

SYSTEM R-30iA™ Controller

FANUC
Robotics

Basic Description

FANUC Robotics' SYSTEM R-30iA Controller uses advanced technology packaged in a proven, reliable and efficient controller design. Open architecture, integral sensor hardware and built-in process intelligence improve the application and motion performance while simplifying the system integration.

SYSTEM R-30iA Controller incorporates FANUC Robotics' unique "plug-in" design, providing flexibility for application specific configurations and a common look and feel for a wide range of users of the system.



Hardware Features/Benefits

- Multi-processor architecture permits concurrent operations, reduces program execution times and increases path accuracy.
- Quick change servo amplifier improves maintainability and controller uptime.
- Plug-and-play integral vision and force sensing option package provide the most reliable, cost effective and intelligent process solution for a wide range of applications.
- Distributed and network I/O options reduce system and integration costs and simplify troubleshooting.
- Provides extensive line of compact I/O modules for both digital and analog signals.
- Available iPendant™ with multi-window and internet browser interface.

System Features/Benefits

- Ergonomically designed, light-weight teach pendant with large, easy-to-read backlit LCD display.
- High-speed, precision control of up to 40 axes of motion.
- Auxiliary axes options can support up to seven separate motion groups, each with its own control program and simple kinematic models.
- Multi-tasking operating system allows execution of several concurrent user programs.
- High-speed processor and communication capability allow simultaneous control of up to four robots and up to 16 auxiliary axes.
- Advanced storage, communications and networking capabilities include dual built-in Ethernet, USB and PCMCIA interfaces.

Process Features/Benefits

- Available Constant Path motion provides enhanced path performance regardless of speed override and program interruptions due to hold, ESTOP or wait delay.
- Available Advanced Path features provide improved cycle time by optimizing robot dynamics in real-time.
- Enhanced tracking features provide high-speed linear and circular tracking performance while minimizing tracking error.
- Collision detection minimizes potential damage to the robot or end-of-arm tooling.
- Zone I/O provides application flexibility by monitoring and controlling robot interface signals independent of the taught path.
- Coordinated motion simplifies the teaching of part programs on a moving table or positioner.

R-30iA Standard Hardware Features

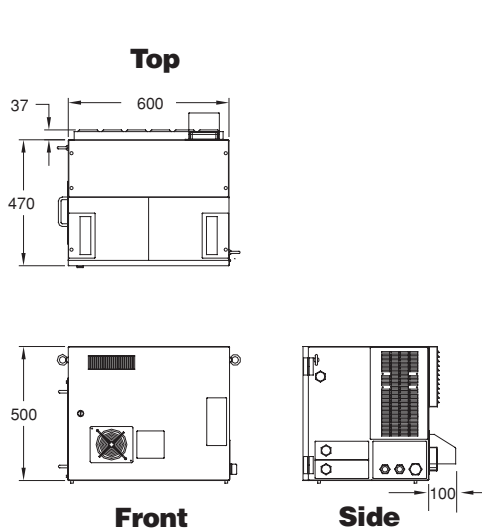
Items	Specifications
B-size cabinet	- See drawing for dimensions
Operating environment	- Ambient temperature: 0-45°C (standard) 0-50°C (conditional) Humidity: 75% RH or less non-condensing (95% max) Vibration: 0.5G or less
Power supply	- Three phase 200-575 VAC +10%,-15%, 50/60Hz ±1Hz with circuit breaker
CPU	- Multi-processor architecture (separate motion and communication) with real-time clock/calendar
Controlled axes	- 40 (up to seven motion groups)
Serial/host-communications	- Two 100 Base-TX/10 Base-T Ethernet ports with RJ-45 connector - One (1) RS-232 port and one (1) RS-232/RS-422 port - One USB port
Teach pendant	- Color graphic <i>iPendant</i> ™ with available touch screen option
<i>iR</i> Vision™	- Built-in camera and laser unit interface for 2-D and 3-D vision applications

R-30iA Options

Items	Specifications
I/O sub-systems	- Model A (modular rack mounted - 5 or 10 slots) - Model B (distributed DIN rail mounted) - FANUC I/O link
I/O types	- DI/DO: 1024 point maximum each (includes process I/O) - Digital AC or DC input modules - Digital AC or DC output modules - 12-bit Analog input or output modules
Process I/O	- Digital input: 40 points maximum - Digital output: 40 points maximum - Multiple points can be utilized as a code (group I/O) - Analog inputs: 6 points - Analog outputs: 2 points - Digital input for welding: 8 points - Digital output for welding: 8 points - Wire stick detect
Remote I/O sub-systems	- DeviceNet (master and slave up to four channels) - Profibus DP slave/master - ControlNet - Ethernet I/O (EGD and EIP) - Interbus (master and slave) - CC-Link (slave)
Memory card for system software installation or program backups	- PCMCIA type 2 interface for: ATA flash disk cards (SanDisk compatible) - USB Flash Drive
Host communication (Ethernet-based)	- PC Interface: enables PC application communication
Integrated PMC	- Ladder logic control for peripheral devices including ladder monitor with hot-edit on <i>iPendant</i>
<i>iR</i> Vision	- Multiplexer to support up to four cameras and laser units - Option board for advanced applications
Force Sensing	- Force Sensor interface option

A-size Cabinet

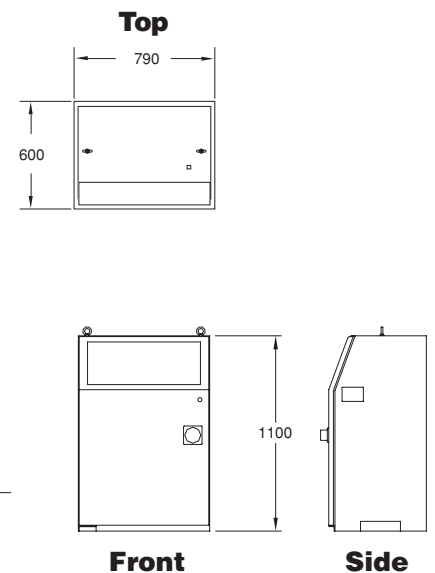
Standard on ARC Mate 100iB/iBe, ARC Mate 120iB/iBe, M-6iB, M-410iB, M-420iA, M-421iA, and M-430iA Robots



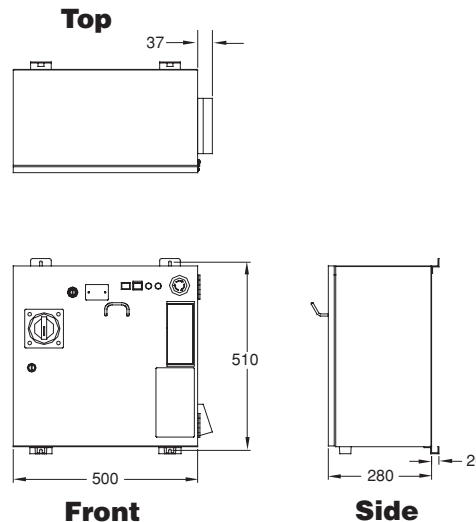
Note: Heat exchanger placement on A-Cabinet is different for M-410iB and M-420iA

B-size Cabinet

Standard on M-16iB, M-710iC, R-2000iB, and M-900iA Robots



Operator Panel for A-size Cabinet



iPendant for Robot Controller



Intelligent Robot Solutions



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