IAI
Quality and Innovation

Touch Panel Teaching SEP-PT First Step Guide Fourth Edition

Thank you for purchasing our product.
Make sure to read the Safety Guide and detailed Instruction Manual (CD/DVD) included with the product in addition to this First Step Guide to ensure correct use.
This Instruction Manual is original.

⚠ Warning : Operation of this equipment requires detailed installation and operation instructions which are provided on the CD/DVD Manual included in the box this device was packaged in. It should be retained with this device at all times.
A hardcopy of the Manual can be requested by contacting your nearest IAI Sales Office listed at the back cover of the Instruction Manual or on the First Step Guide.

- Using or copying all or part of this Instruction Manual without permission is prohibited.
- The company names, names of products and trademarks of each company shown in the sentences are registered trademarks.

Product Check

This product is comprised of the following parts if it is of standard configuration.
If you find any fault with the product you have received, or any missing parts, contact us or our distributor.

1. Parts (The option is excluded.)

No.	Part Name	Model	Remarks
1	Main Body	Refer to “How to read the model plate”, “How to read the model No.”	
Accessories			
2	Touch Pen	Built in the Main Body	
3	First Step Guide		
4	Instruction Manual (CD/DVD)		
5	Safety Guide		

2. Instruction Manuals related to this product, which are contained in the CD/DVD.

No.	Name	Catalog No.
1	ASEP/PSEP/DSEP Controller Instruction Manual	ME0267
2	PMEC/AMEC Controller Instruction Manual	ME0245
3	Touch Panel Teaching SEP-PT Instruction Manual	ME0217

3. How to read the model plate

Model → MODEL SEP-PT
Serial number → SERIAL No.900109939 A1 MADE IN JAPAN

4. How to read the model No.

SEP-PT-ENG

<Model>
<Option>
Unspecified :Indication in Japanese
ENG :Indication in English

Support Models

Controller Model No.
ASEP
PSEP
DSEP
AMEC
PMEC
ERC3*1

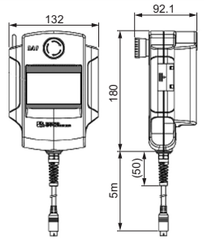
*1 ERC3 is available to be connected only to MEC mode.
It is connected to CON mode.
Applicable for version 3.00 and later.

Basic Specifications

Specifications

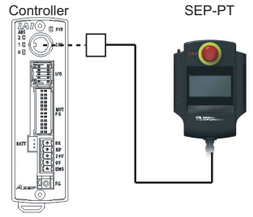
Item	Specification
Power demand	1.1W or less (220mA or less)
Ambient temperature & humidity	Temperature 0 to 50°C Humidity 20 to 85%RH (non-condensing)
Ambient storage temperature & humidity	Temperature -20 to 60°C Humidity 10 to 85%RH (non-condensing)
Vibration resistance	10 to 55Hz (Frequency 1 minutes) Duplex amplitude 0.75mm X,Y,Z Direction for 10minutes
Impact resistance	9.8m/s^2 or more X,Y,Z Direction 4 Times
Environment resistance	IP40
Dimensions	180mm (L) × 132mm (W) × 92.1mm (D)
Mass	Approx. 550g (Including the 5m cable)
Cable length	5m
Accessories	Touch Pen

External Dimensions



Wiring Diagram

The touch panel teaching unit SEP-PT can be connected or disconnected without turning OFF the power to the controller.

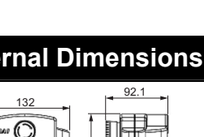
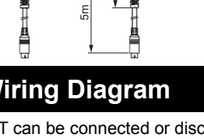
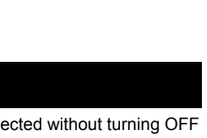
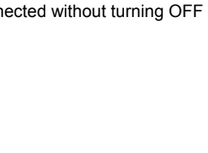
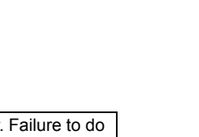
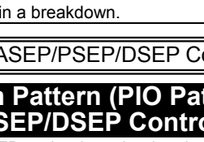
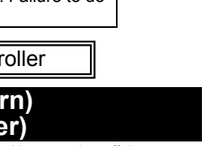


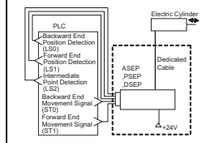
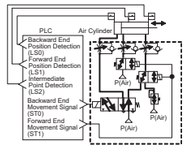
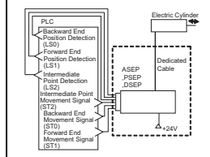
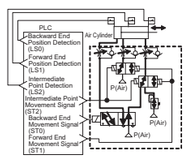
⚠ Note : Do not connect SEP-PT to the SIO converter. Failure to do so may result in a breakdown.

Operation of ASEP/PSEP/DSEP Controller

Operation Pattern (PIO Pattern) (ASEP/PSEP/DSEP Controller)

The touch panel teaching ASEP/PSEP/DSEP can be plugged and unplugged without turning off the power to the controller.

Operation Pattern	Contents	Electric Cylinder Connection Example	Air Cylinder Connection Example
PIO Pattern 0 Single Solenoid System (Standard Point-to-Point Movement)	The actuator point-to-point movement is available using the same control function as for the air cylinder. The target position setting (forward end and backward end) is available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available.		
PIO Pattern 0 Double Solenoid System (Standard Point-to-Point Movement)			
PIO Pattern 1 Single Solenoid System (Point-to-Point Movement) (Movement Speed Setting)	The actuator point-to-point movement is available using the same control function as for the air cylinder. The speed change in the movement operation is available. The target position setting (forward end and backward end) is available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available.		
PIO Pattern 1 Double Solenoid System (Point-to-Point Movement) (Movement Speed Setting)			
PIO Pattern 2 Single Solenoid System (Point-to-Point Movement) (Position Data Change)	The actuator point-to-point movement is available using the same control function as for the air cylinder. The change-over between the positioning and pressing operations during the operation is available. The target position setting (forward end and backward end) is available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available.		
PIO Pattern 2 Double Solenoid System (Point-to-Point Movement) (Position Data Change)			

Operation Pattern	Contents	Electric Cylinder Connection Example	Air Cylinder Connection Example
PIO Pattern 3 (2-Input, 3-Point Movement)	The actuator 3-point movement is available using the same control function as for the air cylinder. The target position setting (forward end, backward end and Intermediate Point) is available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available.		
PIO Pattern 4 (3-Input, 3-Point Movement)	The actuator 3-point movement is available using the same control function as for the air cylinder. The target position setting (forward end, backward end and Intermediate Point) is available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available.		
PIO Pattern 5 (Continuous Reciprocating Operation)	The actuator’s point-to-point reciprocating operation is performed between the forward end and backward end. The target position setting (forward end and backward end) is available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available.		

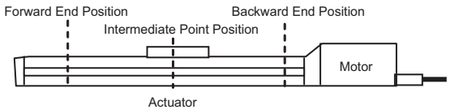
Operation Pattern (PIO Pattern) Items to be set

Operation Pattern	Operation Mode	Intermediate Position Movement System	Double Solenoid Type	Pause Signal *STP	Servo-motor Control SON	OUT2, OUT3	OUT3	Home Return	Output Signal
	Single Solenoid/ Double Solenoid	Both Signals OFF/ Both Signals ON	Continuous Operation Type/ Momentary Operation Type	Disable/ Enable	Disable/ Enable	HEND, *ALM/ SV, *ALM/ HEND, SV	*ALM/ SV	MANU/ AUTO	Limit Switch LS/ Positioning PE
Standard Point-to-Point Movement PIO Pattern 0	○		Double Solenoid Selected ○	Single Solenoid Selected ○	○	○		○	○
Movement Speed Setting PIO Pattern 1	○		Double Solenoid Selected ○	Single Solenoid Selected ○	○	○		○	○
Position Data Change PIO Pattern 2	○		Double Solenoid Selected ○	Single Solenoid Selected ○	○	○		○	○
2-Input, 3-Point Movement PIO Pattern 3		○			○		○	○	○
3-Input, 3-Point Movement PIO Pattern 4			○		○		○	○	○
Continuous Reciprocating Operation PIO Pattern 5				○	○	○		○	○

Refer to the Instruction Manual for the ASEP/PSEP/DSEP Controller for the details of each item to be set.

Position Data (ASEP/PSEP/DSEP Controller)

Set the Position Data to operate the actuator.



Position Data

Position Setting Window	Position/Velocity		Acceleration/ Deceleration		Pressing		Energy-Saving
Position Data	1) Position	2) Velocity	3) Acceleration	4) Deceleration	5) Pressing Force	6) Pressing Width	7) Energy-Saving Function
Forward End Position	200.00	50.00	0.1	0.1	70	1.00	Effective
Backward End Position	0.00	50.00	0.1	0.1	0	0	Effective
Intermediate Point Position	100.00	50.00	0.1	0.1	0	0	Effective

1) Position ……Set the position where the actuator is moved.

Operation Pattern	Movement	Set Position		
		Forward End Position	Backward End Position	Intermediate Point Position
Standard Point-to-Point Movement :0	Point-to-Point Movement	○	○	
Movement Speed Setting :1	Point-to-Point Movement	○	○	
Position Data Change :2	Point-to-Point Movement	○	○	
2-Input, 3-Point Movement :3	3 Point Movement	○	○	○
3-Input, 3-Point Movement :4	3 Point Movement	○	○	○
Continuous Reciprocating Operation :5	Point-to-Point Movement	○	○	

2) Velocity ……Set the actuator velocity.
3) Acceleration ……Set the actuator acceleration.
4) Deceleration ……Set the actuator deceleration.
5) Pressing Force ……When the pressing operation is to be performed, set the current limit value (%) except for “0”.
When “0” is set, the positioning operation is performed.
6) Pressing Width ……Set the position for starting the pressing operation.
When a pressing operation is performed, the actuator drives with the speed set in the positioning parameter and the rated torque as it does for the normal positioning operation until the remained movement amount reaches to the range that is set in the pressing width parameter. After the actuator gets in the range, it starts the pressing movement till it reaches to the position set in 1).
7) Energy-Saving Function…… When the Energy-Saving Function is enabled, the actuator’s servo-motor is turned OFF automatically after the specified time is passed.

The movement speed is to be changed for the Operation Pattern (PIO Pattern) No.1, in addition to position data, the position where the speed is changed and the velocity parameters are set.

Position Setting Window	Velocity Change Position	
Position Data	8) Changed Position	9) Changed Velocity
Forward End Position	60.00	30.00
Backward End Position	40.00	30.00

8) Changed Position ……The position where the velocity is changed in the course of moving to the forward end or backward end, is set.
9) Changed Speed ……The changed speed is set.

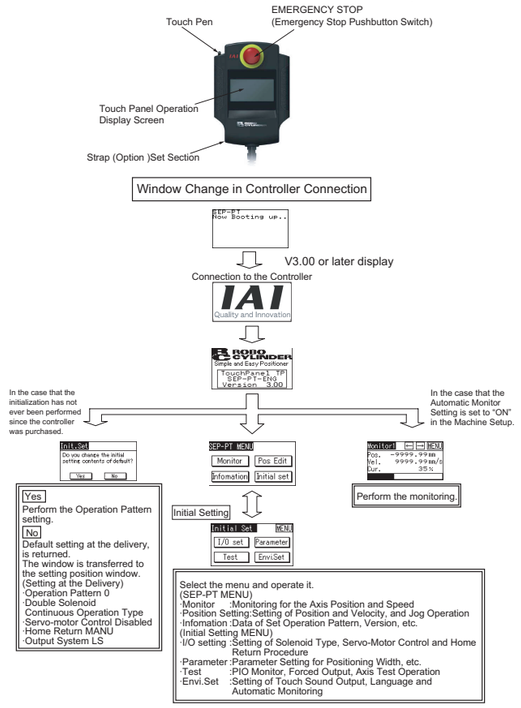
When the position data is to be changed for the Operation Pattern (PIO Pattern) No.2, in addition to the position data items for the forward end and backward end, the position data items for the changed forward end and changed backward end, are set.

- In the case that the CN1(Mode Change Signal) is turned OFF, the position data for the forward end turns to be the data in 1Forward End Position.
  In the case of “ON”, the position data for the forward end are the data specified in “3Forward End Position”.
- In the case that the CN1(Mode Change Signal) is turned OFF, the position data for the backward end turns to be the data in 0Backward End Position.
  In the case of “ON”, the position data for the backward end are the data specified in “2Backward End Position”.

Position Setting Window	Position/Velocity		Acceleration/ Deceleration		Pressing		Energy-Saving
Position Data	Position	Velocity	Acceleration	Deceleration	Pressing Force	Pressing Width	Energy-Saving Function
0Backward End Position	0.00	50.00	0.1	0.1	0	0	Effective
1Forward End Position	200.00	50.00	0.1	0.1	70	1.00	Effective
2BackwardEnd Position	10.00	50.00	0.1	0.1	0	0	Effective
3Forward End Position	100.00	50.00	0.1	0.1	60	1.00	Effective

Operation (ASEP/PSEP/DSEP Controller)

For the operation, touch the window displayed in the touch panel operation screen.



Operation Procedure (Example) (ASEP/PSEP/DSEP Controller)

Operation Pattern Setting

Example of Operation Pattern (PIO Pattern) “0” (Standard Point-to-Point Movement): Perform the following setting.

Operation Mode	Single Solenoid
Use of STOP Command (*STP)	Disable
Servo-motor Control	Enable
Output Signals OUT2 and OUT3	OUT2 HEND, OUT3 *ALM
Home Return	AUTO (Home return operation started with the power input)
Output Signal	LS0 (Backward End Position Detection), LS1 (Forward End Position Detection)

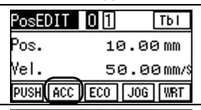
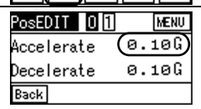
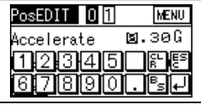
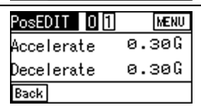
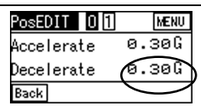
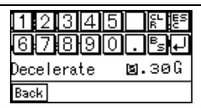
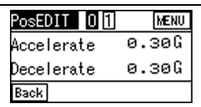
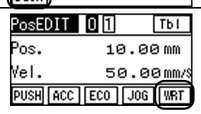
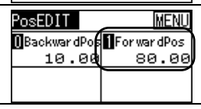
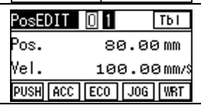
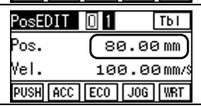
No.	Operation	Window	Remarks
1	Touch Initial set in the SEP-PT MENU window.	SEP-PT MENU: Monitor, Pos Edit, Infomation, Initial set	
2	Set the Operation Pattern. Touch the I/O set.	Initial Set MENU: I/O set, Parameter, Test, Envi.Set	When MENU is touched, the SEP-PT MENU window is returned.
3	Enter the password. Touch the ↵.	PosEdit: Please input a password, ****, 7 8 9 / 4 5 6 / 1 2 3 / 0 ↵	The password has been set to “5119” when the unit was shipped from the factory. The password can be set in ‘Password’ in Parameter Menu.
4	Touch the 0. “Operation Pattern 0” will be selected.	Init.Set MENU: Please choose a PIO pattern, 0 1 2 3 4 5	When MENU is touched, the SEP-PT MENU window is returned.
5	Touch the OK.	Init.Set Back MENU: A function of PIO pattern 0 Movement between two points, OK, Cancel	Selecting Back or Cancel returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
6	Touch the Single. The Single Solenoid Operation Mode will be selected.	Init.Set Back MENU: Please choose type solenoid., Single, Double	Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
7	Touch the Non-use. “Disable” for the STOP Command (*STP) will be selected.	Init.Set Back MENU: Do you use a stop signal?, Non-use, Use	Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
8	Touch the Control. “Control” for the Servo-Motor Control will be selected.	Init.Set Back MENU: Do you control a SON signal?, Non-use, Control	Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
9	Touch the HEND *ALM Touch the OK. “HEND” and “*ALM” will be selected as outputs respectively for OUT2 and OUT3.	Init.Set Back MENU: Please choose an DO signal., OUT2 HEND SV HEND, OUT3 *ALM *ALM SV, OK	Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
10	Touch the AUTO. “AUTO” will be selected for the Home Return.	Init.Set Back MENU: Please choose origin operation, MANU, AUTO	Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
11	Touch the Limit SW. “LS0” (Backward End Position Detection) and “LS1” (Forward End Position Detection) are selected for output signals.	Init.Set Back MENU: Please choose output signal classification., Limit SW, Pos.End	Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
12	Touch the Complete.	Init.Set Back MENU: Do you complete initial setting?, Complete, Retry	When Retry is touched, the Operation Pattern window is returned. Selecting Back returns to the preceding window. When MENU is touched, the SEP-PT MENU window is returned.
13	Touch the YES.	Confirm Disp YES NO: Register setting contents?	Touching Disp confirms the set data. SetUpInf → ESC: 1Opattern 0, Solenoid Single, "*STP"use Nonuse Touching ESC in the set data window, returns to the previous confirmation window.
14	Touch the YES.	Confirm YES NO: Restart the controller?	Touching NO displays the following window. The controller is not operated according to the set Operation Pattern until the controller is re-started up. Notice ESC: Write Completed Cycle controller power OFF and ON
15		SEP-PT MENU: Monitor, Pos Edit, Infomation, Initial set	When the controller is re-started, the window is transferred to the SEP-PT MENU window.

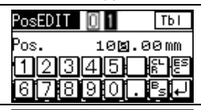
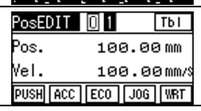
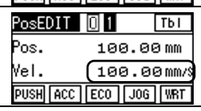
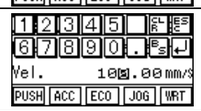
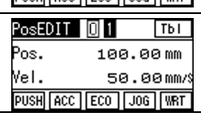
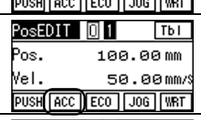
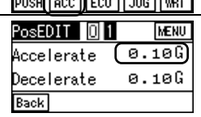
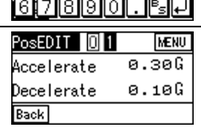
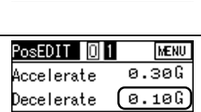
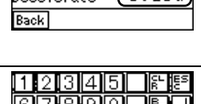
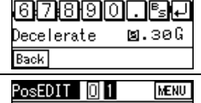
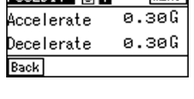
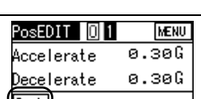
Position, Velocity or Acceleration/Deceleration Setting

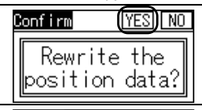
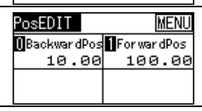
Example of Operation Pattern (PIO Pattern) “0” (Standard Point-to-Point Movement)
The position setting is performed for the reciprocating movement between 10.0mm and 100.0mm.

Forward End Position:100.0mm, Backward End Position:10.0mm,
Reciprocating Movement Speed: 50mm/sec, Reciprocating Movement Acceleration: 0.3G,
Reciprocating Movement Deceleration: 0.3G

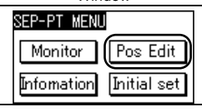
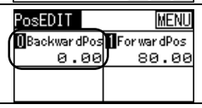
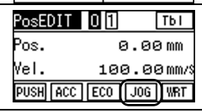
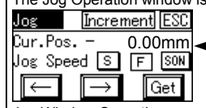
No.	Operation	Window	Remarks
1	Touch Pos Edit in the SEP-PT MENU window.	SEP-PT MENU: Monitor, Pos Edit, Infomation, Initial set	
2	In the case of the password value except for “0000”, the password window is displayed. Input the password.	PosEdit: Please input a password, ****, 7 8 9 / 4 5 6 / 1 2 3 / 0 ↵	The password for the position setting can be set in the ‘parameter No. 20 Password for Position Data Edit’ window for the parameter setting operation.
3	Set the Backward End Position related position, acceleration and deceleration. Touch the BackwardPos.	PosEDIT MENU: 0 Backwar dPos 0.00, 1 For war dPos 80.00	When MENU is touched, the SEP-PT MENU window is returned.
4	Touch the value for the position.	PosEDIT 0 1 Tbl: Pos. 0.00mm, Vel. 100.00mm/s, PUSH ACC ECO JOG WRT	Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
5	Touch the 1 and 0 using the ten-key and then touch ↵.	PosEDIT 0 1 Tbl: Pos. 10.00mm, 1 2 3 4 5 CL / 6 7 8 9 0 . ESC ↵, PUSH ACC ECO JOG WRT	When the value input is stopped, touch ESC. The value will not be set and the previous position setting window will be returned.
6	“10.00” is displayed in the position data section.	PosEDIT 0 1 Tbl: Pos. 10.00mm, Vel. 100.00mm/s, PUSH ACC ECO JOG WRT	Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
7	Touch the velocity value.	PosEDIT 0 1 Tbl: Pos. 10.00mm, Vel. 100.00mm/s, PUSH ACC ECO JOG WRT	Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
8	Touch the 5 and 0 using the ten-key and then touch ↵.	1 2 3 4 5 CL / 6 7 8 9 0 . ESC ↵, Vel. 100.00mm/s, PUSH ACC ECO JOG WRT	When the value input is stopped, touch ESC. The value will not be set and the previous “Position/Velocity setting window” in the Position Setting window will be returned.
9	“50.00” is displayed in the velocity data section.	PosEDIT 0 1 Tbl: Pos. 10.00mm, Vel. 50.00mm/s, PUSH ACC ECO JOG WRT	Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.

No.	Operation	Window	Remarks
10	Touch the ACC.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
11	Touch the acceleration value.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
12	Touch the 0, . and 3 using the ten-key and then touch ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous "Position/Velocity setting window" in the Position Setting window will be returned.
13	"0.30" is displayed in the acceleration data section.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
14	Touch the deceleration value.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
15	Touch the 0, . and 3 using the ten-key and then touch ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous "Position/Velocity setting window" in the Position Setting window will be returned.
16	"0.30" is displayed in the deceleration data section.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
17	Touch the Back.		Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
18	Touch the WRT.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window. When the writing is not performed and the "Forward End/Backward End" selecting window in the Position Setting window is returned, the setting is not performed.
19	Touch the YES.		Touching NO returns to the Position Setting window without performing the setting.
20	The controller's position data is reloaded. Touch the ESC.		
21	Set the Forward End Position related Position, Acceleration and Deceleration. Touch the ForwardPos.		When MENU is touched, the SEP-PT MENU window is returned.
22	The window is change to the Forward End window. Set the Forward End Position related Position, Acceleration and Deceleration.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
23	Touch the position value.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.

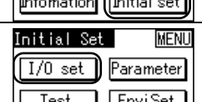
No.	Operation	Window	Remarks
24	Touch the 1, 0 and 0 using the ten-key and then touch ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous position setting window will be returned.
25	"100.00" is displayed in the position data section.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
26	Touch the velocity value.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
27	Touch the 5 and 0 using the ten-key and then touch ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous "Position/Velocity setting window" in the Position Setting window will be returned.
28	"50.00" is displayed in the velocity data section.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
29	Touch the ACC.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
30	Touch the acceleration value.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
31	Touch the 0, . and 3 using the ten-key and then touch ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous "Position/Velocity setting window" in the Position Setting window will be returned.
32	"0.30" is displayed in the acceleration data section.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
33	Touch the deceleration value.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
34	Touch the 0, . and 3 using the ten-key and then touch ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous "Position/Velocity setting window" in the Position Setting window will be returned.
35	"0.30" is displayed in the deceleration data section.		Touching Back returns to the previous "Position/Velocity setting window" in the Position Setting window. Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
36	Touch the Back.		Touching MENU return to the Forward End/Backward End setting window in the Position Setting window.
37	Touch the WRT.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window. When the writing is not performed and the "Forward End/Backward End" selecting window in the Position Setting window is returned, the setting is not performed.

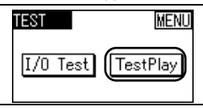
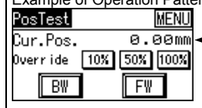
No.	Operation	Window	Remarks
38	Touch the YES.		Touching NO returns to the Position Setting window without performing the setting.
39	The controller's position data is reloaded. Touch the ESC.		
40			When MENU is touched, the SEP-PT MENU window is returned.

Jog Operation

No.	Operation	Window	Remarks
1	Touch Pos Edit in the SEP-PT MENU window.		
2	In the case of the password value except for "0000", the password window is displayed. Input the password.		The password for the position setting can be entered in the "Position Data Edit Password" window in the "Parameter Edit" window.
3	Set the Backward End Position related position, acceleration and deceleration. Touch the BackwardPos.		When MENU is touched, the SEP-PT MENU window is returned.
4	Touch the JOG.		Touching Tb1 return to the Forward End/Backward End setting window in the Position Setting window.
5	The Jog Operation window is displayed.  The axis current position is displayed. Jog Window Operation • ←→: While touching it, the jog operation is performed in the axis. ←:Jog operation in the negative (–) direction →:Jog operation in the positive (+) direction • SON: Touching SON turns ON the servo-motor. Touching SON (reversal indication) turns OFF the servo-motor. • S F: Set the Jog speed. When it is set to S, the speed is decreased. When it is set to F, the speed is increased. Speed for S : 10mm/sec Speed for F : Speed set in the Parameter's Jog Speed • Get: The current position is captured. The value for the position in the "Target Position/Velocity" window in the "Position Setting" window, is turned to be that for the captured position. The conditions for capturing the current position are as follows: • Home return completion • The machine operation is stopped. • The current position value is "0" or more. When the capturing conditions are satisfied and Get is being touched, the current position indication is reversed. • ESC: The "Target Position/Velocity window in the "Initialization" is returned.	

Operation Test Procedure

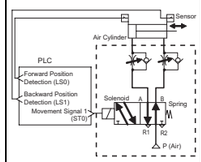
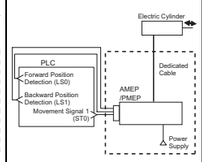
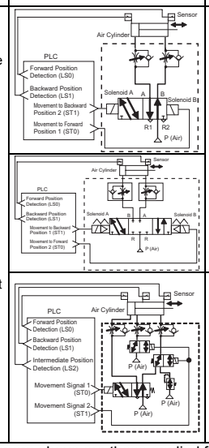
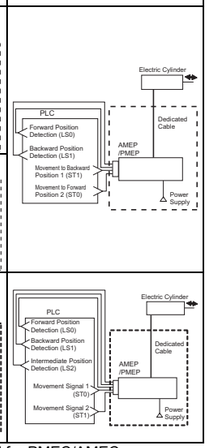
No.	Operation	Window	Remarks
1	Touch Initial set in the SEP-PT MENU window.		
2	Touch the I/O set.		When MENU is touched, the SEP-PT MENU window is returned.

No.	Operation	Window	Remarks
3	Touch the TestPlay.		When MENU is touched, the SEP-PT MENU window is returned.
4	Example of Operation Pattern (PIO Pattern) “0”.  The axis current position is displayed. When MENU is touched, the MENU window is returned. • Backward : Touching BW moves it to the backward side. • Forward : Touching FW moves it to the backward side. • Override 10%: Touching 10% moves it at the 10% of speed set in the “Target Position/Velocity” window in the “Position Setting”. In the window displayed first after the power is turned ON, the speed setting “10%” is displayed. • Override 50%: Touching 50% moves it at the 50% of speed set in the “Target Position/Velocity” window in the “Position Setting”. • Override 100%: Touching 100% moves it at the 100% of speed set in the “Target Position/Velocity” window in the “Position Setting”.		

Operation of PMEC/AMEC Controller and ERC3)

Operation Pattern (PMEC/AMEC Controller and ERC3)

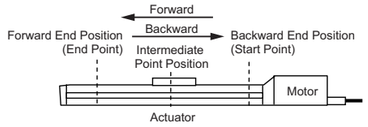
The PMEC or AMEC controller has the 2 operation patterns.
Explained below is the outline of the operational specifications for each pattern.

Operation Pattern		Contents	Air Cylinder Circuit (Reference)	Electric Cylinder Connection Procedure
2-Point Stop (2-Point Positioning)	[Single Solenoid Type] 1-Input, 2-Point Movement	The actuator 2-Point movement is available using the same control function as for the air cylinder. Backward and forward points can be determined. Speed and acceleration settings in the actuator movement are available. The pressing operation is available. Set ST0 ON to move to the backward point and OFF to return to the forward point.		
3-Point Stop (3-Point Positioning)	[Double Solenoid Type] 2-Input, 2-Point Movement	The actuator 2-Point movement is available using the same control function as for the air cylinder. Backward and forward points can be determined. Setting of intermediate point is available, and positioning to the intermediate point is also available. Speed and acceleration settings in the actuator movement are available. The pressing operation is available. Set ST1 ON to move to the backward point and ST0 ON to forward point. [Both switches ON to move to intermediate point] Set both ST0 and ST1 ON to stop at intermediate point for positioning. Set both ST0 and ST1 OFF and it stops on the way. [Both switches OFF to move to intermediate point] Set both ST0 and ST1 OFF to stop at intermediate point for positioning. Set both ST0 and ST1 ON and it stops on the way.		
	[3-Point Positioning] 2-Input, 3-Point Movement			

(Note) The symbols in the air cylinder circuit diagram above are those applied for PMEC/AMEC.
Refer to “PMEC/AMEC Controller Instruction Manual” for the details of the signal symbols.

Operation Condition Table (PMEC/AMEC Controller, ERC3)

Set the Operation Condition to operate the actuator.



Operation Condition Table

Position Setting Window	Position/Velocity		Acceleration/Deceleration		Pressing		Energy-Saving
Operation Condition	1) Position	2) Velocity	3) Acceleration	4) Deceleration	5) Pressing Force	6) Pressing Width	7) Energy-Saving Function
Forward Position (Backward Point)	200.00	50.00	0.1	0.1	70	1.00	Effective
Intermediate Point Position (Intermediate Point)	0.00	50.00	0.1	0.1	0	0	Effective
Backward Position (Forward Point)	100.00	50.00	0.1	0.1	0	0	Effective

1) Position .....Set the position where the actuator is moved.

Operation Pattern	Displacement	Set Position		
		Forward Position (Backward Point)	Backward Position (Forward Point)	Intermediate Point Position (Intermediate Point)
2-point Stop (2-Point Positioning)	Point-to-Point Movement	○	○	
3-point Stop (3-Point Positioning)	3-Point Movement	○	○	○

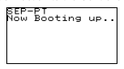
2) Velocity .....Set the actuator velocity.
3) Acceleration .....Set the actuator acceleration.
4) Deceleration .....Set the actuator deceleration.
5) Pressing Force .....When the pressing operation is to be performed, set the current limit value (%) except for “0”.
When “0” is set, the positioning operation is performed.
6) Pressing Width .....Set the position for starting the pressing operation.
When a pressing operation is performed, the actuator drives with the speed set in the positioning parameter and the rated torque as it does for the normal positioning operation until the remained movement amount reaches to the range that is set in the pressing width parameter. After the actuator gets in the range, it starts the pressing movement till it reaches to the position set in (1).
7) Energy-Saving Function..... When the Energy-Saving Function is enabled, the actuator’s servo-motor is turned OFF automatically after the specified time is passed.

Operation (PMEC/AMEC Controller and ERC3)

For the operation, touch the window displayed in the touch panel operation screen.

Window Change in Controller Connection

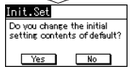
Connection to the Controller

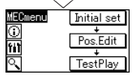


V3.00 or later display

IAI
Quality and Innovation

In the case that the initialization has not ever been performed since the controller was purchased.





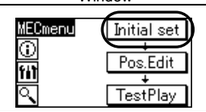
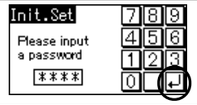
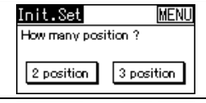
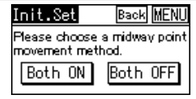
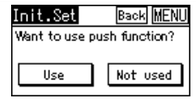
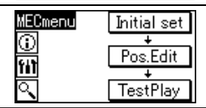
Yes
Perform the 2-point Stop, 3-point Stop setting.

No
Default setting at the delivery, is returned. The window is transferred to the setting position window.
(Setting at the Delivery)
2-point Stop

Select the menu and operate it.
• Monitor : Monitoring for the Axis Position and Velocity
• Pos. Edit : Setting of Position and Velocity, and Jog Operation
• Initial set : 2-point Stop, 3-point Stop Settings
• Test Play : Axis Test Operation
• Information : Data of Set 2-point Stop, 3-point Stop, Version, etc.
(Maintenance Menu)
• I/O Test : I/O Test
• Initialize : Parameter Initializing
• Parameter : Parameter Setting for Positioning Width Initial Value, etc.
• Envi.Set : Setting of Touch Sound Output, Language and Automatic Monitoring

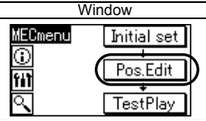
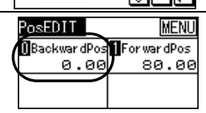
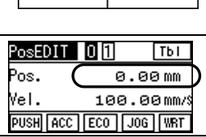
Operation Procedure (Example) (PMEC/AMEC Controller and ERC3)

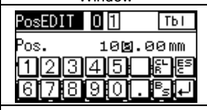
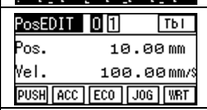
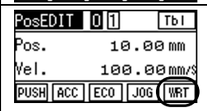
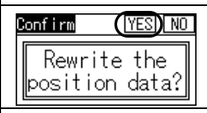
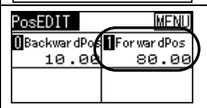
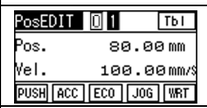
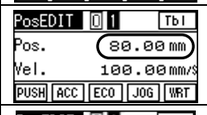
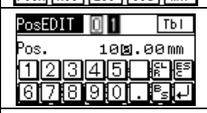
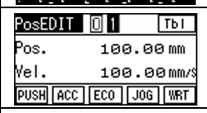
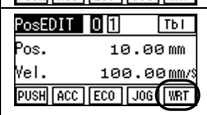
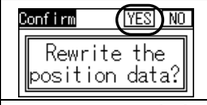
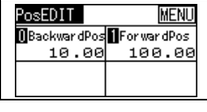
2-point Stop, 3-point Stop Settings

No.	Operation	Window	Remarks
1	Touch Initial set in the MEC menu window.		
2	In the case of the password value except for “0000”, the password input window is displayed. Input the password. Touch ↵.		The password has been set to “5119” when the unit was shipped from the factory. The password can be set in ‘Password’ under Environment Setting.
3	Touch the 2 position or 3 position .		Touch Menu to return to MEC menu window at the beginning. (Reference) Setting before shipment Stop position: 2 position
4	Select either Both OFF or Both ON for the input signal to ST0 and ST1 for the positioning at the intermediate point for 3-point stop.		Touch Menu to return to MEC menu window at the beginning. Touch Back and the screen goes back to the selection window of 2-point and 3-point stops for the initial setting. (Reference) Setting before shipment Method to select intermediate point: Both ON
5	Touch Not used when the positioning operation is required, and touch Use when the pressing operation is required.		Touch Menu to return to MEC menu window at the beginning. (Reference) Setting before shipment Pressing function: Not used
6	Touch YES.		
7	Touch YES.		Reboot the controller to activate the settings. Settings will not change until a reboot is performed. Touch NO to return to the previous window.
8			The menu returns to MEC menu window at the beginning after the controller is rebooted.

Position, Velocity Setting

Example for 2-point stop
The position setting is performed for the reciprocating movement between 10.0mm and 100.0mm.
Forward Position :100.0mm, Backward Position :10.0mm

No.	Operation	Window	Remarks
1	Touch Pos. Edit in the MEC menu window.		
2	In the case of the password value except for “0000”, the password input window is displayed. Input the password.		The password for positioning command can be set in ‘parameter No. 20 Password for Position Data Edit’ under Parameter Edit.
3	Set the backward position (stop position on the forward point), the positions related to it and acceleration/ deceleration speed. Touch the BackwardPos.		When MENU is touched, the MEC menu window is returned.
4	Touch the value for the position.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window.

No.	Operation	Window	Remarks
5	Touch 1, 0, then ↵.		When the value input is stopped, touch ESC. The value will not be set and the previous position setting window will be returned.
6	“10.00” is displayed in the position data section.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window.
7	Touch the WRT.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window. When the writing is not performed and the “Forward Position/Backward Position” selecting window in the Position Setting window is returned, the setting is not performed.
8	Touch the YES.		Touching NO returns to the Position Setting window without performing the setting.
9	The controller’s position data is reloaded. Touch the ESC.		
10	Set the forward position (stop position on the backward point), the positions related to it and acceleration/ deceleration speed. Touch the ForwardPos.		When MENU is touched, the MEC menu window is returned.
11	The window is change to the Forward Position window. Set the Forward Position related Position, Acceleration and Deceleration.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window.
12	Touch the position value.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window.
13	Touch 1, 0 and 0 in order, then ↵ .		When the value input is stopped, touch ESC. The value will not be set and the previous position setting window will be returned.
14	“100.00” is displayed in the position data section.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window.
15	Touch the WRT.		Touching Tb1 return to the Forward Position/Backward Position setting window in the Position Setting window. When the writing is not performed and the “Forward Position/Backward Position” selecting window in the Position Setting window is returned, the setting is not performed.
16	Touch the YES.		Touching NO returns to the Position Setting window without performing the setting.
17	The controller’s position data is reloaded. Touch the ESC.		
18			When MENU is touched, the MEC menu window is returned.

Treatment in an emergency

Hardware Related Error Detected on Touch Panel Teaching

Code	Error Description	Cause and Treatment
ER02	Incorrect Data Address	The controller version might be too old. Check the firmware version.
ER03	Incorrect Data	The controller version might be too old. Check the firmware version.
ERFE	Response Error An abnormal response is returned from the controller.	It is temporary error due to noise. If it is caused frequently, check the noise protection measure, etc., in the power unit.
ERFF	Time-up Error No response is returned from the controller.	(1) A wire breakage is caused in the controller connection cable. Check the wiring for or wire breakage in the connection cable. (2) It is temporary error due to noise. Re-input the power to the controller.

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