HandlingTool™

Application Software
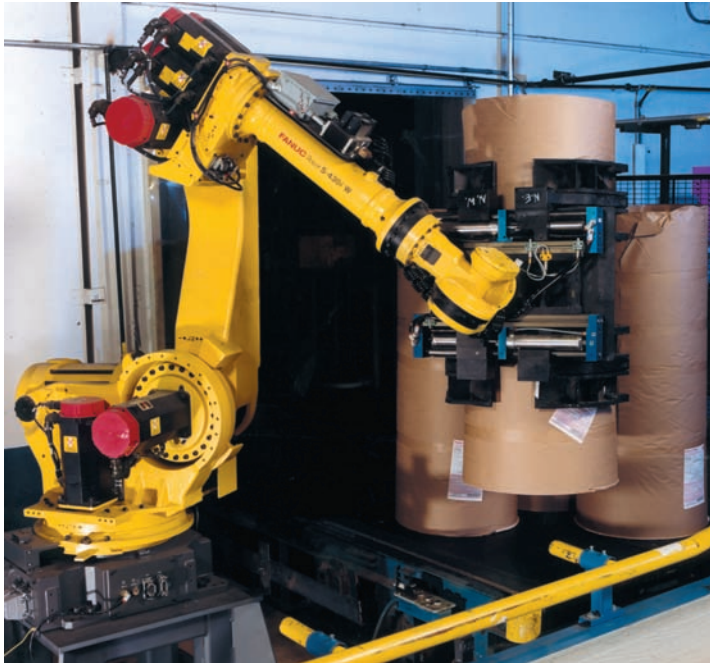
Basic Description

FANUC Robotics' HandlingTool software integrated with a FANUC robot and controller provides an effective process solution for most material handling, material removal and assembly applications.

HandlingTool simplifies the setup, programming, and operation of FANUC robots. Built-in macro functions, menu-driven programming tools and point-and-shoot position teaching features allow users to create robot application programs, test an application and run production with minimal training and programming experience.

The HandlingTool software is compliant with RIA 15.06 safety standards. It provides full robot functionality at the teach pendant for setup, programming, position teaching, start-up operation, diagnostics and robot status reporting.

Features and Benefits

- **Constant Path option** maintains robot path regardless of speed override, program speed, wait delay, hold/resume, auto/teach mode, etc.
- **Advanced Path option** allows precise corner distance control to avoid obstacles and maximize robot speed for optimal process control.
- **Background program edit** allows robot program changes while the robot is running production.
- **Password protection** prevents unauthorized editing of program and system parameters.
- **Dual Ethernet port with TCP/IP** allows dedicated I/O Communication over local network through port 1, while transferring data and program files over plant-wide network through port 2.
- **Web Server** turns the robot into a web site, allowing robot information to be browsed from a remote computer with an Internet browser.
- **Controller Backup/Restore** provides complete backup of application programs and system files to a PCMCIA card or hard drive of a networked PC.
- **Multi-tasking** feature allows simultaneous processing of robot sequence and external device control logic.

General Software Options

- **PC Interface** allows FANUC robots to exchange data (e.g., I/O status, alarms, program and system variables) with FANUC Robotics PC software products such as HandlingWorks™, PressWorks™ or custom Visual Basic application created with PC Developer's Kit software.
- **Programmable Machine Control** (PMC) provides ladder logic control for external devices such as conveyers, indexing tables and other peripheral equipment. Ladder logic programs are written off-line on a PC.
- **Human Machine Interface** (HMI) allows the robot to communicate I/O status, alarm message and system parameters to the GE FANUC Quick Panel or Cimplicity software.
- **KAREL® Programming** provides high-level structured programming tools to develop user-friendly applications for complex processes.
- **Auto Singularity Avoidance** will automatically detect wrist singularity during LINEAR motion. If detected, it determines the best wrist configuration (flip or non-flip) for the destination position to prevent undesirable wrist rotation. Auto Singularity Avoidance improves cycle time by maintaining Tool Center Point (TCP) position and speed during motion.

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Robotics

- **Auto Payload ID** identifies up to ten wrist payloads by moving axes 5 and 6 while monitoring torque. It automatically determines payload's mass, center of gravity and inertia values and warns user of robot overload condition.
- **TCPCal** option provides accurate TCP location of the end-of-arm tool.
- **RobotCal** option calculates or restores initial mastering information of the robot.
- **CellCal** recovers cell frame for a new fixture change and allows transfer of robot programs between similar workcells.

Motion Software Options

- **Collision Guard™** eliminates the need for a mechanical clutch by detecting robot collisions with external objects and minimizing damage to the part, end-of-arm tool and the robot.
- **Auto Collision Recovery** will automatically recover from a collision according to a user-specified recovery program. Collision Guard and High Speed Skip option must be setup for collision detection and automatic recovery to work properly.
- **Cartesian Soft Float™** provides adjustable robot compliance along a user-specified direction to accommodate variations in part size or shape.
- **Interference Check** prevents collision of one robot with other robots or static obstacles inside the workcell.
- **Robot Space Check™** prevents robot-to-robot collisions when multiple robots share a common workspace.
- **Linear or Circular Tracking** allows the robot to pick or place parts moving on one or two continuously running conveyers.
- **Continuous Turn** allows the last axis of the robot or an extended axis to rotate continuously at program speed.

Process Software Options

- **PalletTool™** provides process solution for palletizing applications to handle multiple product sizes, variety of pallet patterns, and quick product changeover.
- **RemovalTool™** provides process solution for polishing applications that require active or passive force control.

I/O Options

- FANUC Model A I/O
- FANUC Model B I/O
- Process I/O - EA
- I/O Link Connection
- DeviceNet
- ControlNet
- Profibus-DP
- cc-Link

For more information, refer to the I/O Products datasheet.

PC Software Options

- Floppy Emulator NT
- OlpcPRO™
- PC File Services
- PC Developer's Toolkit
- HandlingWorks™
- ROBOGUIDE®-HandlingPRO™
- V-500 *i*A™/2DV Vision System
- V-500 *i*A/2DV Line Tracking
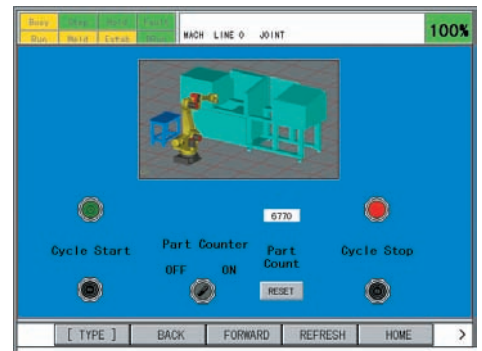- V-500 *i*A/3DL 3-D Laser Vision System
- PalletPRO™

For more information, refer to the respective software datasheet.

*i*Pendant™ with Available Touch Screen
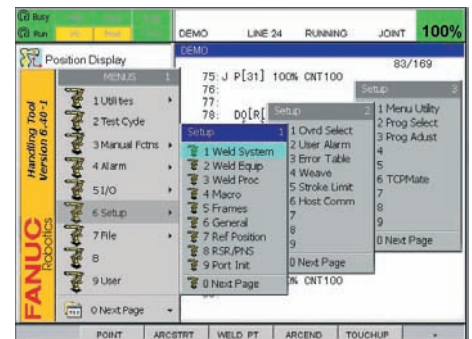
Product Data Display on *i*Pendant

Process Interface on *i*Pendant

Intelligent Robot Solutions

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