

# FANUC R-50iA Controller

# FANUC R-50iA Mate Controller



R-50iA Mate Controller

R-50iA Controller

## Features

### Hardware/Control Performance

- Higher accuracy improvement of signal output and sensor tracking on the motion path.
- DCS Position/Speed Check zones expanded four times from R-30iB Plus.
- Flexible network configuration using 4 Ethernet ports and PROFINET without an option board.
- Battery-less main board for easy maintenance.

### iRVision

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



### Energy Saving Environment

- Low power fans and amplifiers with low loss power elements save energy. High efficiency brake control reduces power consumption.
- A new Eco mode allows the robot to move smoothly along the taught path and also reduces power consumption.

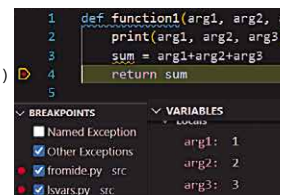
### Cybersecurity

- Cybersecurity certificates for IEC 62443-4-1 and IEC62443-4-2 are supported.
- Security by design functions support SFTP, HTTPS, firewall, and so on.
- Corporate user authentication is provided with an improved password function.



### Rich Development Function

- Allows you to execute Python scripts on the controller and provides Visual Studio Code <sup>NOTE1)</sup> integration.
- Supports a ROS 1/ROS 2 robot framework and IEC 61131-3 software PLC function on the robot.



NOTE1) Visual Studio Code is trademark or registered trademark of Microsoft Corporation in United States of America or other countries and regions.

### Remote Maintenance

- Connect a smartphone to your robot controller with a USB cable to allow FANUC service personnel to maintain your robot controller remotely.
- A FANUC service location connects to your robot controller using a secure communication method.



# Specifications and Supported Robot Models

	R-50iA Controller			R-50iA Mate Controller
	A-Cabinet	B-Cabinet	C-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 <small>NOTE 1)</small>	160 to 180 <small>NOTE 1)</small>	160 to 180 <small>NOTE 1)</small>	35/40 <small>NOTE 1)</small>
Dimensions(W×D×H mm)	600×470×500	600×550×950	740×600×870	470×322×400 470×402×400 <small>NOTE 1)</small>
Overvoltage Category / Pollution Degree	Overvoltage Category III, Pollution degree 3, IEC60664-1, IEC/EN/UL61010-1			
Protection Class	IP54			
Safety Function	Emergency stop function Position/Speed check function		PL=e, Cat4(ISO13849-1) SIL3(IEC61508) PL=d, Cat3(ISO13849-1) SIL2(IEC61508)	
External Memory	USB, SD			
Field Network	Ethernet, FL-net, DeviceNet, PROFIBUS, PROFINET, CC-Link, CC-Link IE, EtherNet/IP, EtherCAT			
	Supported Robot Model (○:Supported –:Not supported)			
LR Mate	○	○	○	○
ARC Mate	○	○	○	○
M-10	○	○	○	○
M-20	○	○	○	○
M-710	○	○	○	–
M-800	○	○	○	–
R-1000	○	○	○	–
R-2000	○	○	○	–
M-900	○	○	○	–
M-910	–	○	○	–
M-1000	○	○	○	–
M-2000	○	○	○	–
M-410	○	○	○	–
DR	○	–	–	○
CR	○	–	–	–

NOTE1) These values differ depending on the robot model.

## FANUC CORPORATION

● Overseas Affiliated Companies  
 FANUC America Corporation  
 FANUC Europe Corporation, S.A.  
 SHANGHAI-FANUC Robotics CO., LTD.  
 KOREA FANUC CORPORATION  
 TAIWAN FANUC CORPORATION  
 FANUC INDIA PRIVATE LIMITED  
 FANUC SINGAPORE PTE. LTD.  
 FANUC THAI LIMITED  
 FANUC MECHATRONICS (MALAYSIA) SDN. BHD.  
 PT. FANUC INDONESIA  
 FANUC OCEANIA PTY. LIMITED  
 FANUC SOUTH AFRICA (PROPRIETARY) LIMITED

Phone: (+1)248-377-7000  
 Phone: (+352)727777-1  
 Phone: (+86)21-5032-7700  
 Phone: (+82)55-278-1200  
 Phone: (+886)4-2359-0522  
 Phone: (+91)80-2852-0057  
 Phone: (+65)6567-8566  
 Phone: (+66)2-714-6111  
 Phone: (+60)3-3082-1222  
 Phone: (+62)21-4584-7285  
 Phone: (+61)2-8822-4600  
 Phone: (+27)11-392-3610

● Headquarters 3580, Shibokusa, Oshino-mura, Minamitsuru-gun  
 Yamanashi, 401-0597, JAPAN  
 Phone: (+81)555-84-5555 <https://www.fanuc.co.jp/>

<https://www.fanucamerica.com/>  
<https://www.fanuc.eu/>  
<https://www.shanghai-fanuc.com.cn/>  
<https://www.fkc.co.kr/>  
<https://www.fanuctaiwan.com.tw/>  
<https://www.fanucindia.com/>  
<https://www.fanuc.com/fsp/>  
<https://www.fanuc.com/ftth/>  
<https://www.fanuc.com/fmm/>  
<https://www.fanuc.com/fin/>  
<https://www.fanucoceania.com.au/>  
<https://fanuc.co.za/>

● All specifications are subject to change without notice.  
 ● No part of this catalog may be reproduced in any form.  
 ● The products in this catalog are controlled based on Japan's "Foreign Exchange and Foreign Trade Law". The export from Japan may be subject to an export license by the government of Japan. Further, re-export to another country may be subject to the license of the government of the country from where the product is re-exported. Furthermore, the product may also be controlled by re-export regulations of the United States government. Should you wish to export or re-export these products, please contact FANUC for advice.

© FANUC CORPORATION, 2023  
 R-50iA(E)-02, 2024.10, Printed in Japan