

# FANUC PC Developer's Kit

## Basic Description

FANUC Robotics PC Developer's Kit is a powerful tool that enables high performance communication of information and instructions between a PC and FANUC controller. The kit is both a development and run-time environment that gets the MS Windows™ application running quickly. Visual Basic programming expertise is required to develop application packages over PC Developer's Kit.

## Features

- Robot Server
- Robot Neighborhood
- FTP (File Transfer Protocol) for file access
- Visual Basic Integrated Development Environment
- Visual Basic Programming
- Online documentation
- Source files for example programs that use all Robot Server features

## Robot Server

The heart of the PC Developer's Kit is the Robot Server. It knows how to access the information needed from the robot controller and makes the controller follow the instructions. The Robot Server works with Visual Basic 6.0 and VB.Net code through an object oriented interface. When using an object's property, method or event, the object handles the details of getting that action accomplished on the robot in the most efficient way.

Programming with objects is fundamental to Visual Basic. Visual Basic's rapid prototyping and powerful development environment and Robot Server objects virtually ensure the

success of the application. Here is a partial list of the actions the application can do through the Robot Server:

- Read/write variables - this includes user defined structures, arrays and path nodes along with the "simple" system and KAREL" variables.
- Read/write numeric registers - these are the variables of TPP programs.
- Test or set I/O - all types (e.g. 01, DO, AI, AO, GI, GO, SI, SO, UI, UO, etc.) of I/O supported by the controller can be accessed.
- Configure I/O - allows user to configure controller I/O.
- Run programs - users can run a robot program from the PC.
- Check program status determine which program is running, aborted or paused.
- Load/save programs – users can load a program to controller memory and save it to the PC.
- Read/write positions. Positions can be converted and presented in joint, Cartesian or matrix representations. This includes KAREL positions, TPP positions, position registers, the current robot position, user frame, tool frame, jog frame and positions in system variables.
- Monitor alarms - the entire alarm log is made available and updated as new alarms occur.
- Coordinate with the robot program - TPP and KAREL programs can generate events to which the Visual Basic code responds.
- Monitor variables, I/O, program status - display and update robot information on the PC

screen through event handler

PC Developer's Kit takes full advantage of Visual Basic's Integrated Development Environment (VB-IDE). Here's how it fits into the extensive features of the VB-IDE:

- Context sensitive help - press F1 while the cursor is on any of the Robot Server object components and read more about it
- Statement builder - Visual Basic knows about the Robot Server's *object* interlace to anticipate the next keystroke and give the argument list for available robot object property or method.
- Object browser - all the robot server's object interlaces are shown; Use F1 for context sensitive help.

PC Developer's Kit relies on the industry standard FTP protocols enable the application to list, read, write and delete files on the controller.

## The Robot Neighborhood

controls and monitors connections between the robot server and the controller. It offers the following features:

- Connection sharing between multiple applications
- A directory of available robots and their current status
- Disconnect detection and automatic reconnect
- Robot Server keep-alive
- Access and control to both real and virtual controllers

## Visual Basic Programming

Visual Basic programming is needed to access robot information.

### For F5 prices

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