

ROBOTERA

STAR1


High Capability
Humanoid Robot

CREATING A NEW ERA
OF ROBOTS



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High Capability Humanoid Robot

STAR1: RobotEra STAR1 is the first high-performance humanoid robot product from RobotEra. It features a total of 55 degrees of freedom (DOF). With a maximum joint torque of 400 Nm and a high rotational speed capability of up to 25 rad/s, the RobotEra STAR1 boasts industry-leading dynamic performance. outdoor actual scene running speed up to 3.6m/s, and its 3-DOF waist enables stable walking, running, and jumping with natural gait and complex movements. The upper limbs include 7-DOF high-precision robotic arm, along with the XHAND 1, a 12-DOF fully actuated dexterous hand, providing industry-leading manipulation capabilities, making STAR1 well-suited for a wide range of application needs.

RobotEra STAR1 integrates Intel high-performance processors and Nvidia Orin's powerful computing resources, offering exceptional computational support for humanoid robots in reinforcement learning, imitation learning, and end-to-end large model research. Additionally, the robot is equipped with a variety of peripherals such as fingertip array tactile sensors, 3D cameras, microphone arrays, and a facial interaction screen, along with robust software and teleoperation systems, enabling efficient training and highly autonomous operations.

RobotEra STAR1 is an outstanding representation of the deep integration of artificial intelligence and robotic hardware, specifically designed to address current and future scientific research challenges with excellent performance and flexibility.

Information

Height	171 cm
Weight	63 kg
Degrees of Freedom (DOF)	55
Compute Performance	275 TOPS, supports external connection
Dexterous Hand	12-DOF fully actuated dexterous hand
Sensors	Tactile sensors, 3D cameras



Performance

Movement	Outdoor actual scene running speed: 3.6m/s
Arms	Load capacity > 20 kg, 7-DOF high-precision bionic robotic arms
Dexterous Hand	Capable of lateral grasping, wide finger movement range, single-hand grip strength > 25 kg
Waist and Neck	3 DOF in the waist, 2 DOF in the neck, graceful posture, friendly interaction
Joints	Maximum torque 400 Nm, maximum rotational speed 25 rad/s
Load capacity	20 kg



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