

THE FACTORY AUTOMATION COMPANY

FANUC

A new era of powerful performance

FANUC Controller R-50iA



A-Cabinet

B-Cabinet

Mate-Cabinet

The R-50iA Robot Controller

Built on 50 years of automation expertise, the R-50iA robot controller delivers a powerful upgrade designed to maximise robot performance. New intelligent features, reduced energy consumption and the world's first robot controller to offer cybersecurity* make the R-50iA the perfect solution for a secure, productive, and sustainable future. Designed for ease of use, the R-50iA is available in three different enclosures depending on your selected robot model.

* according to our research

Features designed for your success



Hardware/Control performance

- high accuracy of signal output and sensor tracking on the motion path
- ISO13849-1 Category 4, PL e support for position/speed check function in addition to E-stop function
- flexible network configuration using 4 Ethernet ports and PROFINET without an option board
- battery-less main board for easy maintenance



Energy saving environment

- low power fans and amplifiers with low loss power elements save energy
- high efficiency brake control reduces power consumption
- eco mode allows the robot to move smoothly along the taught path and also reduces power consumption



Cybersecurity

- cybersecurity certificates for IEC 62443-4-1 and IEC 62443-4-2 are supported
- security by design functions support SFTP, HTTPS, firewall and so on
- corporate user authentication is provided with password function



Rich development function

- allows you to execute Python scripts on the controller and provides Visual Studio Code* integration
- supports a ROS 1/ROS 2 robot framework and IEC 61131-3 software PLC function on the robot



iRVision

- easily set up and operate Ethernet cameras using integrated robot vision functions
- 5 million pixels camera packaging provides straightforward cable access and lens adjustment

* Visual Studio Code is trademark or registered trademark of Microsoft Corporation in United States of America or other countries and regions.

Technical specifications

| | A-Cabinet | B-Cabinet | Mate-Cabinet |
|--|--|--------------|---|
| Rated supply voltage | 200V AC to 575V AC + 10%-15% 50/60Hz ± 1Hz, 3-Phase | | 200V AC to 240V AC + 10%-15% 50/60Hz ± 1Hz, 1/3 -Phase |
| Mass of controller (kg) | 120 to 140*1 | 160 to 180*1 | 35/40*1 |
| Dimensions (WxDxH mm) | 600x470x500 | 600x550x950 | 470x322x400 470x402x400*1 |
| Overvoltagecategory / Pollution degree | Overvoltage Category III, Pollution degree 3, IEC60664-1, IEC/EN/UL61010-1 | | |
| Protection class | IP54 | | |
| Safety function | Emergency stop function: PL=e, Cat4(ISO13849-1) SIL3(IEC61508) Position/Speed check function: PL=e, Cat4(ISO13849-1) SIL3(IEC61508) | | |
| External memory | USB, SD | | |
| Field network | Ethernet, FL-net, DeviceNet, PROFIBUS, PROFINET, CC-Link IE, EtherNet/IP, EtherCAT | | |

*1 Values differ depending on the robot model.

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