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FANUC RL

About iRVision on R-30iB Controller (Notification)

Specification of iRVision is improved and modified in some points for R-30iB controller. We FANUC RL plans to provide details in manuals, presentation slides and so on later, but this paper provides quick summary of the improvements and modifications.

Hardware

Hardware Configuration

- The VISION optional CPU board is not supported on R-30iB. Instead, the high-speed CPU card option is supported for the MAIN CPU board.
- The new Ethernet iPendant is supported for R-30iB, and iRVision setup is available not only on PC but also on the new iPendant with touch screen. (Note: Setup of visual tracking and bin picking are available only on PC for the time being.)

Analog Cameras

- Image resolution of an analog camera (i.e. XC-56) connected to the MAIN CPU board is increased from 512x480 to 640x480 pixels.
- MUX for the analog cameras can supply power to the Camera Package's LED light. It also can control the LED light's on/off and intensity without the process I/O board.

Digital Cameras

- Communication with color camera and high-resolution camera are completely digitized, and those cameras are more functional. The brand-new, inexpensive digital CCU (Camera Connection Unit) is designed for R-30iB. The CCU for R-30iA is no longer available for R-30iB. Camera heads are common to R-30iA and R-30iB.
- Camera cables are revised for them. The new camera cables can be used not only for digital cameras but also for analog cameras (i.e. XC-56)

Software

Option Configuration

- Software option lineup for iRVision are restructured to make them easy to order.
- Table-1 below shows the major iRVision options. Order at least one to use iRVision.

- Table-2 below shows the addendum options. Order them if necessary.
- See also the attachment about functions included in each software option.

Easier to Use

- The compensation plane for 2D offset can be specified in vision process. This allows using the same camera calibration in 2D applications for different 2D planes.
- The compensation plane for 2D tool offset can be specified with respect to a user tool. This improves accuracy of tool offset, especially in the case of snap-in-motion.
- The color extraction parameters can be setup in vision process side. This allows using the same camera calibration for various color extraction, and also allows extracting different colors in a single vision process.
- Robot Ring setup is integrated in the communication setup menu screen.

Vision Data Compatibility

- Vision data created on R-30iA cannot be loaded on R-30iB

Others

- The simple 2D camera calibration is no longer supported.

Table-1 Major Options

Order Number	Option Name	Description
A05B-2600-J901	iRVision 2DV	2D application, Inspection, Barcode reading, 3D tri-view
A05B-2600-J902	iRVision 3DL	3D Laser Vision Sensor
A05B-2600-J903	iRVision Visual Tracing	Visual Tracking, including tracking queue
A05B-2600-J909	iRVision Bin Picking	Bin Picking
A05B-2600-J912	iRVision Image to Points	Image to Points

Table-2 Addendum Options

Order Number	Option Name	Description
A05B-2600-J917	iRVision Slave	Vision instructions, for controllers without iRVision
A05B-2600-J871	Vision UIF Controls	UIF Controls to enable vision setup on PC
A05B-2600-J873	Vision Support Tools	KAREL programs such as MATRIX
A05B-2600-J874	Tracking Queue	Tracking queue for controllers without iRVision

Attachment: Functions included in each software options

	J901	J902	J903	J909	J912	J917	J873	J874
	2DV	3DL	Visual Tracking	Bin Picking	Image to Points	Slave	Support Tool	Tracking Queue
Vision Processes								
2D Single View Vision Process	•							
2D Multi View Vision Process	•							
Depalletizing Vision Process	•							
Inspection Vision Process	•							
Barcode Reader Vision Process	•							
3D Tri View Vision Process	•							
3DL Single View Vision Process		•						
3DL Multi View Vision Process		•						
3DL Cross Section Vision Process		•						
3DL Curved Surface Vision Process		•						
Visual Tracking Vision Process			•					
Bin-Pick Search Vision Process				•				
Image to Points Vision Process					•			
Other Functions								
Robot Ring (RIPE)	•	•	•	•	•	•	•	•
TPP Instructions	•	•	•	•	•	•		•
SupportTool, such as MATRIX			•				•	•
Tracking Queue			•					•
Line Tracking (=J512)			•					•
Bin Pick Workpiece Manager, Interference Avoidance				•				