

R-30iA CONTROLLER

FANUC Robotics System R-30iA controller uses advanced technology packaged in a proven, reliable and efficient design. Process capability and open architecture features provide intelligence to improve application and motion performance while simplifying system integration. The R-30iA Controller incorporates FANUC Robotics unique “plug-in options” concept, which gives flexibility for application specific configurations while maintaining a commonality for all users of the system.

The R-30iA Controller offers enhanced vibration control. This greatly reduces the robot’s acceleration and deceleration times leading to reduce cycle times. The Controller provides an integrated 2D vision system to speed-up the installation of vision applications, this can be easily upgraded to provide a 3D vision system.

Advanced Communication R-30iA

- Simple down- and upload of robot programs to server!
- Built-in Ethernet (100 BaseTX)
- FANUC I/O-link (Master)
- E-mail function as an option
- Fieldbus (option)
- PROFIBUS
- DEVICENET
- CCLINK

Advances I/O Features

Input / Output (I/O) are electrical signals through which the robot can control grippers and other external tools. It is also needed for the communication with external machines (e.g. CNC machines) that the robot may load or unload.

- Available types of I/O
- DI/DO (digital)
- RI/RO at the robot arm (digital)
- GI/GO (grouped digital I/O)
- UI/UO (digital I/O for remote control by external PLC)
- AI/AO (analog I/O)
- WI/WO (arc welding I/O)
- SI/SO (standard operation panel interface)
- I/O setup can be separately backed up and restored using PCMCIA memory card or USB1)

Extended Axes Control R-30iA

The controller can manage up to 40 axes 1) that are using FANUC motors (divided in up t to 5 groups; one group can control up to 9 axes), such as:

- 4 robot arms +
- 4 auxiliary axes groups (arc welding positioners, robot rails, servo hands, grippers...)

There are three types of motion control available:

- Extended auxiliary axes: for robot rails and simple tools (grippers)
- Nobot: for servo driven tools and other intelligent peripherals
- Positioner: for arc welding positioners, with coordinated motion between robot and positioner.

Following options are available as extensions of this feature:

- Aux Axis servo off: for safety design of manual in/out-feed stations
- Torque limit: in order to control the gripping force of servo grippers
- Servo hand change function: This allows the changing and disconnecting of servo hands and tools
- Continuous turn: for tools and positioners needing endless rotation
- Multi-motion for multiple groups
- Multi-robot control (dual / multiple arm) for more than one robot

Fast Start-up

R-30iA Controller needs less than 1 minute to start (and even less with the basic software only).

Safety Class 4

Safety Class 4 (EN 954-1) is offered with Dual Check Safety.

DCS consists of 2 I/O security channels running on 2 independent processors that mutually check each other. Dual Check Safety is the embedded safety conformed to European safety standards. Two processors monitor real position and velocity of servomotor for safety redundantly. The embedded safety provides conformance to the safety standards without any sacrifice on machine efficiency and cost.

Dual Check Safety in the robot has the following features:

- 2 channel safety inputs for FENCE, Emergency Stop, Servo Off
- 2 channel safety output for Emergency Stop
- Same safety inputs and outputs as R-J3iB and R-J3.
- Safety cuts the servo motor power using magnetic contactors
- Safety classification according to EN 954-1 risk assessment class 4 (highest level as needed for manual press loading)