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WARNING

INSTALLATION SHOULD ONLY BE PERFORMED BY QUALIFIED INSTALLATION PERSONNEL AND MUST CONFORM TO ALL NATIONAL AND LOCAL CODES

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Hi5 Controller Function Manual

Program Reservation Execution

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1 Introduction

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1.1. About Program Reservation Execution Function

Program Reservation Execution function is the function to reserve the program to execute by external input signal and to execute the program by reserved order.

Hyundai robot controller supports two methods of Program Reservation Execution function. Learn the characteristics of each method and use the type depending on the working environment.

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1.2. Application Example

1.2.1. Method by External Selection

When different types of workpieces continuously move through the conveyor, this function selects the program by the external program selection method, registers the information to the Program Reservation Execution registry and executes the reserved program in order.

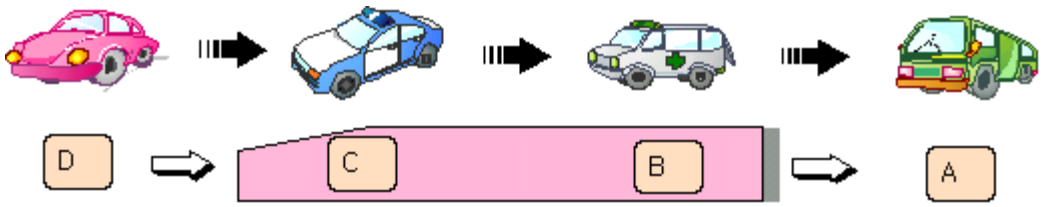

Figure 1.1 Method by external selection

The above picture shows the condition of executing program A and then program B and C registered in Program Reservation Execution register in order, and the condition of program D not registered yet.

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1.2.2. Method of Internal Setting

If the button on the workstation is pressed when the target workpiece is programmed, the program number applicable to this input is registered to reserve execution register and the program will be executed in this order.

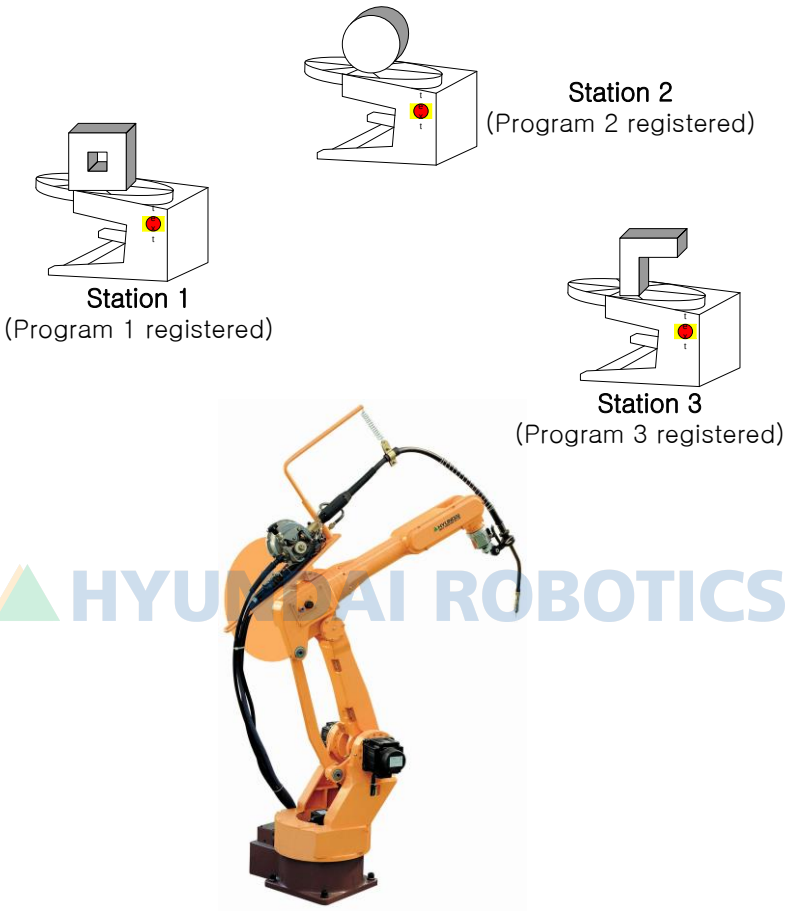

Figure 1.2 Method by internal setting

When each workpiece is set on 3 workstations as shown in the above figure, and the buttons on workstations 1, 2 and 3 are pressed, the programs 1, 2 and 3 are registered to the Program Reservation Execution Register.

When workpiece 1 is prepared and the button pressed, program 1 will be executed when you press the run button on the operating panel. Also when workpiece 2 is prepared and the button is pressed, program 2 will be executed after program 1 is executed.

2
User Interface

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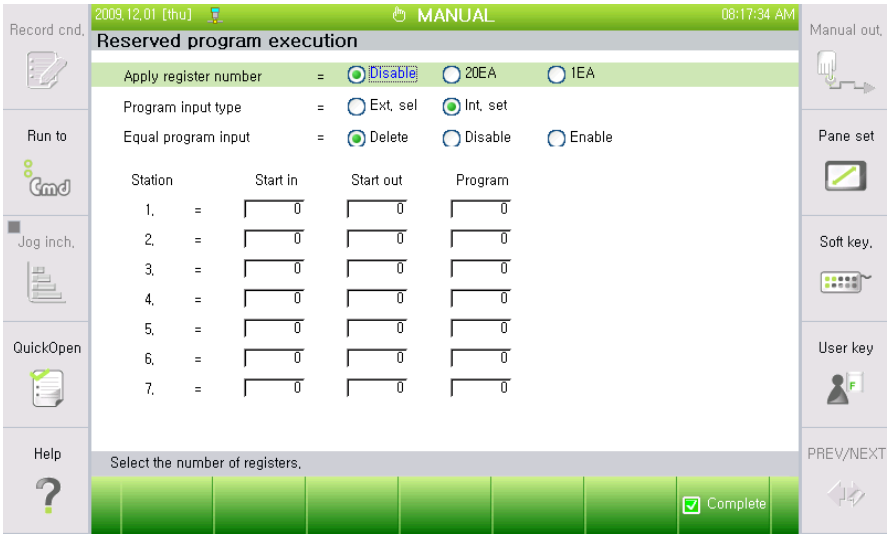
2.1. Program Reservation Execution Environment Setting

The environment for Program Reservation Execution function is set in 『[F2]: System』 → 『2: Control parameter』 → 『8: Reserved program execution』.



- Apply register number

  ① Disable – Program Reservation Execution function is not used.

  ② 20EA
  Create 20 Program Reservation execution registers and register the program in reserved order. When the number exceeds 20, an error will occur.

  ③ 1EA
  Create 1 Program Reservation execution register and register only 1 program. Then when the program registered to the register is not executed and another program is registered, the register will replace with a new program.

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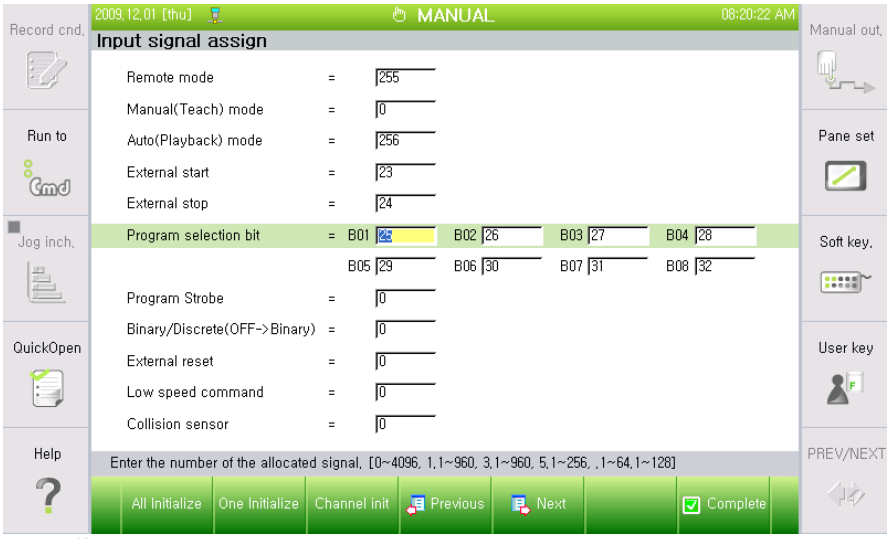
- Program input type

① External selection
Entered program is registered to Program Reservation Execution Register in 『[F2]: System』 → 『2: Control parameter』 → 『2: Input/Output signal setting』 → 『3: Input signal assign』.



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② Internal setting
When the input signal and the applicable program are pre-designated by the user, and the input signal is turned on, the applicable program will be registered to the Program Reservation Execution Register.

- Equal program input
When registering the program to the Program Reservation Execution Register, it decided how to process when the same program exists in the register.

① Delete – Deletes existing program.
② Disable – Do not register.
③ Enable - Register.

- Start In
Set the signal for each port of the I/O connector installed on the I/O board.

- Start out
Set the signal for each port of the output connector installed on the I/O board.

- Program
Set the work program of the applicable workstation.

2.2. Program Reservation Execution Register

Program Reservation Execution Register is the function to check, change, insert or delete the reserved program and can be set in 『[F1]: Service』 → 『2: Register』 → 『7: Reserved program execution』.

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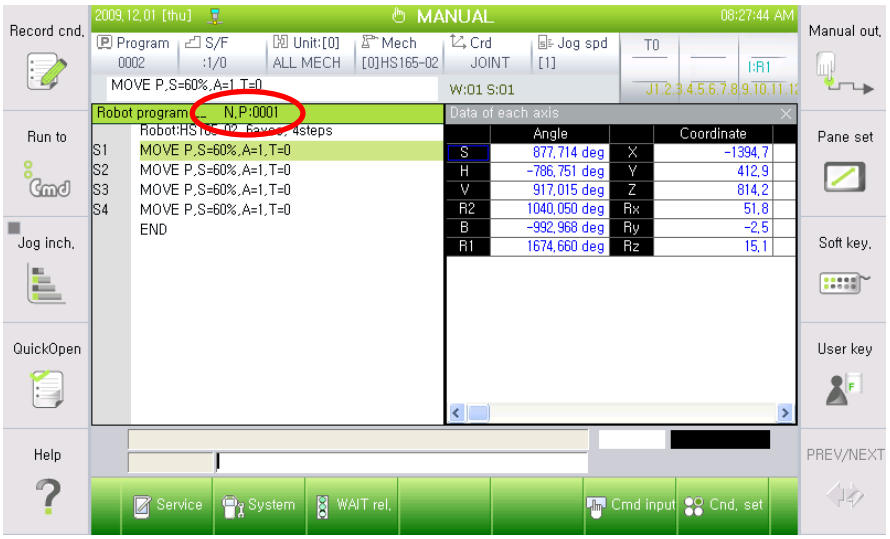
2.3. Next program display

The next program to execute is displayed as “N.P:0001” in the Robot Program window in the following screen.



2.4. Program Reservation Condition External Check

2.4.1. External selection method

Following signal is displayed in『[F2]: System』 → 『2: Control parameter』 → 『2: Input/Output signal setting』 → 『4: Output signal assign』.

- Display program number selected from program echo bit
- Display program ACK for 200ms

2.4.2. Internal setting method

Flash signal is displayed as output signal set in 『[F2]: System』 → 『2: Control parameter』 → 『8: Reserved program execution』.

Reference

- When the program register button is connected to the input signal and the lamp to the output signal, the program will change on the lamp from the time the program is registered to the Program Reservation execution register until executed.

  ① Program is not registered → Lamp off
  ② Program is registered by program register button → Lamp on
  ③ Registered program is being executed → Lamp on
  ④ Registered program is completely executed → Lamp off

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2.5. Playback

2.5.1. Execution from step 0

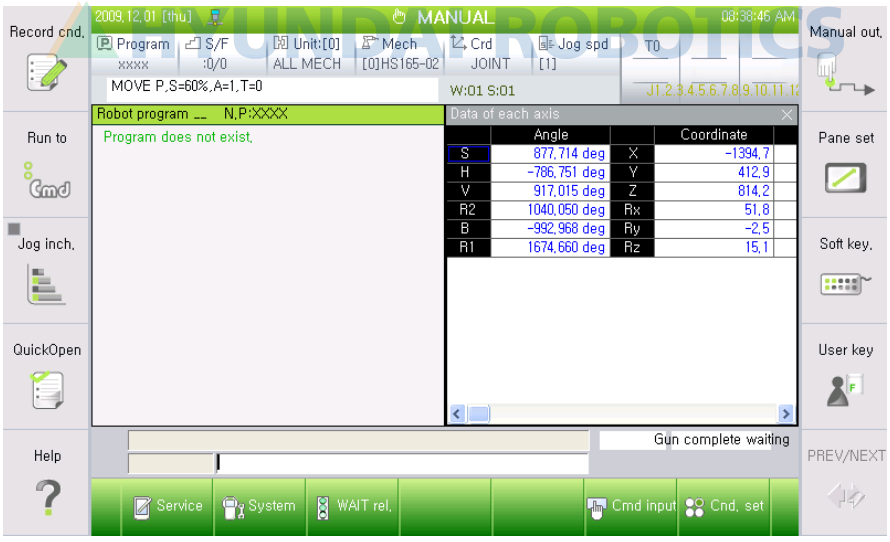
When run button is pressed, the robot controller will execute the first program of the Program Reservation Execution Register. When the program is executed until the end and the end relay output time is set, it will stand by for the applicable time and then execute the next program registered to the Program Reservation Execution Register.

2.5.2. Execution from mid step

When the run button is pressed, the selected program is executed from the selected command. After the program is executed, the program registered in the Program Reservation Execution Register is executed.

2.5.3. Execution with no reserved program

When there is no registered program in the register and the run button is pressed, it will continue to be in standby mode until the program is registered in the Program Reservation Execution Register as shown in the following screen. When the program is registered in this condition, the program will be executed immediately.



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