless integration into modern robotics ecosystems.

Learn more about platform capabilities, development tools, and integration solutions.

www.quakelogic.net