

12 Console operation

Programming console performs functions of setting various parameters, monitoring control mode, referring to alarm mode, executing origin return, jog operation, step operation and auto tuning etc., in connecting with the position driver when turning ON power supply.

12-1 Connection of console

- (1) In using the console, confirm shutting OFF of MSS*EP power supply, and firmly insert the connector of console to the connector SER of MSS*EP.
- (2) Confirm that the console emergency stop switch (mushroom type SW) is not pushed down and locked. If the emergency stop switch is pushed down and locked, release emergency stop by rotating the switch.
- (3) Turn ON position driver power supply, after confirming above 1 and 2.
Main menu is displayed on the console, and the console can be used.

Position Driver MSS*EP Ver1.03 Panasonic(c)1996 [AUTO][EDIT][TEST]

(Main menu)

Note1) In case of position driver for micro-minas(5W~20W), "u" is displayed followed to version number.

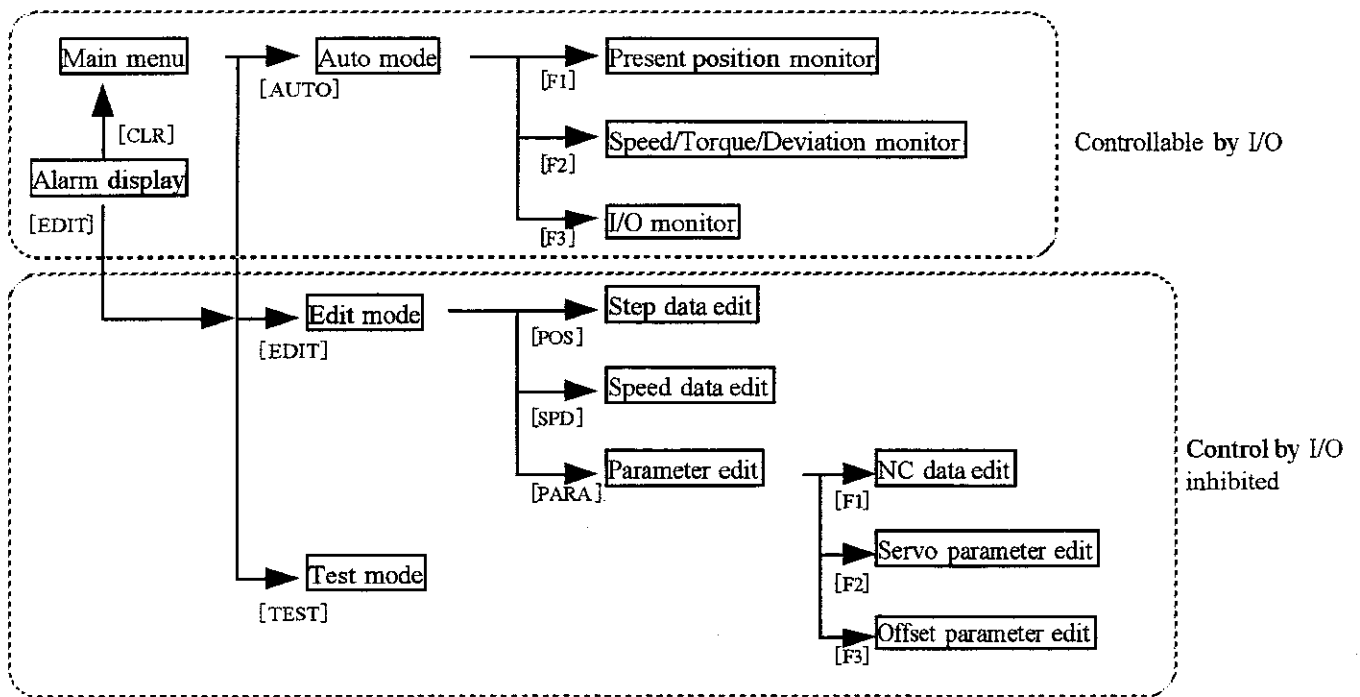
Note2) In case the console is removed after turning ON power supply, emergency stop input error occurs. Even if the console is connected after turning ON power supply, the console can not be used.

Note3) 5V DC must be supplied to this console. If supplied voltage is not satisfactory, console does not work properly.

12-2 Description of each key

Key	Name of key	Function of key
[F1] - [F5]	Function key	<input type="checkbox"/> Selects menu.
[AUTO]	Auto mode key	<input type="checkbox"/> Transfers from main menu to auto mode.
[EDIT]	Edit mode key	<input type="checkbox"/> Transfers from main menu to edit mode.
[TEST]	Test mode key	<input type="checkbox"/> Transfers from main menu to test mode.
[POS]	Position edit mode key	<input type="checkbox"/> Transfers from edit mode menu to step data edit.
[SPD]	Speed edit mode key	<input type="checkbox"/> Transfers from edit mode menu to speed data edit.
[PARA]	Parameter edit mode key	<input type="checkbox"/> Transfers from edit mode menu to parameter (offset data, NC data, servo parameter) edit.
[ABS/INC]	Positioning mode set key	<input type="checkbox"/> Assigns positioning mode in editing step data. <input type="checkbox"/> Changes over ABS (absolute position assign)/INC (relative position assign) in each pressing the key.
[←H] [H→]	Jog high-speed key	<input type="checkbox"/> In test mode Performs high-speed jog run. <input type="checkbox"/> In step data editing Rotates motor to get coordinate data for input. (only in finishing origin return)
[←L] [L→]	Jog low-speed key	<input type="checkbox"/> In test mode Performs low-speed jog run. <input type="checkbox"/> In step data editing Rotates motor to get coordinate data for input. (only in finishing origin return)
[ORG]	Origin return execution key	<input type="checkbox"/> Performs origin return operation in test mode.
[STEP]	Step command key	<input type="checkbox"/> Performs step operation in test mode.
[MOV]	Operation command key	<input type="checkbox"/> In test mode Starts operation actually after inputting step No., in executing step command with [STEP] key. <input type="checkbox"/> In editing step data Transfers to the position of step data being displayed. (only in finishing origin return)
[←]	Cursor key	<input type="checkbox"/> In edit mode Transfers to the previous input cursor position. <input type="checkbox"/> In inputting numerics Operates as backspace (deleting numeric finally input).
[→]	Cursor key	<input type="checkbox"/> Transfers the next input cursor position in edit mode.
[↑][↓]	Cursor key	<input type="checkbox"/> Changes over display No. in edit mode.
[CLR]	Clear key	<input type="checkbox"/> In displaying menu Operates to return to the menu of one step above after finishing each setting. <input type="checkbox"/> In inputting numerics Cancels numeric input.
[ENT]	Enter key	<input type="checkbox"/> In inputting numeric Determined input numerics. <input type="checkbox"/> In edit mode Transfers to the next input cursor position.
[0] - [9]	Ten-key	<input type="checkbox"/> Inputs numerics.
[+/-]	Signal change-over key	<input type="checkbox"/> Changes over signals in inputting numerics.

12-3 Outline of operation



For returning menu to the level of one step above, press [CLR].

Mode	Item	Function
Auto mode	Present position monitor	<input type="checkbox"/> Displays the motor present position.
	Speed/Torque/Deviation monitor	<input type="checkbox"/> Displays present speed, torque and deviation monitor.
	I/O monitor	<input type="checkbox"/> Displays ON/OFF state of the input port and output port.
Edit mode	Step data edit	<input type="checkbox"/> Sets and changes data for positioning.
	Speed data edit	<input type="checkbox"/> Sets and changes positioning speed, origin return speed and jog speed.
	NC data edit	<input type="checkbox"/> Sets and changes acceleration data, operation direction and logic of input signals.
	Servo parameter edit	<input type="checkbox"/> Sets and changes servo parameters such as position driver gain.
	Offset data edit	<input type="checkbox"/> Sets and changes origin offset and software limit.
Test mode	Test mode	<input type="checkbox"/> Executes jog operation, origin return operation and step operation on the console.
Alarm indication	Error content indication	<input type="checkbox"/> Displays error No. on occurring.

12-4 Auto mode

(Main menu) → [AUTO]

Present position monitor/ Speed, torque, deviation monitor/ I/O monitor are selected.

```
-AUTO(MONITOR)-  
F1...POS  
F2...SPD/TRQ/ERR  
F3...I/O      [CLR]
```

- Transfers to Present position monitor by pressing [F1].
Transfers to Speed, torque, deviation monitor by pressing [F2].
Transfers to I/O monitor by pressing [F3].
Returns to main menu by pressing [CLR].

12-4-1 Present position monitor

(Main menu) → [AUTO] → [F1]

Motor present position is displayed.

```
-MON(POSITION)-  
Position[pls]  
          500000  
          [CLR]
```

- When origin return is not finished, "Origin Unfinished" is displayed.
- By pressing [CLR], auto mode menu returns.

12-4-2 Speed, torque, deviation monitor

(Main menu) → [AUTO] → [F2]

Motor rotation speed, output torque and deviation counter are displayed.

```
-MON(SPD/TRQ/ERR)-  
SPEED  :    0kpps  
TORQUE  :    0 %  
ERR POS:    0 [CLR]
```

SPEED: Motor rotation speed (kpps)

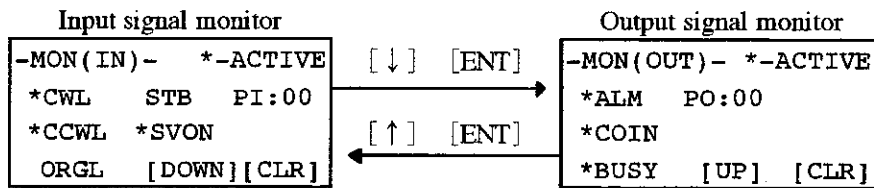
TORQUE: Output torque (%)

ERR POS: Deviation counter (pulse)

- By pressing [CLR], auto mode menu returns.

(Main menu) → [AUTO] → [F3]

Motor input/output signal is displayed.



Note) Positioning finish output (COIN) or decelerating output (DCLON) can be selected in NC parameter option setting. Selected output is displayed as “COIN” or “DCLON” on output signal monitor screen.

- With [↑], output signal monitor screen is changed over to input signal monitor screen.
- With [↓], input signal monitor screen is changed over to output signal monitor screen.
- With [ENT], both signal monitor screen is changed over one to the other.
- In the input signal monitor, signals with "*" show contact point close state.
Numeric displayed in "PI:" is decimal number of the value input by point assign input signal (5 bit).
- In the output signal monitor, signals with "*" show turning ON mode of the output transistor.
- Numeric displayed in "PO:" is decimal number of the value output by present position output signal (5 bit).
- By pressing [CLR], auto mode menu returns.

12-5 Edit mode

(Main menu) → [EDIT]

Step data edit, sped data edit and parameter edit are selected.

```
-EDIT-  
POS...Position  
SPD...Speed  
PARA...Parameter[CLR]
```

- Transfers to Step data edit by pressing [POS].
Transfers to Speed data edit by pressing [SPD].
Transfers to Parameter edit menu by pressing [PARA].
Returns to main menu by pressing [CLR].

12-5-1 Step data edit

(Main menu) → [EDIT] → [POS]

Step data necessary for executing positioning is set and changed.

Note) Writing into EEPROM is processed when removing from menu by [CLR] after setting data.
Therefore, if power supply is shut OFF before writing, step data can not be stored, requiring notice.

Step data having been input

```
-EDIT(POSITION)-  
No.01 SPD:01 MD:INC  
POS:      10000000  
[U/D][MOV][ENT][CLR]
```

Step data having not been input

```
-EDIT(POSITION)-  
No.01 SPD:-- MD:---  
POS:-----  
[U/D][MOV][ENT][CLR]
```

No.: Step No. in present display (set changed)

SPD: Speed select No.

MD: Positioning mode (ABS/INC)

POS: Positioning coordinate (transfer amount)

As for details on parameters, refer to 9-2-1 [Step data] (Page 40).

- By pressing [↑], the cursor transfers to the step No. just previous, and by pressing [↓], transfers to the next step No.
- By pressing [←] [→], the cursor transfers to the position enabling input in the designated step data.
- By pressing [ENT], the cursor transfers to the position enabling next input. As for difference with [→], the cursor transfers only in the step data being displayed in [→], but the cursor transfers to the next step No. in [ENT].
- By pressing [CLR], edit mode menu returns.

At this time, changed parameter is written in EEPROM. If power supply is shut OFF before writing, parameters after turning ON power supply again become reactive.

12-5-1-1 Input of speed select No.

- (1) With [↑] [↓] [ENT], step data to be set is displayed.
- (2) With [←] [→] [ENT], cursor position is transferred to the speed select No. (This is unnecessary when step data is not input.)
- (3) With [0] - [9], input 1 ~ 10 numeric.

In pressing [←], numeric input at last is deleted. (backspace)

After inputting speed select No., numeric is determined by [ENT].

Input numeric is canceled by [CLR], to display the former numeric.

12-5-1-2 Select of positioning mode

- (1) With [\uparrow] [\downarrow] [ENT], step data to be set is displayed.
- (2) With [\leftarrow] [\rightarrow] [ENT], the cursor is transferred to the positioning mode.
- (3) By pressing [ABS/INC], positioning mode is changed over to ABS (absolute position mode)/INC (relative position mode).

Note) In case “Relative position only” is selected in NC parameter option setting, this function is not executable.

12-5-1-3 Input of positioning coordinate

- (1) With [\uparrow] [\downarrow] [ENT], step data to be set is displayed.
- (2) With [\leftarrow] [\rightarrow] [ENT], cursor position is transferred to the positioning coordinate.
- (3) For inputting positioning data, transfer amount is directly input with numerics or position is assigned by rotating motor to the wish position by using the console jog key. (Teaching is possible only in finishing origin return.)

○ Input of numeric

With [0] - [9] [+/-], numeric of -1073741824 - 1073741823 is input.

By pressing [\leftarrow], numeric input at last is deleted. (Backspace)

After inputting transfer amount, numeric is determined with [ENT].

Input numeric is canceled with [CLR], to display the former numeric.

○ Teaching

By pressing the jog key ([\leftarrow H] [H \rightarrow] [\leftarrow L] [L \rightarrow]), the motor is operated and coordinate value is changed.

After determining motor position, numeric is fixed with [ENT] key.

Input numeric is canceled with [CLR], to display the former numeric.

12-5-1-4 Execution of step operation

In finishing origin return, step run to the step data being displayed is possible.

- (1) With [\uparrow] [\downarrow] [ENT], step data to be set is displayed.
- (2) By pressing [MOV], the motor transfers to the step data position being displayed. By pressing [MOV] in not finishing origin return, "Origin Unfinished" is displayed, and the motor does not operate.

○ Display during operating

-EDIT(POSITION)-	
No.05 SPD:03 MD:ABS	
POS:	5352634
Moving to Point 05	

← Motor position during operating
(changed at real time)

○ In finishing step operation

-EDIT(POSITION)-	
No.05 SPD:03 MD:ABS	
POS:	10000000
[CLR]	

← Present motor position

- (3) By pressing [CLR] after finishing step operation, step data edit returns.

12-5-1-5 Deletion step data

Unnecessary step data can be deleted.

- (1) With [\uparrow] [\downarrow] [ENT], step data to be deleted is displayed.
- (2) In pressing [F1], the followings is displayed, asking whether step data being displayed is deleted or not.

-EDIT(POSITION)-	
No.11 SPD:05 MD:INC	
POS:	150000
DELETE OK? [ENT:OK]	

- (3) By pressing [ENT], step data being displayed is deleted.
By pressing a key other than [ENT], deletion is canceled.
- (4) Data is written in EEPROM, in transferring to Edit menu by [CLR] from the step data edit screen.
If power supply of the position driver is shut OFF before writing in, deleted contents become reactive.

12-5-2 Speed data edit

(Main menu) → [EDIT] → [SPD]

Reference speed, origin return speed and jog speed used in step run are set and changed.

Note) Writing in EEPROM is processed when removing from menu with [CLR] after setting data.

Therefore, if power supply is shut off before writing, speed data can not be stored, requiring notice.

Speed data having been input		Speed data having not been input
-EDIT(SPEED)- 01/13	← Speed NO.	-EDIT(SPEED)- 01/13
ORIGIN SPEED	← Speed data	ORIGIN SPEED
SPEED: 50 kpps	← Set speed	SPEED: --- kpps
[UP][DOWN][ENT][CLR]		[UP][DOWN][ENT][CLR]

Speed data are arrayed in the below order.

Speed No.	Speed data	Function
1	ORIGIN SPEED	Origin return speed
2 - 11	STEP SPEED No. 01 - 10	Step run reference speed 1 - 10
12	JOG SPEED (LOW)	Jog speed (low-speed)
13	JOG SPPED (HIGH)	Jog speed (high-speed)

As for details on parameters, refer to 9-2-2 [Speed data] (Page 40).

- By pressing [↑], the cursor transfers to the speed No. just previous, and by pressing [↓] (or [ENT]), the cursor transfers to the next speed No.
- By pressing [CLR], edit mode menu returns.

At this time, changed parameters are written in EEPROM. If power supply is shut off before writing, parameters after turning ON power supply again become reactive.

12-5-2-1 Input of speed data

(1) With [↑][↓][ENT], speed data to be set is displayed.

(2) With [0] - [9], 5 - 500 numeric is input.

By pressing [←], numeric input at last is deleted. (backspace)

After inputting speed, numeric is determined with [ENT].

With [CLR], input numeric is canceled, displaying the former numeric.

12-5-2-2 Deletion of speed data

Unnecessary speed data can be deleted.

- (1) With [\uparrow] [\downarrow] [ENT], speed data to be set is displayed.
- (2) By pressing [F1], the following is displayed, asking whether displayed speed data is deleted or not.

```
-EDIT(SPEED)- 05/13  
STEP SPEED No.04  
SPEED: 50 kpps  
DELETE OK? [ENT:OK]
```

- (3) By pressing [ENT], displayed speed data is deleted.
By pressing a key other than [ENT], deletion is canceled.
- (4) Data is written in EEPROM when transferring to edit menu with [CLR] from the speed data edit screen. If power supply of the position driver is shut off before writing, deleted contents become reactive.

12-5-3 Parameter edit menu

(Main menu) → [EDIT] → [PARA]

NC parameter edit, servo parameter edit and offset data edit are selected.

```
-PARAMETER-  
F1...NC data  
F2...Servo  
F3...Off/Lmt [CLR]
```

- Transfers to NC data edit by pressing [F1].
Transfers to servo parameter edit by pressing [F2].
Transfers to offset data edit by pressing [F3].
Returns to edit mode menu by pressing [CLR].

12-5-4 NC data edit

(Main menu) → [EDIT] → [PARA] → [F1]

Acceleration, operation direction and input logic are set and changed.

Note) Writing in EEPROM is processed when removing from menu with [CLR] after setting data.

Therefore, if power supply is shut off before writing, speed data can not be stored, requiring notice.

```

- PARAMETER (NC) - 1/7
STEP Acc Time[msec]
      100
[UP] [DOWN] [ENT] [CLR]
  
```

NC data is arrayed in the below order.

Data No.	NC data	Function	Available range
1	STEP Acc Time	Step operation acceleration/deceleration time	10 ~ 3000 (ms)
2	JOG Acc Time	Jog operation acceleration/deceleration time	10 ~ 3000 (ms)
3	ORG Acc Time	Origin return acceleration/deceleration time	10 ~ 3000 (ms)
4	JOG dir	Jog operation direction	0 ~ 1
5	ORG dir	Origin return direction	0 ~ 1
6	PLS dir	Pulse output direction setting	0 ~ 1
7	INPUT Logical	Input logic setting	0 ~ 8063
8	Option	Option setting	0 ~ 27

As for details of the above Data No. 1,2,3,7 and 8, please refer to 9-2-4 [NC data] (Page 41).

As for details of the above Data No. 4,5 and 6, please refer to 11-2 [NC parameter initial setting] (Page 49).

- By pressing [↑], the cursor transfers to the data No. just previous, and by pressing [↓] (or [ENT]), the cursor moves to the next data No.
- By pressing [CLR], edit mode menu returns.

At this time, changed parameter is written in EEPROM. If power supply is shut off before writing, parameters after turning ON power supply again become reactive.

12-5-4-1 Input of NC data

- (1) With [↑] [↓] [ENT], NC data to be set is displayed.
- (2) With [0] - [9], data value is input.

By pressing [←], numeric input at last is deleted. (backspace)

After inputting data, numeric is determined with [ENT].

Input numeric is canceled with [CLR], displaying the former value.

12-5-5 Edit of servo parameter

(Main menu) → [EDIT] → [PARA] → [F2]

Servo parameters are set and changed.

Note) Writing in EEPROM is processed when removing from menu with [CLR] after setting data.

Therefore, if power supply is shut off before writing, speed data can not be stored, requiring notice.

```

-PARAMETER(Srv)- 1/8
KP(0 - 1000)
      50
[F1:ATune][ENT][CLR]

```

Servo parameters are arrayed in the below order.

Data No.	Servo parameter	Function	Available range
1	KP	Position loop gain (No. 20)	0 ~ 1000
2	KV	Speed loop gain (No. 03)	25 ~ 3500
3	KVi	Speed loop integral time constant (No. 04)	1 ~ 1000
4	Kff	Speed feed forward (No. 21)	0 ~ 100
5	Kffi	Feed forward filter time constant (No. 2B)	0 ~ 6400
6	Vf	Speed detection filter (No. 05)	0 ~ 4
7	Tfil	Torque filter time constant (No. 2A)	0 ~ 2500
8	P-ON delay	Power on delay time (No. 01)	0 ~ 600
9	Coin range	Positioning finish range (No. 22) ^{note)}	0 ~ 32766

Note) Position finish range parameter is displayed only if positioning finish output (COIN) is selected in NC parameter option setting. In case decelerating output (DCLON) is selected, this parameter is displayed as "Not Use".

As for details and set range of each parameter, refer to 9-3 [Details of servo parameters(user parameters)] (Page 43).

- By pressing [↑], the cursor transfers to the data No. just previous, and by pressing [↓] (or [ENT]), the cursor transfers to the next data No.
- By pressing [CLR], edit mode menu returns.

At this time, changed parameters are written in EEPROM. If power supply is shut off before writing, parameters after turning ON power supply again become reactive.

12-5-5-1 Input of servo parameter

- (1) With [↑] [↓] [ENT], servo parameter to be set is displayed.
- (2) With [0] - [9], data value is input.

By pressing [←], numeric input at last is deleted. (backspace)

After inputting parameter, numeric is determined with [ENT].

Input numeric is canceled with [CLR], displaying the former value.

12-5-5-2 Auto gain tuning function

Auto gain tuning function can be executed on the console. As for details on auto gain tuning function, refer to 6-4 [Automatic gain tuning] (Page 29). In executing auto gain tuning, carefully read the below item.

- (1) Press [F1] on the servo parameter setting screen.

```
-AUTO TUNING-  
Stiffness(L:1 - H:9)  
      5  
[MOV:AT][CLR:Cancel]
```

- (2) With [0] - [9], mechanical stiffness value (1 - 9) is input. (The larger is setting, the more stiff is tuning.)

By pressing [←], numeric input at last is deleted. (backspace)

After inputting mechanical stiffness, auto gain tuning operation is started with [MOV].

With [CLR], auto gain tuning is canceled.

- (3) The below display is made during executing auto gain tuning.

```
-AUTO TUNING-  
Stiffness(L:1 - H:9)  
      5  
Auto Tuning Execute.
```

On occurrence of alarm during executing auto gain tuning, the below is displayed and gain is not changed. By pressing [CLR], servo parameter setting screen returns.

```
-AUTO TUNING-  
Auto Tuning Error  
  
[CLR]
```

- (4) In finishing auto gain tuning normally, set gain is displayed.

```
-AUTO TUNING-  
KP: 70 KVi: 80  
KV: 200 Kff: 0  
[ENT:Wr][CLR:Cancel]
```

By pressing [ENT], servo parameter gained by auto gain tuning is changed. By pressing [CLR], servo parameter returns to the value before executing auto gain tuning.

- (5) Position driver state becomes reset after finishing auto gain tuning. For executing step operation, execute again origin return command.

12-5-6 Offset data edit

(Main menu) → [EDIT] → [PARA] → [F3]

Origin offset and software limit are set and changed.

Note) Writing to EEPROM is processed in removing from menu with [CLR] after setting data.

Therefore, if power supply is shut off before writing, speed data can not be stored, requiring notice.

```

-PARAMETER(Off)- 1/3
Origin Offset
                     0
[UP][DOWN][ENT][CLR]
    
```

Offset data is arrayed in the below order.

Data No.	Offset data	Function	Available range
1	Origin Offset	Origin offset	-1073741824 ~ +1073741823 (pulse)
2	Soft Limit (PLUS)	+ direction software limit	0 ~ +1073741823 (pulse)
3	Soft Limit (MINUS)	- direction software limit	-1073741824 ~ 0 (pulse)

As for details and set range of each parameter, refer to 9-2-3 [Offset data] (Page 40).

- By pressing [↑], the cursor transfers to the data No. just previous, and by pressing [↓] (or [ENT]), the cursor transfers to the next data No.
- By pressing [CLR], edit mode menu returns.

At this time, changed parameters are written in EEPROM. If power supply is shut off before writing, parameters after turning ON power supply again become reactive.

- (1) With [↑] [↓] [ENT], data to be set is displayed.
- (2) For inputting data, numeric is directly input or position is assigned by teaching by using the console jog key. (Teaching is possible only in finishing origin return).

○ Numeric input

With [0] - [9] [+/-], data value is input.

By pressing [←], numeric input at last is deleted. (backspace)

After inputting data, numeric is determined with [ENT].

Input numeric is canceled with [CLR], displaying the former value.

○ Teaching

By pressing jog keys (← H) [H →] [← L] [L →]), the motor is operated and coordinate value is changed.

Present position value in setting origin offset is displayed always by the position from the mechanical origin position.

After determining motor position, numeric is determined with [ENT] key.

Input numeric is canceled with [CLR], displaying the former value.

12-6 Test mode

(Main menu) → [TEST]

Jog run, origin return operation and step operation are tested.

```
-TEST-  
  
Origin Unfinished.  
[JOG][ORG][STP][CLR]
```

- When origin return is not finished, "Origin Unfinished" is displayed, and when origin return is finished, present motor position is displayed.
- By pressing [CLR], main menu returns.

12-6-1 Jog operation

By pressing the jog key ([← H] [H →] [← L] [L →]), jog is operated. (Jog operation can be executed even if origin return is not finished.)

[← H] [H →] are for high speed jog keys. [← L] [L →] are for low speed jog keys.

Operation direction by using jog keys can be set by parameter. Please refer to 11-2 [NC parameter initial setting] (Page 49).

```
-TEST-  
Jog Speed : High  
Origin Unfinished.  
[JOG][ORG][STP][CLR]
```

- It is displayed on the screen that high-speed jog key (High) or low-speed jog key (Low) is pressed, and when origin return is finished, motor present position is displayed.

12-6-2 Origin return operation

By pressing [ORG], origin return operation is started.

```
-TEST-  
Origin Proceeding  
  
[JOG][ORG][STP][CLR]
```

- When origin return operation is finished, present position is determined.

12-6-3 Step operation

By pressing [STEP], step run is made.

Note) When origin return is not finished, [STEP] is ignored.

```
-TEST-  
STEP No.> _  
[31]          0  
          [MOV] [CLR]
```

- Present position and present position output (in []) state are displayed.
- With [CLR], test mode menu returns.

(1) With [0] - [9], 1 - 28 step No. is input.

By pressing [←], numeric input at last is deleted. (backspace)

After inputting step No., operation is started with [MOV].

Input numeric is canceled with [CLR], finishing step No. input.

(2) The below is indicated during step operation, changing present position.

```
-TEST-  
STEP No.> 5  
[31]          233423  
Moving to Point 05
```

(3) After finishing step operation, present position output is changed.

12-7 Alarm display

On occurrence of servo alarm in auto mode and test mode, the alarm display screen is automatically made.

Alarm No. and alarm name are displayed.

```
-ALARM-  
ALARM No.52  
Spd/Acc Undef.Err  
          [EDIT] [CLR]
```

- With [CLR], alarm clear command is executed, and after clearing alarm, main menu is made.
- Even during alarm being made, setting and changing of parameters are possible with [EDIT].

However, when insufficient voltage protection is operating, even in setting and changing parameters, parameters become reactive after power supply is reset.

12-8 Notices in connecting console

- In case this position driver is being operated by I/O with connecting console, the timing chart shown in 11-6 [Interface timing] (Page 56) can not be applied. Specifically, in case MSS*EP is being controlled by sequencer, etc., while executing console monitor function, response time may become excessively slow.
- When the console is connected after turning ON power supply of MSS*EP, the console can not be recognized. When the console is used, be sure to connect the console before turning ON power supply.
- If the console is removed after turning ON power supply, emergency stop error is made and tripping the controller.
- When insufficient voltage protection is effective in the position driver, changed parameters are not be written in EEPROM.