Disconnection of the Touch Panel Display from the PCON / ACON / SCON / ERC2 Controller

* After disconnecting the Touch Panel Display from the PCON / ACON / SCON / ERC2 controller with the AUTO/MANU switch, always turn the AUTO/MANU switch to AUTO.

* For the PCON / ACON / ERC2 controller without the AUTO/MANU switch, always set the TP Operation Mode to “Monitor 2” before disconnecting the Touch Panel Display from the controller. (Refer to “8.6 TP Operation Mode.”)

(Note) In the case of ERC2 or when controller setting is made by connecting the Touch Panel Display to the gateway unit or SIO converter:

● If the Touch Panel Display is disconnected while the setting of “Teach 1” or “Teach 2” remains, I/O will become invalid and control from PLC will become impossible.

● If the Touch Panel Display is disconnected while the setting of “Monitor 1” remains, the maximum speed will become the safety speed set for the parameters regardless of a command from PLC.

Insertion/Removal of Connector for Connecting Touch Panel Display and Controller

The Touch Panel Display was developed with the intention of being used while always connected to the controller by integrating the Display into an electromagnetic box or operation box.

Turn off the power to the controller before inserting or removing the connector for connecting the Touch Panel Display and controller.
Support Models

The following are the versions to which we have started support:

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Support Started Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERC2</td>
<td>V1.00</td>
</tr>
<tr>
<td>PCON</td>
<td>V1.00</td>
</tr>
<tr>
<td>ACON</td>
<td>V1.00</td>
</tr>
<tr>
<td>SCON</td>
<td>V1.00</td>
</tr>
<tr>
<td>ROBONET</td>
<td>V1.00</td>
</tr>
</tbody>
</table>

* Check the model to connect and the version of the Touch Panel Display. If any unsupported model is connected, unexpected movement may occur.

Corresponding Versions of Controllers

The following are the corresponding versions of connectable controllers. For any earlier versions, it is required to update them.

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Support Started Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCON / ERC2</td>
<td>v0008 or later</td>
</tr>
<tr>
<td>ACON</td>
<td>v0009 or later</td>
</tr>
<tr>
<td>SCON</td>
<td>v0015 or later</td>
</tr>
</tbody>
</table>
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1. Foreword

Thank you very much for purchasing our Touch Panel Display for the Robo Cylinder. Improper usage or mishandling may result in a product not only being unable to deliver full functions but also produce unexpected troubles or shorten the product's life. Please read this Manual carefully and operate the product properly by paying attention to its handling. When operating the Touch Panel Display, always keep this Manual on hand and read the relevant items as required.

For the actuator and controller to be used, be sure to refer to the Instruction Manuals attached to the products.

**Caution:** Do not edit position data while the actuator is operating by PLC, etc.

Also, do not edit any position number not actually operated.

2. Before You Begin

(1) Be sure to read this Instruction Manual for proper use of this product.

(2) Part or all of this Instruction Manual may not be used or reproduced without permission.

(3) For any handling and operating methods other than those described in this Instruction Manual, interpret them as "don't" or "can't."

(4) Please take note that we shall not be liable for any effects resulting from using this Instruction Manual.

(5) Descriptions in this Instruction Manual are subject to change due to product improvements etc., without prior notice in the future.
3. Safety Precautions 🔴

Always observe the precautions described below to prevent personal injury and accidents. In this manual, safety precaution levels are divided into “Danger,” “Warning” and “Caution.”

⚠️ Warning: Mishandling of the product could result in serious personal injury or death of the user
⚠️ Caution: Mishandling of the product could result in personal injury of the user or property damage only

⚠️ Warning

- When using the product for any application that can be predicted to develop into an accident resulting in injury or death or serious consequential loss, take safety measures by a double safety mechanism.
- Do not perform any system design that involves human lives or serious loss by using the switch function of the Display.
- Do not use the product in a combustible gas atmosphere. (An explosion may result.)

⚠️ Caution

- Do not use the product outside the range of specifications such as rating and environmental conditions. (Abnormal heating or smoking may result.)
- Do not allow the operating force of the Touch Panel to exceed 0.5N. Operating the Touch Panel with any force other than that may cause damage.
- Do not touch terminals during power ON. (An electric shock may result.)
- Do not disassemble or modify the product. (An electric shock or smoking may result.)
- This Touch Panel is an analog resistive type. When you simultaneously press 2 or more points on the screen, the switch may operate if there is a switch at the center of the pressed point. Be careful.
4. Warranty and Scope of Warranty

The Touch Panel Display you purchased has been delivered upon completion of our strict shipping tests. We shall warrantee this product as follows:

1. Warranty term
   The warranty term shall be either of the following terms, whichever is reached first.
   • 18 months after our shipment
   • 12 months after delivery to the place designated by you

2. Warranty coverage
   Where a defective condition occurs during proper use conditions and obviously under the responsibility of the manufacturer, within the term above, we shall repair the product without charge. However, any items that apply to the following are excluded from the warranty coverage:
   • Defects resulting from changes over time such as natural color fading of paint
   • Defects resulting from use wear of consumable parts (such as a cable)
   • Defects resulting from sensory phenomena such as generated noise that have no functional effects
   • Defects resulting from mishandling or improper use
   • Defects resulting from an inadequacy or error in maintenance and inspection
   • Defects resulting from the use of any part other than our genuine parts
   • Defects resulting from a modification not approved by us or our dealers
   • Defects resulting from Acts of God, accident, fire, etc.

   Only a delivered product shall be singly warranted and no damage induced by the defect of the delivery product can be warranted. For repair, transport the product to our factory.

3. Service coverage
   The cost of a delivered product does not include expenses for program creation and engineer dispatching. Therefore, the following are charged separately even within the warranty term:
   • Maintenance and inspection
   • Technical guidance and technical training in operating instructions
   • Technical guidance and technical training on program-related matters such as program creation
5. General Information about Touch Panel Display

5-1 Before Installation

Check of Accessories

<table>
<thead>
<tr>
<th>Mounting Fixture x 4</th>
<th>Mounting Screw x 4</th>
<th>Connector x 1</th>
</tr>
</thead>
</table>

When installing the Touch Panel Display, observe the following installation conditions and precautions:

- Install it in a place at an ambient temperature of 0-50°C and relative humidity of 20-85% where water droplets do not splash on it.
- When installing it onto a stuffy place such as a control panel, avoid an increase in the temperature of the display body and ensure that an ambient temperature will not exceed 50°C by performing forced cooling.
- Avoid places which receive direct sunlight and places where condensation is likely to occur.
- Avoid places where flammable or corrosive gas is generated and places where dust, iron powder or oily smoke is excessive.
- Avoid places where organic solvent (thinner, benzene, etc.) or strong alkali (ammonia, caustic soda, etc.) may attach to it.
- Avoid places near high-pressure equipment, power equipment, transmitters such as radio equipment and equipment which generates high switching surge. With regard to high voltage lines, power lines, electric power lines and COM port connection cables, install wiring using separate ducts.

Names of Each Part

Front View

Side View

Back View

Operation Mode Setting Switches

<table>
<thead>
<tr>
<th>SW No.</th>
<th>OFF</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Always set it to OFF before use.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Always set it to ON before use.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Always set it to OFF before use.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Always set it to OFF before use.</td>
</tr>
</tbody>
</table>

COM Port

TOOL Port
5-2 Dimensional Drawing

5-3 Wiring
5-3-1 COM Port (Power: RS422/RS485)

**Caution 1**
Be careful about wiring and routing to avoid exogenous noise from being applied or introduced to wiring cables. It is recommended to use shielded lines as wiring cables.

**Caution 2**
E is used to set the end station.
For the detailed wire connection by connected equipment, refer to the manual.

**Caution 3**
Always use the insulated DC power supply as the power source.
For the detailed wiring, refer to the manual.
5-3-2 Connection

(1) Connection with Controller or ROBONET Gateway R Unit: Bus-Powered Connection

It is recommended to use the “controller connection cable with the emergency stop box (CB-RCM-PM-030)” (option) as a connection cable.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V DC</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
</tr>
<tr>
<td>4</td>
<td>RS422 SD+</td>
</tr>
<tr>
<td>5</td>
<td>RS422 SD-</td>
</tr>
<tr>
<td>6</td>
<td>RS422 RD+</td>
</tr>
<tr>
<td>7</td>
<td>RS422 RD-</td>
</tr>
<tr>
<td>8</td>
<td>RS422 E</td>
</tr>
</tbody>
</table>

(2) Connection with Controller or ROBONET Gateway R Unit: Self-Powered Connection

**The above is the connection diagram on the serial communication lines only. For the connection of the power supply and emergency stop line, refer to the operating manual of each controller.**
(3) Connection with Multiple Controllers

The above is the connection diagram on the serial communication lines only. For the connection of the power supply and emergency stop line, refer to the operating manual of each controller.

* One controller can be connected to another with the controller link cable (option) and junction box shown below.

Wiring between the Touch Panel and junction must be installed by the customer.

- Controller link cable (e-CON connector, junction and terminating resistor included)
  Type: CB-RCB-CLT002

- Junction (manufactured by AMP: 5-1473562-4)
- e-CON connector (manufactured by AMP: 1473574-4)
5-4 Body Installation Example

- Panel Cutout/Drilling Method
  
  Appropriate Panel Thickness: 1.0-5.0 mm

* When mounting other parts or laying out cables for the Panel during installation, it is recommend to leave a clearance of approx. 30-50 mm around RCM-PM-01 in consideration of cable damage prevention and workability during installation.

Caution 1 Never block the body slit.

- Installation (Including mounting fixtures used: 4 locations)

  1. Insert the RCM-PM-01 body into the mounting plate.
  2. Fit the mounting fixtures into the grooves of the RCM-PM-01 body, tighten screws and fix the RCM-PM-01 body onto the mounting plate.

Note 1) Screw torque: 0.1-0.25 Nm
Note 2) If you tighten screws excessively, the touch switches may not operate normally due to front side deformation. Tighten them to an appropriate torque.

5-5 Check before Trial Run

- Make sure that the power supply voltage and each connection are correct before turning on the power.

5-6 Option/Repair Part

- Controller connection cable with the emergency stop box (CB-RCM-PM-030)
6. Functions and Specifications of Touch Panel Display

This Touch Panel Display is designed to function as the Display Operation Unit to edit or display the data (position data, some parameter data, etc.) through the communication between the controllers. User adjustment such as assignment of axis numbers cannot be performed.

This is intended to be used for the status monitoring and position data change during operation in the field.

(Note) It is recommended to use our Teaching Pendant or PC-compatible software for equipment installation and adjustment.

This Touch Panel Display was created exclusively for PCON, ACON, SCON, ERC2 and ROBONET.
* This is not compatible with the single version of GateWay Unit (RCM-GW-**).

6-1 Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Ambient Temperature &amp; Humidity</td>
<td>Temperature: 0°<del>50°C Humidity: 10</del>85% RH (No condensation)</td>
</tr>
<tr>
<td></td>
<td>* RH relative humidity</td>
</tr>
<tr>
<td>Environment Resistance</td>
<td>IP65 (In initial condition)</td>
</tr>
<tr>
<td></td>
<td>Dust-proof and drip-proof only from the panel front</td>
</tr>
<tr>
<td>Mass</td>
<td>Approx. 160g</td>
</tr>
</tbody>
</table>
6-2 Description of Each Part

(1) Touch Panel Operation Display Screen
This is comprised of the STN monochrome LCD and touch panel. This displays the edit and teaching contents of various set values. Operation can be performed by the touch panel system.

(2) Controller Connector (COM Port)
This is the connector to connect with the controller.
7. Connection with/Disconnection from Controller

7-1 Connection of Touch Panel Display
Connect the connection cable between the “PORT IN” connector which is located on the front of the controller and the controller connector (COM port) of the Touch Panel Display.

7-2 Disconnection of Touch Panel Display
Remove the connection cable from the “PORT IN” connector which is located on the front of the controller.

**Caution:** In the case of PCON, ACON, SCON, ERC2 or ROBONET, if the Touch Panel Display connected with the cable having the EMERGENCY STOP switch*1 is disconnected during operation, an instantaneous stop will be made and released. Therefore, equipment in operation such as the actuator will stop.
Do not disconnect the Touch Panel Display connected with the cable having the EMERGENCY STOP switch*1 during operation.

*1: Optional cable (CB-RCM-PM-030), etc.

**Caution:** In the case of the PCON, ACON or ERC2 controller not having the AUTO/MANU switch, set the Operation Mode to “Monitor 2” before disconnecting the Touch Panel Display from the controller. (Refer to “8.6 TP Operation Mode.”)

In the case of ERC2 or when controller setting is made by connecting the Touch Panel Display to the gateway unit or SIO converter:
- If the Touch Panel Display is disconnected while the setting of “Teach 1” or “Teach 2” remains, I/O will become invalid and control from PLC will become impossible.
- If the Touch Panel Display is disconnected while the setting of “Monitor 1” remains, the maximum speed will become the safety speed set for the parameters regardless of a command from PLC.
8. Operation: Mode Flow Chart

(1) Positioner (PCON-PL/PO, ACON-PL/PO and SCON: Mode other than the Pulse Train Mode)

The total picture of operations performed with the Touch Panel Display has the tree structure as shown below.
[RGW] button

- GATEWAY MENU
  - [RGW] button
  -illac Panel:
    - Select: [RGW] button
    - Speed: [RGW] button

- Current monitoring
  - Each current position of 4 axes can be monitored simultaneously

- Velocity monitoring
  - Each velocity of 4 axes can be monitored simultaneously

- Current monitoring
  - Each current value of 8 axes can be monitored simultaneously

- All Alarm
  - A list of alarm codes currently occurring in each axis can be monitored

- VersionInfo
  - Display of the gateway module version and fieldbus setting status

- All-axis current monitoring
  - Each current value of all axes can be monitored in bar graph form

- GWstatus
  - Display of various statuses of the gateway module

- Alarm Occurrence (Backlight: Pink)
  - If an alarm occurs at linking axis, the display will jump to this screen

- Alarm
  - Display of the gateway status and fieldbus setting status

- GWstatus
  - Display of the gateway module version and fieldbus setting status
(2) Pulse Train (PCON-PL/PO, ACON-PL/PO and SCON: Pulse Train Mode)

The total picture of operations performed with the Touch Panel Display has the tree structure as shown below.
Warning
Displayed if any axis operation other than TP Teach mode is performed on the MOV screen.

Alarm Occurrence
If an alarm occurs by MOV, the display will jump to this screen.

JOG, etc. (Velocity, Accelerate and Decelerate setting)

Num MOVE

Move MENU
No response even if you touch Pos parameter (1)
[Zone Output Pos (1) +] parameter (12) [PIO Inching Distance]

Parameter (13) [PIO Inching Distance2]

Parameter (2) [Zone Output Pos (1) -] parameter (11) [PIO Jog speed 2]

Parameter (3) [Soft Limit +] parameter (10) [Safety speed]

Parameter (4) [Soft Limit -] parameter (9) [Push speed]

Parameter (5) [Zone Output (2) +] parameter (8) [PIO Jog speed]

Parameter (6) [Zone Output (2) -] parameter (7) [PIO pattern select]

Version Info

Controller restart

Setting [System Screen]
- Screen adjustment
- LCD contrast, backlight brightness

To MENU1

To MENU2

To Parameter

Controller restart

Little Chapter of Code control; power off (1-2.8)
GATEWAY MENU

[RGW] button

Cur Pos monitoring
Each current position of 4 axes can be monitored simultaneously

Velocity monitoring
Each velocity of 4 axes can be monitored simultaneously

Current monitoring
Each current value of 8 axes can be monitored simultaneously

All Alarm
A list of alarm codes currently occurring in each axis can be monitored

VersionInfo
Display of the gateway module version and fieldbus setting status

All-axis current monitoring
Each current value of all axes can be monitored in bar graph form

GWstatus
Display of various statuses of the gateway module

Alarm Occurrence (Backlight: Pink)
If an alarm occurs at linking axis, the display will jump to this screen
8-1 Initial Screen upon Power-on, Japanese/English Select Screen and TP “MANU” Mode Screen

When the Touch Panel Display is connected to the controller, power is supplied to the Touch Panel Display and operation starts.

Upon power-on, the Touch Panel operation display screen (hereinafter described as the “operation screen”) displays the logo of IAI and then displays the Japanese/English select screen.

When performing operation in Japanese, touch “Japanese.”

Fig. 8.1

Fig. 8.2
The screen will change to the TP "MANU" mode screen.

Select and touch a TP operation mode. Then, touch \textbf{OK}. The screen will move to the Axis Select screen.

Fig. 8.3

Select a TP operation mode from the following 4 modes:

- **Teach 1 (PIO Non., Safety OFF)**
  
  PIO Non.: Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system.
  
  Safety ON: Keeps the maximum speed at the safety speed set for the parameters regardless of position data.

- **Teach 2 (PIO Non., Safety OFF)**
  
  PIO Non.: Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system.
  
  Safety OFF: Enables movement at the speed registered in position data.

- **Monitor 1 (PIO Ena., Safety ON)**
  
  PIO Ena.: Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled.
  
  Safety ON: Keeps the maximum speed at the safety speed set for the parameters regardless of position data.

- **Monitor 2 (PIO Ena., Safety OFF)**
  
  PIO Ena.: Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled.
  
  Safety OFF: Enables movement at the speed registered in position data.
8-2 Axis (Controller) Select (upon Power-on)

On the Axis Select screen, connected axes (controllers) are displayed. (Only the powered controller(s) will be detected when power is present for the Touch Panel Display.)

If you touch an axis (controller) to operate, the screen will move to the MENU1 screen.

If you touch RGW, the screen will move to the GATEWAY MENU. Refer to “9. GATEWAY MENU.”

* This screen will be displayed even if the gateway unit is not connected.

The content explained hereinafter will be based on operation in response to the selected axis (controller).

* indicates that a controller not supported by the Touch Panel Display is detected.
8-3 Menu Select

If you select a controller on the Axis Select screen, the MENU1 screen will be displayed.

![MENU1 screenshot](image)

Fig. 8.5

On the MENU1 screen, select and touch one of 5 options as it appears in Fig. 8.5. The screen will move to the touched menu.

If you touch MENU2, the screen will move to the "MENU2" screen, which is the next menu select screen.

**Categories of MENU1**

1. **Select**: Axis (controller) select (Refer to 8.4)
2. **Monitor**: Controller status display (Refer to 8.5)
3. **TPmode**: Operation mode setting (Refer to 8.6)
4. **Alarm**: Alarm content detailed display (Refer to 8.7)
5. **PosEdit**: Teach and Edit function for positioned table (Refer to 8.8)

**Caution**: In the case of PCON-PL/PO, ACON-PL/PO or SCON (pulse train mode), the screen will not move to the EDIT menu even if you touch “PosEdit.”
If you touch “MENU2” on the MENU1 screen, the MENU2 screen will be displayed.

![MENU2 Screen](image)

Fig. 8.6

On the MENU2 screen, select and touch one of 5 options as it appears in Fig. 8.6. The screen will move to the touched menu.

If you touch MENU1, the screen will return to the “MENU1” screen, which is the previous menu select screen.

**Categories of MENU2**

1. **Move:** Axis position move, number move, jog move (Refer to 8.9)
2. **Param:** Setting of parameters such as axis zone signal output range (Refer to 8.10)
3. **Display:** Setting of screen contrast and brightness (Refer to 8.11)
4. **Restart:** Restarting of controller (Refer to 8.12)
5. **Version:** Display of version information (Refer to 8.13)

**Caution:** Only some parameters can be changed.

When setting any parameter that cannot be set, use our Teaching Pendant or PC-compatible software.
8-4 Axis (Controller) select

On the Axis Select screen, connected axes (controllers) are displayed.
(Only the powered controller(s) will be detected when power is present for the Touch Panel Display.)

If you touch an axis (controller) to operate, the screen will move to the MENU1 screen.

If you touch RGW, the screen will move to the GATEWAY MENU.
Refer to “9. GATEWAY MENU.”

* This screen will be displayed even if the gateway unit is not connected.

Fig. 8.7
8-5 Monitor

The current position, I/O status and current value will be displayed for the controller selected through Axis (Controller) Select.

Touch Monitor on the MENU1 screen.

Fig. 8.8
Monitor screens are comprised of 6 screens and can be changed using the ← or → key.
If you press the MENU key, the screen will return to the MENU1 screen.

MONITOR1 screen

- Displays the axis position.
- Displays the speed of the moving axis.
- Displays the axis complete position.

MONITOR2 screen

- Displays the PIO pattern No. set with the parameter.
- Displays the IN/OUT status of the PIO pattern. The ON status is displayed as ■ and the OFF status as □.

MONITOR3 screen

- Servo ON/OFF: When the servo is ON, reversed characters will be displayed.
- HOME: After homing, reversed characters will be displayed.
- ORG Sensor: When the origin sensor is turned ON, reversed characters will be displayed.
- AUTO/MANU: Display of the AUTO/MANU status of the controller.
- Motor Pow/Motor Pow OFF: When the motor power is cut off, reversed characters will be displayed. The entire screen will turn pink.
- non EMG/EMG: When an emergency stop is made, reversed characters will be displayed. The entire screen will turn pink.

To the “Velocity” screen on the following page:
The speed of the moving axis will be displayed in graph form.
Scale will be the maximum speed of the parameter.

The current value of the moving axis will be displayed in graph form.
Scale will be as follows:
- PCON, ERC2: Rated current
- ACON, SCON: Rated current x 3

Displays the command current value.
Displays the percent rated current.

To the “MONITOR1” screen on the previous page:
8-6 TP Operation Mode

The operation mode will be set in the manual mode (MANU).

Touch TPmode on the MENU1 screen.

The TP “MANU” mode screen will be displayed.

Select and touch a TP operation mode. Then, touch MENU. The screen will move to the MENU1 screen.

Select a TP operation mode from the following 4 modes:

- **Teach 1 (PIO Non., Safety OFF)**
  - PIO Non.: Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system.
  - Safety ON: Keeps the maximum speed at the safety speed set for the parameters regardless of position data.

- **Teach 2 (PIO Non., Safety OFF)**
  - PIO Non.: Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system.
  - Safety OFF: Enables movement at the speed registered in position data.

- **Monitor 1 (PIO Ena., Safety ON)**
  - PIO Ena.: Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled.
  - Safety ON: Keeps the maximum speed at the safety speed set for the parameters regardless of position data.

- **Monitor 2 (PIO Ena., Safety OFF)**
  - PIO Ena.: Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled.
  - Safety OFF: Enables movement at the speed registered in position data.
8-7 Alarm Display

Errors occurring after a controller’s power-on will be displayed.

Touch **Alarm** on the MENU1 screen.

The AlarmList screen will be displayed.

If you press ← or →, the previous error descriptions can be displayed.

Up to 16 previous alarm-level errors including the last (latest) error can be displayed.

If you touch **MENU**, the screen will return to the **MENU1** screen.

Alarm detailed code
(In the case of “0,” - - - - will be displayed.)

Time lapsed from power ON
8.8 Edit

The contents of the position data stored in the controller will be displayed.
Execute teaching and editing of the position data.

Touch PosEdit on the MENU1 screen.

The EDIT screen will be displayed.

The screen will move to the JOG screen. Teaching by jog operation can be performed.
8-8-1 Basic Operation

(1) Change of Position No.

If you touch ↓ or ↑, the position No. can be incremented or decremented.

If you touch the numeric value of No., the ten keys will be displayed.

The position No. can also be input by directly inputting a numeric value of the position No. and touching ←.

When stopping input, touch the ESC key.

If you press the MENU key, the screen will return to the MENU1 screen.
(2) Change of Position Data Table Display
EDIT screens (position data table) are comprised of 6 screens and can be changed using the ← or → key. (For details, refer to "8-8-2 Position Data Table Contents."
If you press the MENU key, the screen will return to the MENU1 screen.

Position, Velocity

Accelerate, Decelerate

Incremental specification, Threshold

Pos.band, Push

Acc/Dcl Mode, Stop Mode

To PosZone±

To Position, Velocity
(3) How to Rewrite Numeric Value

An example of target position rewriting is shown below.

**Fig. 8.17**
Touch the numeric value of Position.

**Fig. 8.18**
The ten keys will be displayed. Input a numeric value and touch ↓.

**Fig. 8.19**
The value of Position will be changed. To write to the controller, touch WRT.

**Fig. 8.20**
If you touch YES, the position data will be written to the controller. (When stopping writing, touch NO.)

**Fig. 8.21**
The message “Write Complete” will be displayed. If you touch ESC, the screen will return to the EDIT screen.
(4) JOG screen
An example of target position rewriting is shown below.

Fig. 8.22
 Touch JOG.

Fig. 8.23
The screen will move to the JOG screen.

JOG Screen Operation

1. SVON: If you touch the key when the display is SVON, the servo will be turned ON.
   If you touch the key when the display is SVOG, the servo will be turned OFF.

2. HOME: If you touch the key during servo ON, homing will be executed.
   After homing, the display will change to HEND.

3. JVEL: Select the PIO jog speed or PIO jog speed 2.
   In the case of display with shadow, the jog speed will be the PIO jog speed.
   In the case of display without shadow, the jog speed will be the PIO jog speed 2.

4. INC: If you touch the key when the display is INC, operation will change to inching.
   If you touch the key when the display is JOG, operation will change to jog.
   (Note) The jog speed will be the PIO jog speed or PIO jog speed 2 set with the parameter.
   Select the speed using JVEL.
   The inching distance will be the PIO Inching Distance set with the parameter.

5. ← →: The axis will perform jog or inching movement.

6. Teac: Teaching of the current position will be given to the position No. displayed on the screen.
   After teaching, return to the position table screen of EDIT and perform writing to the controller.

7. ESC: The screen will return to the previous position table screen of EDIT.
8-8-2 Position Data Table Contents

The setting items of the position data table are Position, Velocity, Accelerate, Decelerate, Pos.band, Push, PosZone+, PosZone-, Incremental, Threshold, Acc/Dcl Mode and Stop Mode. They are displayed in 6 screens.

The items of PosZone+, PosZone-, Acc/Dcl Mode and Stop Mode are enabled (ON) or disabled (OFF) according to the controller type.

<table>
<thead>
<tr>
<th>Position Table</th>
<th>Zone +/-</th>
<th>Acc/Dcl Mode</th>
<th>Stop Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Trapezoid</td>
<td>S-shape</td>
</tr>
<tr>
<td>ERC2</td>
<td>○</td>
<td>○</td>
<td>x</td>
</tr>
<tr>
<td>ERC2-SE</td>
<td>○</td>
<td>○</td>
<td>-</td>
</tr>
<tr>
<td>PCON-C/CG/CF</td>
<td>○</td>
<td>○</td>
<td>x</td>
</tr>
<tr>
<td>-CY</td>
<td>○</td>
<td>○</td>
<td>x</td>
</tr>
<tr>
<td>-SE</td>
<td>○</td>
<td>○</td>
<td>x</td>
</tr>
<tr>
<td>ACON-C/CG</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-CY</td>
<td>○</td>
<td>○</td>
<td>x</td>
</tr>
<tr>
<td>-SE</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>SCON positioner</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

(1) Position: Input the target position to move the actuator to, in [mm].

- **Absolute Coordinates**: Input the target location by determining the distance between the original point and target position. No negative value can be input.

- **Relative Coordinates**: Input the target location by determining the distance between the current position and target position. Any negative value can be input (if coordinates are in the negative direction).

**Caution**: Always specify absolute coordinates for the 3-point type of PCON-C/CG, ACON-C/CG and SCON-C and the proximity switch type of PCON-CY and ACON-CY. If you specify relative coordinates, a position data error will occur. In the above case, if you specify “Push,” push completion cannot be judged.
(2) Vel: Input the speed at which the actuator will be moved, in [mm/sec]. The initial value will depend on the actuator type.

(3) Acc/Dcc: Input the acceleration/deceleration at which the actuator will be moved, in [G]. Basically, use acceleration/deceleration within the catalog rated value range. The input range allows larger value input than the catalog rated values, on the assumption that the tact time will be reduced if the transfer mass is significantly smaller than the rated value. Make the numeric value smaller if transfer work vibrates and causes trouble during acceleration/deceleration.

![Graph showing speed, acceleration, and deceleration over time]

The acceleration will become sudden if the numeric value is made larger and it will become gradual if the numeric value is made smaller.

**Caution:** Enter appropriate values for Vel and Acc/Dec in such a way as to prevent excessive impact or vibration from being applied to the actuator in consideration of the installation conditions and the shape of transferred work by referring to the “List of Actuator Specifications” in the Appendix. Increasing such values largely relates to the transfer mass and the actuator characteristics vary depending on the model, consult IAI regarding the input-limiting values.

(4) Range: - The “positioning operation” and “push operation” have different meanings. Positioning operation:

  It defines the distance to the target position from a position at which the position complete signal turns ON.

  The default value is 0.1 mm.

**Standard type**

Since increasing the positioning width value hastens the next sequence operation, it becomes a factor for tact time reduction. Set the optimum value by considering the balance of the entire equipment.
However, it defines the width of the position complete signal to turn ON for the 3-point type of PCON-C/CG, ACON-C/CG and SCON and the proximity switch type of PCON-CY and ACON-CY.

**3-point type and proximity switch type**

![Diagram showing position complete signal, positioning width, and target position]

**Push operation:**

It defines the maximum push amount from the target position in the push operation.

Set the positioning width in such a way as to prevent positioning completion before the actuator contacts work by considering mechanical variations of work.

![Diagram showing position complete signal, positioning width, and work]

(5) **Push:** - Select the positioning operation or push operation.

The default value is “0.”

- 0: Normal positioning operation
- Other than 0: Indicates the current-limiting value and indicates the push operation.

(6) **Pos Zone +/-:** - It defines the zone where the zone output signal of the standard type turns ON.

Individual setting is available for each target position to give flexibility.

<table>
<thead>
<tr>
<th>No.</th>
<th>Position [mm]</th>
<th>Pos Zone+ [mm]</th>
<th>Pos Zone- [mm]</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5.00</td>
<td>100.00</td>
<td>0.00</td>
<td>Backward end</td>
</tr>
<tr>
<td>1</td>
<td>380.00</td>
<td>400.00</td>
<td>300.00</td>
<td>Forward end</td>
</tr>
<tr>
<td>2</td>
<td>200.00</td>
<td>250.00</td>
<td>150.00</td>
<td>Midpoint</td>
</tr>
</tbody>
</table>

**Movement command to backward end**

![Diagram showing zone output signal and movement command]

Zone output signal
(7) Incremental: Select the absolute coordinate specification or relative coordinate specification.
0: Absolute coordinate specification
1: Relative coordinate specification

(8) LoTh: In the case of the PCON-CF controller, the load output signal (PIO) will be output if the command torque exceeds the value (%) set to “LoTh.”
Set the test range with “Pos Zone+/-”.
Use it to judge whether push has been performed normally.
* For details, refer to the Operating Manual of PCON-CF Controller.

(9) Acc/Dcl Mode: It defines the acceleration/deceleration characteristics.
The default value is 0.
0: Trapezoid pattern
1: S-shaped motion
2: First-order delay filter

* Set the acceleration and deceleration in the “Acc” and “Dcl” fields of the position table.
**S-shaped motion**

A curve, which is gradual at the beginning of acceleration but rises sharply halfway, is drawn.

Use it in the applications for which you want to set the acceleration/deceleration high due to tact time requirement but desire a gradual curve at the beginning of movement or immediately before stop.

* Set the degree of the S-shaped motion with the parameter No. 56 [S-shaped motion ratio setting]. The setting unit is % and the setting range is between 0 and 100.

(The above is the image graph when 100% setting is made.)

If “0” is set, the S-shaped motion becomes invalid.

However, it will not be reflected in jogging/increment movement by PC or Teaching Pendant operation. Set the parameter with the Teaching Pendant or PC-compatible software.

(Note) It cannot be set for the ERC2 or PCON controller. The parameter No. 56 is reserved.

**First-order delay filter**

More gradual acceleration/deceleration curves are drawn than the linear acceleration/deceleration (trapezoid pattern).

Use this in the applications by giving micro vibrations to work during acceleration/deceleration not desired.

* Set the degree of the first-order lag with the parameter No. 55 (constant for the position command first-order filtering). The setting unit is 0.1msec. and the setting range is between 0.0 and 100.0.

If “0” is set, the first-lag filter will become invalid.

However, it will not be reflected in jogging/increment movement by PC or Teaching Pendant operation. Set the parameter with the Teaching Pendant or PC-compatible software.

(Note) It cannot be set for the ERC2 or PCON controller. The parameter No. 55 is reserved.
(10) Stop Mode: - It defines the power saving method on standby after completion of positioning to the target position set in the “Position” field of the position number.

0: Invalid power saving method * The default setting is 0 (invalid).
1: Auto servo OFF method. Delay time defined with the parameter No. 36
2: Auto servo OFF method. Delay time defined with the parameter No. 37
3: Auto servo OFF method. Delay time defined with the parameter No. 38
4: Full servo control method

* Set the parameters for delay time with the Teaching Pendant or PC-compatible software.

Full servo control method
The holding current can be reduced by servo-controlling the pulse motor. The degree of reduction varies depending on the actuator model, load condition, etc., but the holding current decreases approximately by a factor of 2 to 4. No displacement occurs since this method maintains the servo ON status. The actual holding current can be checked on the monitoring screen.

Auto servo OFF method
When a given length of time has elapsed after completion of positioning, the servo OFF status is automatically entered. (Since the holding current does not flow, the power consumption can be saved by the same amount.) When a movement command is subsequently given from PLC, the status returns to the servo ON and the actuator starts to move.

<table>
<thead>
<tr>
<th>Movement command</th>
<th>Auto servo OFF (Green LED flashing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servo status</td>
<td>Servo ON status</td>
</tr>
<tr>
<td>Actuator movement</td>
<td>Target position</td>
</tr>
</tbody>
</table>

T: Delay time (sec) until the servo OFF status is entered after completion of positioning. It is set with the parameter.
8-8-3 Data New Input

The following 4 ways to input new position data exist:

(1) Numeric Input  
Numerically input the position data directly from the ten keys at the EDIT screen.

(2) Direct Teach  
Turn the servo controller OFF, manually move the slider to match the desired location and read and command that location (current position) into the position table.

(3) Jog  
Use the arrow key to jog move and match the desired location and read that location (current position) into the position table. If you continue pressing the arrow key, the actuator will move at a specified speed (PIO jog speed, PIO jog speed 2 (parameter)). However, only the maximum speed will be gained if the maximum speed is slower than the specified speed.

(4) Increment  
Use the arrow key to incrementally move and match the desired location and read that location (current position) into the position table. If you press the arrow key once, the actuator will move by a specified pitch (PIO inching distance (parameter)).

Examples of each operation will be explained as follows.

**Caution:** When input position data is performed first after power-on or method of (2), (3) or (4), it is required to perform home return in advance. (Increment specification) 
: Jog and Increment movement prior to homing incomplete status is possible up to the slider end. Visually, perform the interference check.
1) Homing
   Perform temporary stop reset in advance.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch <strong>PosEdit</strong> on the MENU1 screen.</td>
<td><img src="image1" alt="MENU1 Screen" /></td>
<td></td>
</tr>
<tr>
<td>2. Touch <strong>JOG</strong> on the EDIT screen.</td>
<td><img src="image2" alt="EDIT Screen" /></td>
<td></td>
</tr>
<tr>
<td>3. When the servo is OFF, touch <strong>SVON</strong> to put into the servo ON status.</td>
<td><img src="image3" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td>4. Touch <strong>HOME</strong>.</td>
<td><img src="image4" alt="JOG Screen" /></td>
<td>Homing will automatically be executed.</td>
</tr>
</tbody>
</table>
## 2) Numeric Input

### Example 1: 2 point continuous loop move 30mm <-> 250mm, Speed 300mm/sec

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch <strong>PosEd</strong> on the MENU1 screen.</td>
<td><img src="image1" alt="Screen Image" /></td>
<td><img src="image2" alt="Screen Image" /></td>
</tr>
<tr>
<td>2. Move the cursor to the position where you want to input using ↓ or ↑. Alternatively, touch the position No. The ten keys will be displayed and you can also set the position No. directly.</td>
<td><img src="image3" alt="Screen Image" /> Position No.</td>
<td><img src="image4" alt="Screen Image" /> Position No.</td>
</tr>
<tr>
<td>3. Touch the numeric value of Position. The ten keys will be displayed.</td>
<td><img src="image5" alt="Screen Image" /> Position No.</td>
<td>For any unregistered data, the display will show <strong>&quot;.&quot;</strong></td>
</tr>
<tr>
<td>4. Touch 3 and touch ↓.</td>
<td><img src="image6" alt="Screen Image" /> Position 30.00 mm</td>
<td>To stop during numeric input, touch <strong>ESC</strong>. Example) With the left operation, by pressing <strong>ESC</strong> immediately after inputting 3 the status will return to the <strong>&quot;.&quot;</strong> display.</td>
</tr>
<tr>
<td>5.</td>
<td><img src="image7" alt="Screen Image" /> Position 30.00 mm</td>
<td>During new position data registration, the initial values set with the user parameters for Velocity, Accelerate, Decelerate, etc., will automatically be input. In the left screen, the initial value is set as 100mm/sec.</td>
</tr>
<tr>
<td></td>
<td>Operation</td>
<td>Screen</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6.</td>
<td>Touch the numeric value of Velocity. The ten keys will be displayed.</td>
<td>![Screen with numeric values and Velocity setting]</td>
</tr>
<tr>
<td>7.</td>
<td>Here, touch 3 0 0 and touch left arrow.</td>
<td>![Screen with position and Velocity settings]</td>
</tr>
<tr>
<td>8.</td>
<td>Touch WRT.</td>
<td>![Screen with WRT selection]</td>
</tr>
<tr>
<td>9.</td>
<td>Touch YES.</td>
<td>![Confirmation screen asking to rewrite position data]</td>
</tr>
<tr>
<td>10.</td>
<td>Touch ESC.</td>
<td>![Notice screen indicating write complete]</td>
</tr>
<tr>
<td>11.</td>
<td>Match to the next position (No. 1) using ↑.</td>
<td>![Screen with position and Velocity settings]</td>
</tr>
<tr>
<td>12.</td>
<td>Touch the numeric value of Position. The ten keys will be displayed.</td>
<td>![Screen with position and Velocity settings]</td>
</tr>
<tr>
<td></td>
<td>Operation</td>
<td>Screen</td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>13.</td>
<td>Touch 2 5 0 and touch ↓.</td>
<td>![Screen 1]</td>
</tr>
<tr>
<td>14.</td>
<td></td>
<td>![Screen 2]</td>
</tr>
<tr>
<td>15.</td>
<td>Touch the numeric value of Velocity. The ten keys will be displayed.</td>
<td>![Screen 3]</td>
</tr>
<tr>
<td>16.</td>
<td>Here, touch 3 0 0 and touch ↓.</td>
<td>![Screen 4]</td>
</tr>
<tr>
<td>17.</td>
<td>Touch WRT.</td>
<td>![Screen 5]</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>18. Touch <strong>YES</strong></td>
<td><img src="image" alt="Confirm Screen" /></td>
<td>Rewrite the position data?</td>
</tr>
<tr>
<td>19. Touch <strong>ESC</strong></td>
<td><img src="image" alt="Notice Screen" /></td>
<td>Write complete</td>
</tr>
</tbody>
</table>
| 20. | ![EDIT Screen](image) | Position 250.00 mm  
Velocity 300.00 ms  
No. 1  
↑ JOG  
WRT |
Example 2: 2 point continuous loop move
Push operation 10mm position <-> 80mm position
(Push range 5mm)

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch PosEdit on the MENU1 screen.</td>
<td><img src="image1.png" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>2. Move the cursor to the position where you want to input using ↓ or ↑. Alternatively, touch the position No. The ten keys will be displayed and you can also set the position No. directly.</td>
<td><img src="image2.png" alt="Screen Image" /></td>
<td>For any unregistered data, the display will show “*.”</td>
</tr>
<tr>
<td>3. Touch the numeric value of Position. The ten keys will be displayed.</td>
<td><img src="image3.png" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>4. Touch 10 and touch ←.</td>
<td><img src="image4.png" alt="Screen Image" /></td>
<td>To stop during numeric input, touch ESC. Example) With the left operation, by pressing ESC immediately after inputting 10, the status will return to the “*” display.</td>
</tr>
<tr>
<td>5. During new position data registration, the initial values set with the user parameters for Velocity, Accelerate, Decelerate, etc., will automatically be input. In the left screen, the initial value is set as 100mm/sec.</td>
<td><img src="image5.png" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>6. Touch <strong>WRT</strong>.</td>
<td><img src="image1" alt="Screen Edit" /></td>
<td></td>
</tr>
<tr>
<td>7. Touch <strong>YES</strong>.</td>
<td><img src="image2" alt="Screen Confirm" /> To stop rewriting, touch <strong>NO</strong>.</td>
<td></td>
</tr>
<tr>
<td>8. Touch <strong>ESC</strong>.</td>
<td><img src="image3" alt="Screen Notice" /></td>
<td></td>
</tr>
<tr>
<td>9. Match to the next position (No. 1) using <strong>↑</strong>.</td>
<td><img src="image4" alt="Screen Edit" /> Position No.</td>
<td></td>
</tr>
<tr>
<td>10. Touch the numeric value of Position. The ten keys will be displayed.</td>
<td><img src="image5" alt="Screen Edit" /></td>
<td></td>
</tr>
<tr>
<td>11. Touch 8 and touch <strong>→</strong>.</td>
<td><img src="image6" alt="Screen Edit" /> To stop during numeric input, touch <strong>ESC</strong>.</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>12.</td>
<td><img src="image1.png" alt="Screen" /></td>
<td>During new position data registration, the initial values set with the user parameters for Velocity, Accelerate, Decelerate, etc., will automatically be input. In the left screen, the initial value is set as 100mm/sec.</td>
</tr>
<tr>
<td>13.</td>
<td>Touch → twice to display the Push setting screen.</td>
<td><img src="image2.png" alt="Screen" /></td>
</tr>
<tr>
<td>14.</td>
<td>Touch the numeric value of Pos.band. The ten keys will be displayed.</td>
<td><img src="image3.png" alt="Screen" /></td>
</tr>
<tr>
<td>15.</td>
<td>Input a maximum push range during push into Pos.band. In this example, input 5mm. Touch 5 and touch .</td>
<td><img src="image4.png" alt="Screen" /></td>
</tr>
<tr>
<td>16.</td>
<td>Touch the numeric value of Push. The ten keys will be displayed.</td>
<td><img src="image5.png" alt="Screen" /></td>
</tr>
<tr>
<td>17.</td>
<td>Input the current value during push. In this example, input 30%. Touch 30 and touch .</td>
<td><img src="image6.png" alt="Screen" /></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>18. Touch <strong>WRT</strong></td>
<td><img src="image1" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>19. Touch <strong>YES</strong></td>
<td><img src="image2" alt="Screen" /></td>
<td>To stop rewriting, touch <strong>NO</strong></td>
</tr>
<tr>
<td>20. Touch <strong>ESC</strong></td>
<td><img src="image3" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td><img src="image4" alt="Screen" /></td>
<td></td>
</tr>
</tbody>
</table>
Example 3: Relative Coordinates pitch movement 30 mm → 40 mm → 50 mm….

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch \textbf{PosEdit} on the MENU1 screen.</td>
<td><img src="image" alt="Menu Screen" /></td>
<td></td>
</tr>
</tbody>
</table>
| 2. Move the cursor to the position where you want to input using ↓ or ↑. Alternatively, touch the position No. The ten keys will be displayed and you can also set the position No. directly. | ![Position Screen](image) | Position No.  
For any unregistered data, the display will show "*". |
| 3. Touch the numeric value of Position. The ten keys will be displayed. | ![Edit Screen](image) | |
| 4. Touch \( \boxed{\text{3}} \) \( \boxed{\text{0}} \) and touch \( \boxed{\text{\rightarrow}} \). | ![Edit Screen](image) | To stop during numeric input, touch \( \boxed{\text{ESC}} \). Example) With the left operation, by pressing \( \boxed{\text{ESC}} \) immediately after inputting \( \boxed{\text{3}} \) \( \boxed{\text{0}} \), the status will return to the "*" display. |
| 5. | ![Edit Screen](image) | During new position data registration, the initial values set with the user parameters for Velocity, Accelerate, Decelerate, etc., will automatically be input. In the left screen, the initial value is set as 100mm/sec. |
6. Touch **WRT**.

7. Touch **YES**.

   To stop rewriting, touch **NO**.

8. Touch **ESC**.

9. Match to the next position (No. 1) using ↑.

10. Touch the numeric value of Position.

    The ten keys will be displayed.

11. Touch 0 and touch ←.

    To stop during numeric input, touch **ESC**.
<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td><img src="image" alt="Screen" /></td>
<td>During new position data registration, the initial values set with the user parameters for Velocity, Accelerate, Decelerate, etc., will automatically be input. In the left screen, the initial value is set as 100mm/sec.</td>
</tr>
<tr>
<td>13. Touch → four times to display the Incremental setting screen.</td>
<td><img src="image" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>14. Touch the numeric value of Incremental. The ten keys will be displayed.</td>
<td><img src="image" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>15. Touch and touch</td>
<td><img src="image" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>16. Touch WRT.</td>
<td><img src="image" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>17. Touch YES</td>
<td><img src="image" alt="Screen" /></td>
<td>To stop rewriting, touch NO.</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>18. Touch ESC.</td>
<td><img src="image" alt="Notice Screen" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="EDIT Screen" /></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3) Direct Teach (Method: Manually moving the actuator, matching to the desired position and teaching that position into the position table)

When direct teach operation is performed first after power-on, it is required to perform homing operation in advance. (Refer to page 41.) (In the case of increment specification)

Example: 2 point continuous loop Point A --> Point B, speed 300mm/sec

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch <strong>PosEdit</strong> on the MENU1 screen.</td>
<td><img src="image1" alt="Menu1 Screen" /></td>
<td><img src="image2" alt="Operation Screen" /></td>
</tr>
<tr>
<td>2. Move the cursor to the position where you want to input using ↓ or ↑. Alternatively, touch the position No. The ten keys will be displayed and you can also set the position No. directly.</td>
<td><img src="image3" alt="Edit Screen" /></td>
<td><img src="image4" alt="Operation Screen" /></td>
</tr>
<tr>
<td>3. Touch <strong>JOG</strong>.</td>
<td><img src="image5" alt="Edit Screen" /></td>
<td><img src="image6" alt="Operation Screen" /></td>
</tr>
<tr>
<td>4. When the servo is ON, touch <strong>SVOF</strong> to put into the servo OFF status.</td>
<td><img src="image7" alt="Jog Screen" /></td>
<td><img src="image8" alt="Operation Screen" /></td>
</tr>
<tr>
<td>5. Manually move the slider and match to the desired position.</td>
<td><img src="image9" alt="Jog Screen" /></td>
<td><img src="image10" alt="Operation Screen" /></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6. Touch Teac.</td>
<td><img src="image1.png" alt="Image" /></td>
<td>The Position on the EDIT screen will be the position to which teaching is given.</td>
</tr>
<tr>
<td></td>
<td><img src="image2.png" alt="Image" /></td>
<td>As for the Velocity, Accelerate, Decelerate, etc., the initial value set with the user parameter will automatically be input.</td>
</tr>
<tr>
<td></td>
<td><img src="image3.png" alt="Image" /></td>
<td>In the example at the left, the initial value is 300mm/sec.</td>
</tr>
<tr>
<td></td>
<td><img src="image4.png" alt="Image" /></td>
<td>(Only during position data input)</td>
</tr>
<tr>
<td>7. Touch ESC.</td>
<td><img src="image5.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image6.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>8. Touch WRT</td>
<td><img src="image7.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image8.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>9. Touch YES</td>
<td><img src="image9.png" alt="Image" /></td>
<td>To stop rewriting, touch NO.</td>
</tr>
<tr>
<td></td>
<td><img src="image10.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>10. Touch ESC</td>
<td><img src="image11.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image12.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>11. Match to the next position (No. 1) using ↑</td>
<td><img src="image13.png" alt="Image" /></td>
<td>Position No.</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12. Touch JOG</td>
<td><img src="image1" alt="EDIT Screen" /></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Manually move the slider and match to the desired position.</td>
<td></td>
</tr>
<tr>
<td>14. Touch Teac</td>
<td><img src="image2" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td>15. Touch ESC</td>
<td><img src="image3" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td>16. Touch WRT</td>
<td><img src="image4" alt="EDIT Screen" /></td>
<td>The Position on the EDIT screen will be the position to which teaching is given.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As for the Velocity, Accelerate, Decelerate, etc., the initial value set with the user parameter will automatically be input.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In the example at the left, the initial value is 300mm/sec. (Only during position data input)</td>
</tr>
<tr>
<td>17. Touch YES</td>
<td><img src="image5" alt="Confirmation Screen" /></td>
<td>To stop rewriting, touch NO.</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>18. Touch ESC.</td>
<td><img src="image" alt="Notice: Write complete" /></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td><img src="image" alt="EDIT: Position 30.00 mm, Velocity 300.00 mm" /></td>
<td></td>
</tr>
</tbody>
</table>
4) **Jog**  (Method: Jogging the actuator with the direction arrow key (← or →), matching to the desired position and teaching that position [current position] into the position table)

If you continue touching the direction arrow key (← or →), the actuator will move at a specified speed (PIO jog speed or PIO jog speed 2).

However, only the maximum speed will be gained if the maximum speed is slower than the specified speed.

---

**When jog operation is performed first after power-on, it is required to perform home return operation in advance. (Refer to page 32.) (Increment specification)**

---

**Example:** 2 point continuous loop Point A --> Point B, speed 300mm/sec

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch <strong>PosEdit</strong> on the MENU1 screen.</td>
<td><img src="image1.png" alt="Operation Screen" /></td>
<td><img src="image2.png" alt="Reference" /></td>
</tr>
<tr>
<td>2. Move the cursor to the position where you want to input using ↓ or ↑. Alternatively, touch the position No. The ten keys will be displayed and you can also set the position No. directly.</td>
<td><img src="image3.png" alt="Operation Screen" /></td>
<td><img src="image4.png" alt="Reference" /></td>
</tr>
<tr>
<td>3. Touch <strong>JOG</strong>.</td>
<td><img src="image5.png" alt="Operation Screen" /></td>
<td><img src="image6.png" alt="Reference" /></td>
</tr>
<tr>
<td>4. When the servo is OFF, touch <strong>SVON</strong> to put into the servo ON status.</td>
<td><img src="image7.png" alt="Operation Screen" /></td>
<td><img src="image8.png" alt="Reference" /></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5. Select the speed with [JVEL]. Move the slider with ← or → and match to the desired position.</td>
<td><img src="image" alt="JOG Screen" /></td>
<td>JVEL: Selection of speed Display with shadow: PIO jog speed (parameter)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Display without shadow: PIO jog speed 2 (parameter)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Touch [Teac]</td>
<td><img src="image" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Touch [ESC]</td>
<td><img src="image" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Touch [WRT]</td>
<td><img src="image" alt="EDIT Screen" /></td>
<td>The Position on the EDIT screen will be the position to which teaching is given.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As for the Velocity, Accelerate, Decelerate, etc., the initial value set with the user parameter will automatically be input.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In the example at the left, the initial value is 300mm/sec. (Only during position data input)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Touch [YES]</td>
<td><img src="image" alt="Confirm Screen" /></td>
<td>To stop rewriting, touch [NO].</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Touch [ESC]</td>
<td><img src="image" alt="Notice Screen" /></td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>11. Match to the next position (No. 1) using ↑.</td>
<td><img src="image1" alt="Screen" /></td>
<td>Position No.</td>
</tr>
<tr>
<td>12. Touch JOG.</td>
<td><img src="image2" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>13. Move the slider with ← or → and match to the next desired position.</td>
<td><img src="image3" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>14. Touch Teac.</td>
<td><img src="image4" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>15. Touch ESC.</td>
<td><img src="image5" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>16. Touch WRT.</td>
<td><img src="image6" alt="Screen" /></td>
<td>The Position on the EDIT screen will be the position to which teaching is given. As for the Velocity, Accelerate, Decelerate, etc., the initial value set with the user parameter will automatically be input. In the example at the left, the initial value is 300mm/sec. (Only during position data input)</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>17. Touch <strong>YES</strong>.</td>
<td><img src="image" alt="Confirm Screen" /></td>
<td>To stop rewriting, touch <strong>NO</strong>.</td>
</tr>
<tr>
<td>18. Touch <strong>ESC</strong>.</td>
<td><img src="image" alt="Notice Screen" /></td>
<td>Write complete</td>
</tr>
</tbody>
</table>
| 19. | ![EDIT Screen](image) | Position 100.00 mm  
Velocity 300.00 mm  
No. 1 ↓ ↑ JOG WRT |
5) Inch ing  (Method: Inch ing the actuator with the direction arrow key (← or →), matching to the desired position and teaching that position [current position] into the position table)

If you touch the direction arrow key (← or →), the actuator will move by a specified distance (PIO Inch ing Distance). Finer movement than jogging is possible.

When inching movement is performed first after power-on, it is required to perform home return operation in advance. (Refer to page 32.) (Increment specification)

Example: 2 point continuous loop Point A → Point B, speed 300mm/sec

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch PosEdit on the MENU1 screen.</td>
<td>![SCREEN1]</td>
<td>![REFERENCE1]</td>
</tr>
<tr>
<td>2. Move the cursor to the position where you want to input using ↓ or ↑. Alternatively, touch the position No. The ten keys will be displayed and you can also set the position No. directly.</td>
<td>![SCREEN2]</td>
<td>![REFERENCE2]</td>
</tr>
<tr>
<td>3. Touch JOG.</td>
<td>![SCREEN3]</td>
<td>![REFERENCE3]</td>
</tr>
<tr>
<td>4. When the servo is OFF, touch SVON to put into the servo ON status.</td>
<td>![SCREEN4]</td>
<td>![REFERENCE4]</td>
</tr>
<tr>
<td>5. Touch INC to change to inching operation.</td>
<td>![SCREEN5]</td>
<td>![REFERENCE5]</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>6. Move the slider with ← or → and match to the desired position. ← Positive direction of the displayed coordinates → Negative direction of the displayed coordinates</td>
<td><img src="image1" alt="Screen" /></td>
<td>Inching Distance: PIO Inching Distance (parameter)</td>
</tr>
<tr>
<td>7. Touch Teac</td>
<td><img src="image2" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>8. Touch ESC</td>
<td><img src="image3" alt="Screen" /></td>
<td></td>
</tr>
<tr>
<td>9. Touch WRT</td>
<td><img src="image4" alt="Screen" /></td>
<td>The Position on the EDIT screen will be the position to which teaching is given. As for the Velocity, Accelerate, Decelerate, etc., the initial value set with the user parameter will automatically be input. In the example at the left, the initial value is 300mm/sec. (Only during position data input)</td>
</tr>
<tr>
<td>10. Touch YES</td>
<td><img src="image5" alt="Screen" /></td>
<td>To stop rewriting, touch NO.</td>
</tr>
<tr>
<td>11. Touch ESC</td>
<td><img src="image6" alt="Screen" /></td>
<td>Write complete</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>12. Match to the next position (No. 1) using ↑.</td>
<td><img src="image1" alt="Screen Image" /></td>
<td>Position No.</td>
</tr>
<tr>
<td>13. Touch JOG.</td>
<td><img src="image2" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>14. Move the slider with ← or → and match to the next desired position.</td>
<td><img src="image3" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>15. Touch Teac</td>
<td><img src="image4" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>16. Touch ESC</td>
<td><img src="image5" alt="Screen Image" /></td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>17. Touch <strong>WRT</strong></td>
<td><img src="image" alt="EDIT screen" /></td>
<td>The Position on the EDIT screen will be the position to which teaching is given. As for the Velocity, Accelerate, Decelerate, etc., the initial value set with the user parameter will automatically be input. In the example at the left, the initial value is 300mm/sec. (Only during position data input)</td>
</tr>
<tr>
<td>18. Touch <strong>YES</strong></td>
<td><img src="image" alt="Confirm screen" /></td>
<td>To stop rewriting, touch NO.</td>
</tr>
<tr>
<td>19. Touch <strong>ESC</strong></td>
<td><img src="image" alt="Notice screen" /></td>
<td>Write complete</td>
</tr>
<tr>
<td>20.</td>
<td><img src="image" alt="EDIT screen" /></td>
<td></td>
</tr>
</tbody>
</table>
8-8-4 Data Modification

You may write over all of the position data.

Similar to new input, the following 4 cases exist:

(1) Numeric Input: Manually enter the position data directly from Touch Panel Display ten keys.

(2) Direct Teach: Turns the servo OFF, manually move the slider to the desired location and read that location (current position) into the position table.

(3) Jog: Use the arrow keys to jog to the desired location and read that location (current position) into the position table.

(4) Increment: Use the arrow keys to incrementally move and read that location (current position) into the position table.

Caution during data modification:

* As for manual input, the data entered will erase the old data.

* The position will be updated only when the Return key is pressed to read in the current location (direct teach, jog, increment). It does not influence speed and others.

* Once the position data is cleared, the previous data will no longer remain anywhere. Therefore, when the next position data is registered, any data other than position will be default values.

When clearing to re-set the push assign position data, be sure to confirm all items of the position data to input required data.
8-9 Move

Movement toward a position registered in the position data table, movement by directly setting a position to move to and jog movement are possible.

8-9-1 Basic Operation

Touch Move on the MENU2 screen.

Fig. 8.24
(1) Pos (Position) Move

The actuator will move to a position registered in the position data table.

Touch \textbf{Pos}.

![Fig. 8.24](image)

Touch \textbf{Pos} or \textbf{Pos+} and set the No. of the target position to move to (PosNo.).

![Fig. 8.26](image)

If you touch \textbf{START}, the actuator will move to the set target position.

To stop during movement, touch \textbf{STOP}.

(Note) Always turn the servo ON (SVOF display) and perform homing (after completion, HEND will be displayed) before movement.

If you touch \textbf{MENU}, the screen will return to the MoveMenu.

![Fig. 8.27](image)

* Pos (Position) Move Speed

The actuator will move at a speed set in the position table.

The speed can be changed by changing OVRD (speed override ratio).

(Note) The maximum speed will be the safety speed set for the parameter if the TP operation mode is set to Teach 1 (Safety: ON).
Other Operations

1. SVON: If you touch the key when SVON is displayed, the servo will be turned ON.
   If you touch the key when SVOF is displayed, the servo will be turned OFF.
2. HOME: If you touch the key when the servo is ON, homing will be performed.
   After homing, the display will change to HEND.
3. OVRD: Set the speed override ratio.
   If you touch OVRD xxx%, the ten keys will be displayed.
   Input a numeric value and touch [确认]. The ratio (%) will be set.
(2) Num Move

The actuator will move through direct setting of a position to move to.

Touch **Num**.

![Fig. 8.29](image)

Touch the numeric value of Tar Pos.

![Fig. 8.30](image)

Input the target position to move to and touch **`````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````
Other Operations

1. SVON: If you touch the key when SVON is displayed, the servo will be turned ON.
   If you touch the key when SVOF is displayed, the servo will be turned OFF.
2. HOME: If you touch the key when the servo is ON, homing will be performed.
   After homing, the display will change to HEND.
3 etc.: Set Velocity, Accelerate and Decelerate when performing direct move.

MOVE etc Screen

Caution: Caution: If the actuator misses the work in the push mode, position complete output will not turn ON.
After power-on or when move is executed, it is required to always perform homing (after completion, HEND will be displayed) in advance. (Increment specification)
(3) Jog Move
The actuator will move by jogging.
However, teaching of a position cannot be given to the position data.
To perform jog move for teaching operation, execute jog operation by touching JOG on EDIT.

Touch Jog.

Fig. 8.35
The JOG screen will be displayed.

Fig. 8.36

JOG Screen Operation
1. SVON: If you touch the key when SVON is displayed, the servo will be turned ON.
   If you touch the key when SVOF is displayed, the servo will be turned OFF.
2. HOME: If you touch the key when the servo is ON, homing will be performed.
   After homing, the display will change to HEND.
3. JVEL: Select the PIO jog speed or PIO jog speed 2.
   In the case of display with shadow, the jog speed will be the PIO jog speed.
   In the case of display without shadow, the jog speed will be the PIO jog speed 2.
4. INC: If you touch the key when the display is INC, operation will change to inching.
   If you touch the key when the display is JOG, operation will change to jog.
   (Note) The jog speed will be the PIO jog speed or PIO jog speed 2 set with the parameter.
   Select the speed using JVEL.
   The inching distance will be the PIO Inching Distance set with the parameter.
5. ← →: The axis will perform jog or inching movement.
6. MENU: The screen will return to the MoveMENU screen.
1) Pos (Operation: Registered position data number assigned move)

<table>
<thead>
<tr>
<th>Step</th>
<th>Operation Description</th>
<th>Screen Image</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Touch <strong>Move</strong> on the MENU2 screen.</td>
<td><img src="image1" alt="Menu Screen" /></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Touch <strong>Pos</strong> on the MoveMENU edit screen.</td>
<td><img src="image2" alt="Menu Screen" /></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>When the servo is OFF, touch <strong>SVON</strong> to put into the servo ON status.</td>
<td><img src="image3" alt="Menu Screen" /></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>If homing has not been executed, touch <strong>HOME</strong> to perform homing.</td>
<td><img src="image4" alt="Menu Screen" /></td>
<td></td>
</tr>
</tbody>
</table>
| 5.   | Assign PosNo. (position No.) with **Pos-** or **Pos+**.  
In this example, set position No. 2. | ![Menu Screen](image5) |          |
| 6.   | If you touch **START**, the actuator will move from the current position to the location of position No. 2.  
When stopping during movement, touch **STOP**. | ![Menu Screen](image6) |          |

**Example:** Current position → Move towards position number 2, 3

The move speed can be changed by touching “OVRDxxx%” and changing the override value.  
(Note) The maximum speed will be the safety speed set for the parameter if the TP operation mode is set to Teach 1 (Safety: ON).
### Operation | Screen | Reference
--- | --- | ---
7. When moving towards No. 3 position continuously, assign 3 to PosNo. with Pos- or Pos+. | ![Screen](image) |  
8. If you touch **START**, the actuator will move from the current position to position No. 3. When stopping during movement, touch **STOP**. | ![Screen](image) | If you touch **MENU**, the screen will return to the Move MENU screen. 

---

**Caution:** When moving towards position in push mode

After the actuator pushes the work and position complete output turns ON, the actuator is in a state of continuously pressing the work.

Be extremely careful about handling at this time.
2) Num (Operation: Target position directly-assigned move)

Example: Current position → Move towards target position 100mm (Num)

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch <strong>Move</strong> on the MENU2 screen.</td>
<td><img src="image1" alt="Operation Screen" /></td>
<td>1. Touch Move on the MENU2 screen.</td>
</tr>
<tr>
<td>2. Touch <strong>Num</strong> on the MoveMENU edit screen.</td>
<td><img src="image2" alt="Operation Screen" /></td>
<td>2. Touch Num on the MoveMENU edit screen.</td>
</tr>
<tr>
<td>3. When the servo is OFF, touch <strong>SVON</strong> to put into the servo ON status.</td>
<td><img src="image3" alt="Operation Screen" /></td>
<td>3. When the servo is OFF, touch SVON to put into the servo ON status.</td>
</tr>
<tr>
<td>4. If homing has not been executed, touch <strong>HOME</strong> to perform homing.</td>
<td><img src="image4" alt="Operation Screen" /></td>
<td>4. If homing has not been executed, touch HOME to perform homing.</td>
</tr>
<tr>
<td>5. Touch the numeric value of Tar Pos. The ten keys will be displayed.</td>
<td><img src="image5" alt="Operation Screen" /></td>
<td>5. Touch the numeric value of Tar Pos. The ten keys will be displayed.</td>
</tr>
<tr>
<td>6. Touch 1 2 3 4 5 6 7 8 9 0 for Tar Pos and touch back.</td>
<td><img src="image6" alt="Operation Screen" /></td>
<td>6. Touch 1 2 3 4 5 6 7 8 9 0 for Tar Pos and touch back.</td>
</tr>
<tr>
<td>Operation</td>
<td>Screen</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>7. Touch <strong>etc</strong> to display the MOVE etc screen.</td>
<td><img src="" alt="Screen 1" /></td>
<td></td>
</tr>
<tr>
<td>8. Touch the numeric value of the item to change from among Velocity, Accelerate and Decelerate. The ten keys will be displayed. Input a numeric value with the ten keys and touch <strong>Esc</strong>. After setting the numeric value, touch <strong>Esc</strong>.</td>
<td><img src="" alt="Screen 2" /></td>
<td>In the left screen, 600 is set as Velocity.</td>
</tr>
<tr>
<td>9. If you touch <strong>START</strong>, the actuator will move from the current position to the target position. When stopping during movement, touch <strong>STOP</strong>.</td>
<td><img src="" alt="Screen 3" /></td>
<td>(Note) The maximum speed will be the safety speed set for the parameter if the TP operation mode is set to Teach 1 (Safety: ON).</td>
</tr>
</tbody>
</table>

**Caution:** When moving towards position in push mode

After the actuator pushes the work and position complete output turns ON, the actuator is in a state of continuously pressing the work.

Be extremely careful about handling at this time.
3) Jog (Move)  Move the actuator by jogging with the direction arrow key (← or →). However, no teaching can be given to the position table.

If you continue touching the direction arrow key (← or →), the actuator will move at a specified speed (PIO jog speed or PIO jog speed 2).

However, only the maximum speed will be gained if the maximum speed is slower than the specified speed.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch Move on the MENU2 screen.</td>
<td><img src="image1" alt="Operation Screen 1" /></td>
<td></td>
</tr>
<tr>
<td>2. Touch Jog on the MoveMENU edit screen.</td>
<td><img src="image2" alt="Operation Screen 2" /></td>
<td></td>
</tr>
<tr>
<td>3. When the servo is OFF, touch SVON to put into the servo ON status.</td>
<td><img src="image3" alt="Operation Screen 3" /></td>
<td></td>
</tr>
<tr>
<td>4. If homing has not been executed, touch HOME to perform homing.</td>
<td><img src="image4" alt="Operation Screen 4" /></td>
<td></td>
</tr>
<tr>
<td>5. Select the speed with JVEL. Move the slider with ← or → and match to the desired position. ← Positive direction of the displayed coordinates → Negative direction of the displayed coordinates</td>
<td><img src="image5" alt="Operation Screen 5" /></td>
<td>JVEL: Selection of speed Display with shadow: PIO jog speed (parameter) Display without shadow: PIO jog speed 2 (parameter)</td>
</tr>
</tbody>
</table>
4) **Inching (Move)** Move the actuator by inching with the direction arrow key (← or →). However, no teaching can be given to the position table.

If you touch the direction arrow key (← or →), the actuator will move by a specified distance (PIO Inching Distance). Finer movement than jogging is possible.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Screen</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Touch <strong>Move</strong> on the MENU2 screen.</td>
<td><img src="image1" alt="MENU2 Screen" /></td>
<td></td>
</tr>
<tr>
<td>2. Touch <strong>Jog</strong> on the MoveMENU edit screen.</td>
<td><img src="image2" alt="MoveMENU Screen" /></td>
<td></td>
</tr>
<tr>
<td>3. When the servo is OFF, touch <strong>SVON</strong> to put into the servo ON status.</td>
<td><img src="image3" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td>4. If homing has not been executed, touch <strong>HOME</strong> to perform homing.</td>
<td><img src="image4" alt="JOG Screen" /></td>
<td></td>
</tr>
<tr>
<td>5. Touch <strong>INC</strong> to change to inching operation.</td>
<td><img src="image5" alt="JOG Screen" /></td>
<td></td>
</tr>
</tbody>
</table>
| 6. Move the slider with ← or → and match to the desired position. ![Direction Arrows](image6) | ![JOG Screen](image7) | **Inching Distance:**

PIO Inching Distance (parameter) |
8-10 Parameters
Parameters will be displayed and edited.

Caution: In contrast to the Teaching Pendant and PC-compatible software, only some parameters can be displayed and edited.

Touch **Param** on the MENU2 screen.

![Fig. 8.37](image.png)
(1) Setting of Parameter Value

If you touch a numeric value, the ten keys will be displayed.

Input a numeric value and touch \( \Rightarrow \).
When stopping input, touch the ESC key.

Touch \( \text{WRT} \).

Touch \( \text{YES} \).
(When stopping rewriting, touch \( \text{NO} \).)

Touch \( \text{YES} \).
The controller will restart and the parameter will be changed.
(When stopping restart, touch \( \text{NO} \).)

Caution: The changed parameter will become valid by restoring the power or resetting software.
(2) Parameter Display Change

Parameter screens are comprised of 13 screens and can be changed with the ← or → key.
Parameters which can be rewritten with this Touch Panel Display are only 13 items shown below.

If you touch MENU, the screen will return to the MENU1 screen.

To Soft Limit -

To PIO pattern select
(To the next page)
PIO pattern select

PIO Jog speed 2

PIO Jog speed

PIO Inching Distance

Push speed

PIO Inching Distance 2

Safety speed

To Zone Output (1) +
(To the previous page)

To PIO Jog speed 2
- When soft limit is modified at the customer site, please set a value which extends 0.3mm outside of the effective area.

Example: When setting the effective area between 0mm~80mm

- Soft limit + side: 80.3
- Soft limit - side: -0.3

**Caution:** Please restore the controller power after making parameter changes. Alternatively, reset software in the case of any model which supports the software reset function.

* Regarding parameter, please refer to the Controller Operating Manual.
8-11 Display

Screen contrast and brightness can be adjusted.

Touch Display on the MENU2 screen.

(1) Contrast Adjustment

Touch Contrast.

Adjust contrast with + or -.

If you touch ESC, the screen will return to the MENU2 screen.

(2) Brightness Adjustment

Touch Brightness.

Adjust brightness with + or -.

If you touch ESC, the screen will return to the MENU2 screen.
8-12 Restart

The controller will be restarted.

Touch **Restart** on the MENU2 screen.

Touch **YES**.

The controller will restart.

(When stopping restart, touch **NO**.)
8-13 Version

You can confirm the controller type, version information and writing count into the flash ROM.

Touch **Version** on the MENU2 screen.

VersionInfo will be displayed.

If you touch **ESC**, the screen will return to the MENU2 screen.
9. GATEWAY MENU

Up to 16 axes can be monitored simultaneously by connecting to the ROBONET GATEWAY.

Axis Select Screen

Touch RGW.

Fig. 9.1

Touch an item to monitor on the ROBONET GATEWAY MENU screen.

Fig. 9.2

(1) Axis Select
This is the screen to select axes.
When axes are selected, only the selected axes can be monitored.

Fig. 9.3
(2) Cur Pos
The current position of each axis will be displayed. Four axes can be monitored simultaneously.

You can change to the next screen with ← or →.

If you touch ESC, the screen will return to the ROBONET GATEWAY MENU screen.

Fig. 9.4

(3) All Alarm
Alarms currently occurring in each axis can be checked.

If you touch ESC, the screen will return to the ROBONET GATEWAY MENU screen.

Fig. 9.5

(4) Velocity
The current speed of each axis will be displayed. Four axes can be monitored simultaneously.

You can change to the next screen with ← or →.

If you touch ESC, the screen will return to the ROBONET GATEWAY MENU screen.

Fig. 9.6
(5) Current

The current current value of each axis will be displayed. Eight axes can be monitored simultaneously.

You can change to the next screen with ← or →.

![Fig. 9.7 Current Values](image)

If you touch ← or →, the current values of all axes can be displayed in graph form.

If you touch ESC, the screen will return to the ROBONET GATEWAY MENU screen.

(6) VersionInfo

The gateway module version and fieldbus setting status will be displayed.

If you touch STAT, the screen will return to the GWstatus screen.

![Fig. 9.9 VersionInfo](image)

The gateway status can be checked.

If you touch Info, the screen will return to the ROBONET GATEWAY MENU screen.

If you touch ESC, the screen will return to the ROBONET GATEWAY MENU screen.
10. Message Area

In the message screen, content during error and warning will be displayed.

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Error Label</th>
<th>Error Reset</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>080-0FF</td>
<td>Controller Error</td>
<td>Note</td>
<td>Error inside the controller</td>
</tr>
</tbody>
</table>

Note) Refer to “10.2 Controller Error.”

10-1 Touch Panel Display Message Level Error

Touch Panel Display Operational Mistake:

When you attempt to input an incorrect value, the message label error will occur.

For example, if you input an excessive numeric value into Position and write it into the controller, the following message will be displayed:

10-2 Controller Error

An alarm detected from the controller side can be displayed.

When an alarm occurs, the Touch Panel backlight will turn pink.

This is a critical error due to an abnormality related to servo control and electricity. Please read through the RC Controller Operating Manual carefully for error compliance.

If any errors of the code numbers listed below occur, it is required to perform error reset of the controller (press the RES key on the screen where the alarm is displayed) to reset it in the case of a movement release error. It is required to perform the reset of the controller software in the case of a cold start level error. (Refer to 8.12.)

Code No: 0A1h, 0A2h, 0B0h, 0B1h, 0B8h, 0B9h, 0BAh, 0BBh, 0BCh, 0BDh, 0BEh, 0C0h, 0C1h, 0C9h, 0CAh, 0CCh, 0CEh, 0D0h, 0D1h, 0D8h, 0E0h, 0E8h, 0E9h, 0EAh, 0F4h, 0F5h, 0F6h, 0F8h, 0FAh, etc.

For details of error codes, refer to the operating manual of the controller you use.
* Appendix

**Touch Panel Display Error Message**

A message will be displayed in cases where you input an excessive numeric value into Position and write it to the controller etc.

Confirm that the input numeric value is correct and reset it again.

For the controller errors, refer to the operating manual of each controller.

<table>
<thead>
<tr>
<th>Error Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position No. error</td>
</tr>
<tr>
<td>Position data input error</td>
</tr>
<tr>
<td>Velocity input too large</td>
</tr>
<tr>
<td>Accelerate input too large</td>
</tr>
<tr>
<td>Decelerate input too large</td>
</tr>
<tr>
<td>Pos.band input error</td>
</tr>
<tr>
<td>PosZone input error</td>
</tr>
<tr>
<td>Acc/Dcl mode input error</td>
</tr>
<tr>
<td>Command mode input error</td>
</tr>
<tr>
<td>Stop mode input error</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Warning message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non MANU Teach mode data edit prohibit</td>
</tr>
<tr>
<td>Non MANU Teach mode axis operation prohibit</td>
</tr>
</tbody>
</table>