

Booster Robotics K1

A humanoid platform for research, education and embodied AI.

~95 cm Höhe	~19,5 kg Gewicht	22 DoF Freiheitsgrade gesamt	60 N·m max. Peak Torque
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Overview of variants

Variant	AI computing power	Battery / Runtime	WLAN	Warranty
Booster K1 Geek	48 TOPS (Dense) AI Performance	5 Ah / 80 min	Wi-Fi supported	1 Year
Booster K1 Basic EDU	117 TOPS AI Performance	5 Ah / 80 min	Wi-Fi 6	1 Year
Booster K1 Pro EDU	200 TOPS AI Performance	5 Ah / 80 min	Wi-Fi 6	1 Year

Technical Specifications

Category	Specification
Dimensions & Weight	Height: ~95 cm; Weight: ~19.5 kg
Degrees of freedom	Total degrees of freedom (DoFs): 22; DoFs per leg: 6; DoFs per arm: 4; DoFs for the head: 2
Range of motion	Hip: P -171° to 126°, R -22° to 89°, Y ±59°; Knee: 0° to 127°; Ankle: P -50° to 20°, R ±20°
Actuators	Max. Peak Torque: 60 N·m; Joint Encoder: Dual Encoder
Sensory & Audio	Stereo depth camera; 9-axis IMU; circular 6-microphone array + speaker
Interfaces & Features	Bluetooth 5.2; Power Button ×1; Interaction Buttons ×3; Gigabit Ethernet; Firmware Upgrade; Secondary Development
LLM	Doubao LLM included, 6 months free of charge

Booster K1 - Detailed comparison

All three variants share the same mechanics, sensors, degrees of freedom and range of motion. The main differences lie in their AI processing power.

Characteristic	Geek	Basic EDU	Pro EDU
Height	~95 cm	~95 cm	~95 cm
Weight	~19,5 kg	~19,5 kg	~19,5 kg
Total DoFs	22	22	22
DoFs per leg / arm / head	6/4/2	6/4/2	6/4/2
Hip	P -171°~126° R -22°~89° Y ±59°	P -171°~126° R -22°~89° Y ±59°	P -171°~126° R -22°~89° Y ±59°
Knie	0°~127°	0°~127°	0°~127°
Ankle joint	P -50°~20° R ±20°	P -50°~20° R ±20°	P -50°~20° R ±20°
Max. Peak Torque	60 N·m	60 N·m	60 N·m
Joint Encoder	Dual Encoder	Dual Encoder	Dual Encoder
GPU / AI Performance	48 TOPS (Dense)	117 TOPS	200 TOPS
Camera	Stereo Depth Camera	Stereo Depth Camera	Stereo Depth Camera
IMU	9-axis IMU	9-axis IMU	9-axis IMU
Audio	Circular 6-Mic Array + speaker	Circular 6-Mic Array + speaker	Circular 6-Mic Array + speaker
Akku	5 Ah	5 Ah	5 Ah
Battery life	80 min (walking 0.4 m/s)	80 min (walking 0.4 m/s)	80 min (walking 0.4 m/s)
Wi-Fi	Supported	Wi-Fi 6	Wi-Fi 6
Bluetooth	Bluetooth 5.2	Bluetooth 5.2	Bluetooth 5.2
Buttons	Power ×1 Interaction ×3	Power ×1 Interaction ×3	Power ×1 Interaction ×3
Expansion Port	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet
Firmware Upgrade	Supported	Supported	Supported
Secondary Development	Supported	Supported	Supported
Warranty	1 year	1 year	1 year