



Panasonic Factory Automation PerformArc Robotic Welding System

System Settings

System Settings:

The following pages contain functions or features of the PerformArc 112S that have been set up as part of the standard build at shipment of the system. Please read over this section carefully prior to making any changes to your system as these functions or features may effect the changes that are to be made.

Cube Monitors:



Area monitor
(RT, Cube)

Cube 1: Home

The 2 dimensional drawings shown to the right describe the **ROBOT HOME** area.

When the robot TCP is within this 3 dimensional area Output#1 (“@Home”) is in the ON state.

IMPORTANT: Changes to these positions could change the way in which the system operates. Please make sure that the new positional data does not adversely affect the operation of the system.

The TCP data values below are approximate. Please reference the information in your system for exact data.

VR-006			VR-008			VR-006L		
	Min	Max		Min	Max		Min	Max
X	265	315	X	320	370	X	320	370
Y	505	555	Y	550	600	Y	550	600
Z	775	850	Z	875	950	Z	875	950

Cube 2: Clear Work

The 2 dimensional drawings shown to the right describe the **CLEAR OF WORK** area.

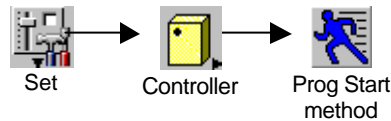
When the robot TCP is within this 3 dimensional area Output#2 (“Clr Work”) is in the ON state.

IMPORTANT: Changes to either of these positions could change the way in which the system operates. Please make sure that the new positional data does not adversely affect the operation of the system.

The TCP data values below are approximate. Please reference the information in your system for exact data.

VR-006			VR-008			VR-006L		
	Min	Max		Min	Max		Min	Max
X	235	1265	X	100	1400	X	100	1400
Y	-760	950	Y	-890	1145	Y	-890	1145
Z	760	1275	Z	850	1410	Z	850	1410

Program Selection Type: BCD Program Select



The PerformArc system that you have just purchased utilizes this program selection type to automatically call programs based on the position of the **MODE SWITCH** at the time that the **START** button is pressed. BCD (Binary coded decimal) analyzes the instantaneous state of 10 program reserve inputs when the input strobe input is turned on (START button is pressed). At that moment the robot calculates a 3-digit number that corresponds directly to the state of the analyzed program reserve inputs. This number in turn corresponds to a program in the robot. The settings below are those at shipment.

Start Method: **AUTO** [AUTO or MANUAL]
 Program Select: **Program Select** [Program Select or Master]
 Program Select Method: **BCD** [Signal, Binary or BCD]

Input Allocation		Output Allocation	
Program Reserve Binary (BCD)	Input #	Reserved Outputs Binary (BCD)	Output #
1 (1)	2	1 (1)	0
2 (2)	0	2 (2)	0
4 (4)	0	4 (4)	0
8 (8)	0	8 (8)	0
16 (10)	0	16 (10)	0
32 (20)	0	32 (20)	0
64 (40)	0	64 (40)	0
128 (80)	3	128 (80)	0
256 (100)	4	256 (100)	0
512 (200)	5	512 (200)	0
Strobe	1	Strobe	0
Cancel	9		

Tool Center Point Setup:

The tool center point of the robot is set up at shipment to the torch manufacturer selected based on the job worksheet delivered to the systems group at time of order. Below are the standard values for the Panasonic air cooled torch as an example of the values that were input into the system. Please note that your values may differ from those below based on the manufacturer and type of torch ordered.

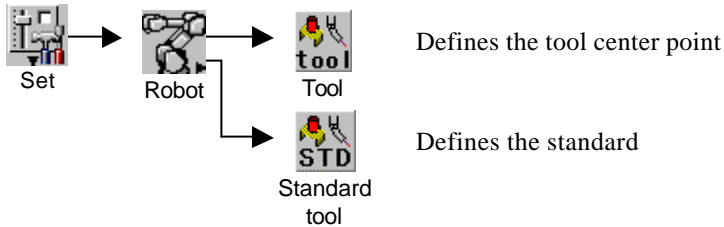
TCP Values:

L1: 505 mm

L2: 0mm

L3: 350 mm

TW: 0 deg



Automatic Tip Change Monitor Setup:



Tip change

This feature allows the end user to determine the frequency with which they would like the robot system to notify the operator to change the welding tip. This feature can be configured to react based on either arc on time, arc start counts or program start counts.

To change the frequency or type of monitoring information acquired by this feature the following information must be modified in the system. Please consult your robot operations manuals included with the system to setup this function in the robot.

Settings at Shipment:

Tip Change: Valid
Hold: Invalid

Arc Time 0
Arc Start Count 0
Program Start Count 20

The settings above are definable by the user

Program Name: Prog0001.prg

Output Number: 3:Tip Chg
Reset Input Number: 8:Tip Rst

The screenshot shows a dialog box titled 'Tip change'. It has several options and input fields:

- Tip change: Valid Invalid
- Hold: Valid Invalid
- Arc time: 0 Hour 0 Minute
- Arc start count: 0 times
- Program start count: 0 times
- Program Name: [] Browse
- OUT No.: 0:None Browse
- Reset IN No.: 0:None Browse
- Buttons: OK, Cancel

The PerformArc System in its master program checks to see if the "Tip Chg" output is on. If this output is on then the system calls the program Tip Change which will cause the robot to execute a program moving it near the teach access door on the right of the system. Once at that location the robot will automatically enter **HOLD** and display the message "Tip Chg". At this point the user should open the door, change the tip, close the door, enable auto mode, enable servo power and press re-start to continue operation of the system.