QUANSER JOINT CONTROL ROBOT - 6 DOF

6 DOF open architecture serial manipulator for advanced robotics research

AFFORDABLE OPEN ARCHITECTURE RESEARCH PLATFORM

The Quanser Joint Control Robot - 6 DOF (JCR-6) is a high fidelity two-finger gripper and high-speed RS-485 interface. By exposing the serial interface, you can access joint angles, motor currents and torque measurements for each joint at minimum 500 Hz communication rate. The higher communication rate and open architecture framework allows for development of advanced, high performance control algorithms. A complete blockset available in QUARC real-time control software for Simulink® provides an intuitive environment for designing and implementing control algorithms. With a compact, lightweight design the QJCR-6 manipulator can not only be used on a stationary surface, but it can also be integrated with a majority of existing mobile platform.

QUANSER JOINT CONTROL ROBOT - 6 DOF COMPONENTS:

- 6 DOF serial manipulator with two-finger gripper
- RS-485 serial card*
- QUARC real-time control software for Simulink®
- Pre-designed controllers and models for simulated and physical robot arm
- Digital User manual

System specifications on reverse page.

WHAT'S IN THE PACKAGE

The Quanser Joint Control Robot - 6 DOF consists of:

- **High-end Serial Manipulator**
  With the Quanser Joint Control Robot - 6 DOF with two-finger gripper, users can access joint angles, motor currents and torque measurements for each joint at a minimum 500 Hz communication rate, allowing for development of advanced high performance control algorithms.
- **Real-time Control for HIL Applications**
  QUARC real-time control software for Simulink® enables easy development and deployment of control algorithm for HIL applications without the need for hand-coding, hardware integration, or mastering a proprietary programming language.
- **Simulation and 3D Visualization**
  3D visualization and simulation allows users to test algorithms virtually before deploying to the manipulator.
- **Application Resources**
  Extensive resources and sample models including:
  - Joint-space control
  - Forward kinematics
  - Teleoperation
  - Visualization
  - Simple task-space and compliance control

* Requires PC with a PCI expansion slot. PC not included in the package

SYSTEM SPECIFICATIONS

Quanser Control Joint Robot - 6 DOF

FEATURES

- Real-time control for HIL applications
- Joint level torque control
- Customized open architecture MICO^2 with serial interface offered exclusively by Quanser
- Access to joint angle, motor current and torque measurements for each joint
- Communication rate of min. 500 Hz for better performance, critical in haptics and torque control applications
- 3D visualization to verify algorithms prior to deployment
- Fully integrated with Simulink® through QUARC
- Compact design ideal for stationary labs and mobile platforms
- Fully documented system models and parameters provided for MATLAB®, Simulink®

DEVICE SPECIFICATIONS

Weight	5.2 kg
Payload	0.8 kg (full extension) 1.3 kg (mid-range)
Arm reach	app. 70 cm
Maximum linear speed	20 cm/s
Communication rate	500 Hz

COMPLETE WORKSTATION COMPONENTS

Plant	Joint Control Robot - 6 DOF with two-finger gripper
Control design environment	QUARC® for Simulink®
Documentation	User Manual, Lab Guide
Real-time targets	Microsoft Windows®
Data acquisition device	RS-485 serial card

** Requires PC with PCI expansion slot. PC not included in the package.*

About Quanser:

Quanser is the world leader in education and research for real-time control design and implementation. We specialize in outfitting engineering control laboratories to help universities captivate the brightest minds, motivate them to success and produce graduates with industry-relevant skills. Universities worldwide implement Quanser's open architecture control solutions, industry-relevant curriculum and cutting-edge work stations to teach Introductory, Intermediate or Advanced controls to students in Electrical, Mechanical, Mechatronics, Robotics, Aerospace, Civil, and various other engineering disciplines.