Kawasaki Robot

duAro 1 Dual-arm SCARA Robot

Features:

Coexistent operations with workers
Co-existing and collaborative works with human workers are possible thanks to various functions to assure safety and the use of soft materials on the arm surface. In the event of a collision with the worker, the collision detection function will make the duAro stop.

Compact cart
The slim cart allows an easier installation at the site with a limited space.

Easy use of the vision system
Since vision sensors can be used by simply adding optional software, a vision controller is not needed.

Separation of the arms and controller
In addition to the integrated type of arms and controller, a separate type (arms and controller are installed separately) allows free layout of the production line.
### Specifications

**Application**
- Assembly, handling, dispensing

**Degree of freedom (axes)**
- \(4 \times 2\) arms

**Max. payload (kg)**
- \(2 \times 2\) arms

**Positional repeatability (mm)**
- ±0.05

**Motion range**
- **Arm1 (lower arm)**: Arm rotation (°): -170 – +170, JT1; Arm rotation (°): -140 – +500, JT2
- **Arm2 (upper arm)**: Arm rotation (°): -140 – +140, JT1; Arm rotation (°): -140 – +140, JT2
- **Ar up-down (mm)**: 0 – +150, JT3
- **Wrist swivel (°)**: 0 – +150, JT3
- **JT4**: Arm rotation (°): -360 – +360, JT4; Arm rotation (°): -360 – +360, JT4

**Number of controlled axes**
- Max. 12 (standard 8, optional 4)

**Drive system**
- Full digital servo system

**Type of motion control**
- Manual mode: Coordinated movement of 2 arms, Individual movement of 1 arm, (Interpolation mode), Joint, Base, Tool
- Auto mode: Coordinated movement of 2 arms, Individual movement of 2 arm, (Interpolation mode), Joint, Linear interpolated motion

**Programming**
- Direct teaching method through tablets

**Memory capacity (MB)**
- 16

**I/O signal**
- General input (% of input): 16 (max. 80)
- General output (% of output): 16 (max. 80)

**Power requirements**
- AC200-230V ±10%, 50/60Hz ±2%, Single phase, Max. 2.0kVA
- Class-D (3rd class) earth connection (earth connection dedicated to robots), leakage current: max. 10mA

**Mass (kg)**
- 200kg (integrated type), 90 kg (separated type arm unit)

**Installation**
- Floor

**Environmental condition**
- Temperature (°C): 5 – 40°C
- Humidity (%): 35 – 85 (no dew, nor frost allowed)

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### Optional separate type

- duAro1 arm
- Connector box
- Robot harness
- Base plate
- Machine harness
- Control box
- F61 controller

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### Application

- **Assembling of PCBs**
- **Filling cups with soup**

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