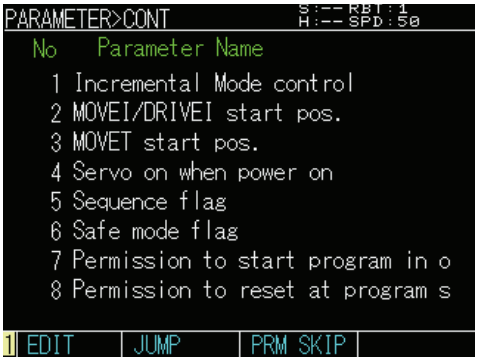
Step 1 *Press the F3 key (PRM SKIP) on the "PAREMETER>CONT" screen.*

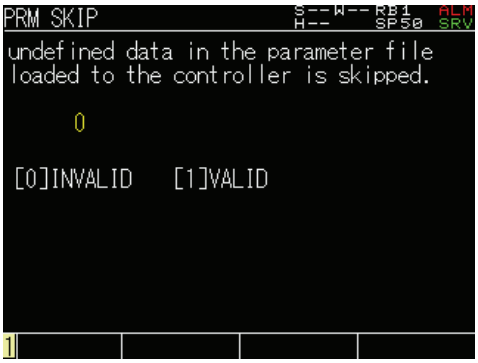
▶ **Step 1** **"PARAMETER>CONT" screen**



Step 2 *Input the value.*

Input "1" and press the ENTER key to enable "Do not load undefined parameters". To disable, input "0" and press the ENTER key.

▶ **Step 2** **"PRM SKIP" screen**

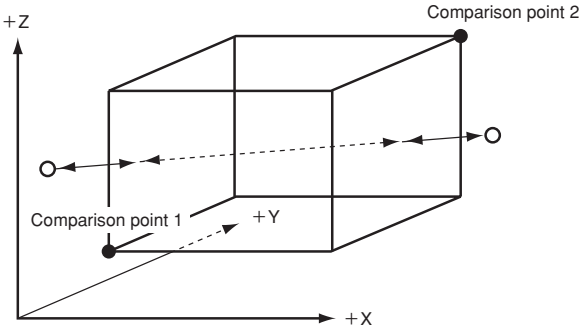


7. Area check output

This performs the area check of the current robot position by defining the point data to the area check output parameter, then the result will be output to the specified port.

When the comparison point is set shown as ● below, if the robot tip moves between ○, output is off in ⇔ and on in ⇔. (When the check condition of the area check output is on within the area.)

Area check output setting



NOTE

- The maximum number of areas that can be checked is 32.
- The output state may change unexpectedly when the output ports overlap used in the program and area check output. Therefore, make sure to set the output port so as not to overlap.
- Make sure that the comparison point number does not overlap with that for another use.
  Example: Point number used for move command, pallet definition, etc.
- This will be OR output when the same ports are specified to different area check output.
- An error occurs if the comparison point does not exist or comparison points are different in the unit system, and the area check output cannot be performed.
  If it is in such a state during automatic operation, the operation will be stopped and an error occurs. The area check output where an error occurred will be off and automatic operation stops while an error occurring.
- The area check output does not operate in return-to-origin incomplete stated.
- All the specified axes are target of the area check. Give special attention to settings when there is a rotation axis.
- The area check does not output outside when a number that does not exist in the hardware was specified as an area check output port number.

Select "Edit" – "Area check output" on the initial screen, "AREA CHECK OUTPUT" screen appears.

7.1 Setting area check output

Set the parameters on area check output.
Valid keys and sub menu descriptions on the "AREA CHECK OUTPUT" screen (Edit → Area check output) are shown below.

Valid keys	Menu	Function
▲/▼		Moves the cursor.
F1	EDIT	Moves to the edit screen for area check output.
F2	INIT	Initializes the selected area check output parameters.
SCROL ON		Switches ON/OFF of the scroll function.
ESC		Returns to the previous screen.

Valid keys and submenu descriptions on "AREA CHECK OUTPUT" screen (Edit → Area check output → Edit → New) are shown below.

Valid keys	Menu	Function
▲/▼		Moves the cursor.
F1 (Only on EDIT screen)	NEW	Creates new area check output.
INS		Switches between the "insert" and "overwrite" modes alternately.
BS		Deletes one character immediately before the cursor position.
DEL		Deletes one character at the cursor position.
ESC		Returns to the previous screen.

Step 1 ***Select the area check output using the cursor keys.***

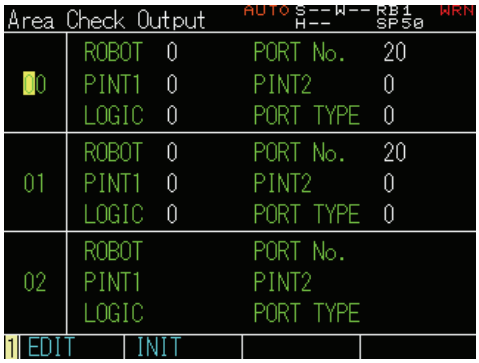
Turn the scroll function on to scroll the shift numbers up and down by three.
Press the F1 key (EDIT), then the "Edit" screen appears.
Pressing the F2 key (INIT) initializes the selected area check output parameter.
Refer to "7.2 Initializing area check output" in this Chapter.

Step 2 ***Edit or create area check output.***

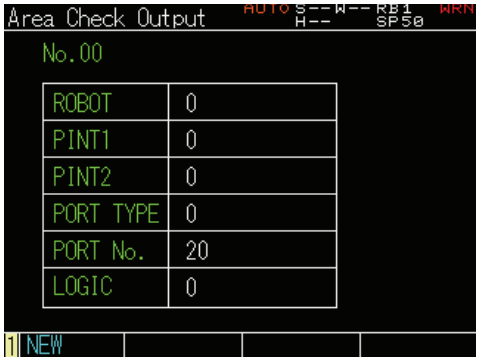
Select the setting value to edit with the cursor keys, then input values and press the ENTER key.
** Pressing the ESC key halfway cancels editing.*
Press F1 key (NEW) to create new area check output.

Step 3 ***Press the ESC key to exit the editing.***

▶ **Step 1** Selecting the area check output



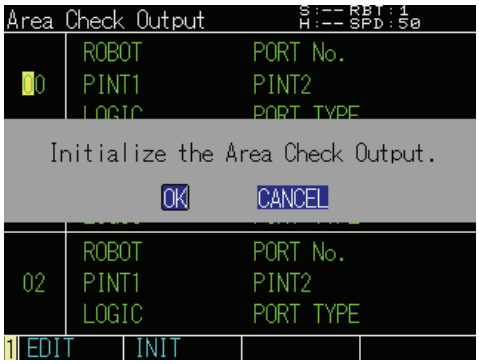
▶ **Step 2** Editing the area check output



7.2 Initializing area check output

Select the area check output number to initialize the parameter on the "Area check output" screen, press the F2 key (INITI) to display the pop-up screen. Select [OK] with the cursor keys and press the ENTER key to initialize the selected area check output. To return to the previous screen without initialization, press the ESC key or [CANCEL] and the ENTER key.

Area check output initialization



7.3 Parameter list

There are six parameters for the area check output.

ROBOT

Select the robot to perform the area check.

Setting	Meaning
0	INVALID: The area check output is not performed.
1 to 4	Perform the area check output for the robot 1 to 4.

PORT TYPE

Select the port type to output the result of the area check.

Setting	Port type
0	DO/SO
1	DO
2	SO
3	MO

PORT NUMBER

Select the port number to output the result of the area check. Available port numbers are shown below.

Port type	Setting range
0: DO/SO	20 to 277
1: DO	20 to 277
2: SO	20 to 277
3: MO	0 to 277

NOTE

The output state may change unexpectedly when the output ports overlap used in the program and area check output. Therefore, make sure to set the output port so as not to overlap.

Check conditions <LOGIC>

Select the condition where the area check output turns ON from within/outside the area.

Setting	Meaning
0	ON within the area
1	ON outside the area

NOTE
- The position just on the border line is within the area.
- Despite the condition settings, the area check output turns OFF when normal area check cannot be performed such as in return-to-origin incomplete status, except manual/automatic mode, during a memory error.
- Initial setting is (0: ON within the area).

■ Comparison number 1 <PINT1>

■ Comparison number 2 <PINT2>

Sets the points to define the area.

Setting range
0 to 29999

Possible point number range to use is P0 to P29999. All the specified axes are the target of the area.
When the R-axis is specified, make sure that the R-axis data of comparison point is specified.

NOTE
- Use the same unit system for comparison point 1 and 2.
- An error occurs when no comparison points exist, or the comparison points are different in the unit system and area check cannot be performed.
- If it is in such a state during automatic operation, the operation will be stopped and an error occurs. The area check output where an error occurred will be off and automatic operation stops while an error occurring.
- All the specified axes are target of the area check. Give special attention to settings when there is a rotation axis.
- Make sure that the comparison point data ranges to a certain extent. If the two of comparison point data is specified nearly equal, the area check may be unstable.

8. Standard coordinates

When selecting [Edit] - [Standard Coordinate] from the initial screen, the "STD COORD" screen will appear. In this hierarchy, the standard coordinates can be set.

* The first arm and second arm of the robot described in this manual are equivalent to the X-arm and Y-arm of the conventional RCX series (RCX240, RCX142, and RCX40).

The standard coordinates for SCARA type robots are treated as Cartesian coordinates using the X-arm rotating center as the coordinate origin.
The following operations and functions are enabled on SCARA type robots by setting the standard coordinates.

- Moving the robot arm tip in the direction of the Cartesian coordinates.
- Using PALLET definitions, SHIFT coordinates, and HAND definitions.
- Using commands requiring coordinate conversion, such as linear/circular interpolation and pallet movement commands.

NOTE
On Cartesian type robots, it is not necessary to set the standard coordinates.

To set the standard coordinates, two methods shown below are available.

- Simple teaching
  Align the first arm and second arm of the SCARA type robot on the straight line, and then input the lengths of the first arm and second arm to set the standard coordinates.
- 3-point teaching
  Perform the teaching of three points arranged on the line at equal intervals, and input the direction and length from the start point to the end point so as to set the standard coordinates.
- 4-point teaching
  Perform the teaching of four points that form a rectangle. The first point is specified as the teaching origin and the positions of other 3 points are input relative to the first point.
  * This method is different from that described in RCX240 operator's manual.