

# **Software User Manual**

# **TRC-1300**



Thank you very much for using the [TRC-1300] In order to correctly use, Please read this manual carefully before using. Release date: 2017/02/3 Edition: 1.15

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# **Revision history**

Revision	<b>Revision Date</b>	Version	<b>Revised contents/</b>				
number	Day/month/year	number	implementation period				
1	'12/11/9	1.00	The first edition.				
2	'12/12/13	1.01	V1.01 Correction				
3	'12/12/19	1.02	V1.02 Revision				
4	'13/01/12	1.03	V1.03 Revision (regional setting, mechanical parameters, system setting related contents)				
5	'13/02/05	1.04	V1.04 Additional alarm content				
6	'13/02/06	1.05	V1.05 Revision (Acceleration and deceleration, pass, position setting, files, mode)				
7	'13/02/21	1.06	V1.06 Revision (2.21 instruction; 2.25 I/O record; 2.26 password)				
8	'13/02/21	1.07	V1.07 Revision (frequency patterns addition)				
9	'13/03/22	1.08	V1.07 Revision (additional user switching description, file attributes, NCP file save and read, delete a step forward relevant part, combine frequency conversion, 1 axis and 2 axis into one, with specific comparison and description and correction.)				
10	'13/06/06	<ul> <li>V1.08 Revision</li> <li>1. Addition of base board and its related functions;</li> <li>2. Free operating screen design changes;</li> <li>3Primary/secondary arm switching operation changes;</li> <li>4. Addition of available stack case number;</li> <li>5. Mode interlock;</li> <li>6. Position setting optimization function;</li> <li>7. The I/O list updates.</li> </ul>					
11	'13/07/24	1.10	<ul> <li>V1.09 revision</li> <li>1. Addition of 2-axis style of 2-absorb and 2-hold special style;</li> <li>2. Correction of frequency conversion position adjusting plate style;</li> <li>3. Addition of full pneumatic style.</li> <li>4. Correction of some alarm I0 expression error.</li> </ul>				

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12	'13/09/29	1.11	<ul> <li>V1.10 Revision</li> <li>1.Initial screen improvement and menu arrangement.</li> <li>2. Improvement of the mode setting of user 2.</li> <li>3. Original point guide operation improvement.</li> <li>4. Timer style change from post-action delay to foreaction delay.</li> <li>5. Alarm processing simplification.</li> <li>6. Position-adjusting panel simplification.</li> </ul>
13	'14/01/28	1.12	<ul> <li>V1.11 Revision</li> <li>1.After original, the subscripsion about original will be changed in initial screen .</li> <li>2. The bar about MZ in the original screen will be changed.</li> <li>3. In the single axis setting, the information when S arm mode changed has been changed.</li> <li>4. Add [cover] button at the mode screen.</li> <li>5. The information in Stacked screen has been incorrected.</li> <li>6. System settings to default to double arms.</li> <li>7. It will be stratifficated in direction commonds.</li> </ul>
14	'14/12/08	1.13	<ul> <li>V1.12 Revision</li> <li>1.Add setp function</li> <li>2. Standardization of 2 holds 2 sorption and I/O.</li> <li>3. Add "unuse of maniputlaor" function.</li> <li>4.Add "test program"in User level 3 by no injection machine signal.</li> <li>5.Inserting function .</li> <li>6.Add damge placement of count.</li> <li>7.Contact change</li> </ul>



### **%** Safety precaution

In order to use the machine correctly, the Safety Precaution has described the protection precautions to prevent the harms and losses that may be caused to the bodies and properties of you and others. Please read this manual carefully before using and keep it properly for your reference in the future.

$\triangle$	Danger	If this sign is ignored and the machine is thus used incorrectly, death or serious injury accidents may be caused to personnel.
$\triangle$	Warning	If this sign is ignored and the machine is thus used incorrectly, death or serious injury accidents may be caused to personnel.
$\land$	Caution	If this sign is ignored and the machine is thus used incorrectly, injury accidents may be caused to personnel and the machine may be damaged.

#### **※** Conditions for use

Ŵ	Caution	As this device is not provided in an explosion-proof, waterproof or dustproof type, please avoid use in the following circumstances. Failure to comply with this warning may cause faults or damages.
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(1) Circumstances with combustible gas, pyrophoric liquid, etc.;

(2) Circumstances with flying or dispersing conductive metal chips due to matel processing or cutting

(3) Circumstances with acid, alkali or other corrosive gas.

(4) Circumstances with spray os cutting fluid, grinding fluid, etc.;

(5) Circumstances near electrical noise sources like large-sized converters, devices with large output of g higher harmonics, large conductors, welding machine, etc.;

(6) Circumstances where the operating temperature is beyond the range of  $0 \sim 40$  °C;

(7) Circumstances with humidity more than 90% RH;

(8) Circumstances with occurrence of condensation.

### **※** Prohibited matters

(1) Behaviors warned by the warning signs;

(2) Behaviors prohibited by this Operating Instruction Manual;

(3) Taking off the warning signs;

(4) Operations in a status with difficulty in making a normal judgment as a result of drinking, taking drugs, disease and etc.;

(5) Operations in a circumstance with intermittent power supply due to lightning or other causes;

(6) Transformation of the machine without the permission of the Company.



Electrical principle description

# 1.1 Use specifications

1. Input power supply voltage : Single-phase T series 1500 or more, based on three-phase AC200V-10%/240V+10%,  $50/60Hz\pm2\%$ .

2. Control power supply voltage: single-phase AC200V-10%/240V+10%, 50/60Hz±2%.

2. I/O power supply voltage: DC24V  $\pm 10\%$ .

2. Consumed power: depending on the specific machine types.

4. Service environment temperature:  $0 \sim 40^{\circ}$  C.

5, Operating environment humidity :humidity below 90%, no condensation or frozen status.

6 Storage environment: -20℃~75℃(not frozen), below 90% RH (no condensation).

# 1.2 Main circuit connection diagram





# **1.3 Controller panel layout**



**DC24V:** Power supply input

**AX1:** Connected with servo drive attachment joint ( for 1-axis)

**AX2:** Connected with servo drive joint (for 2-axis)

**CNMG:** Short circuit protection

**RUN:** Twinkling in normal run time ERR: Flashing in failure

**USB:** Program data downloading and backup purposed USB interface

LAN: cable interface (for expansion in the future)

#### MONITOR:

Connectors used for Backup battery

**PEN:** Connector used for the pendant connection

**OPIN:** Reserved input

**CNBK:** Fast inside and slow outside, Frequency conversion connector.





# 1.4 Relay board layout



# Relay board signal definition description

### CN IN01

1 Axis 1 2 Axis 1	e: SER_1A; e:SER_2A	Freque Upper Filly p	ency conve and lower neumatic::	ersion:INV axis servo:INV 5Cylinder	-MZ	
Stitch Numbers         Marks         Names (total 15 points)			Stitch Numbers	Marks	Names (total 20 points)	
2	X01	SER_1A&SER_2A: Take-out side zone INV: Original point	22	Y03	SER_1A &SER_2A	Single : standby Double: Secndary arm go-down
		<b>INV_MZ:</b> Original point			INV/INV+MZ/5 Single:Primary ar	C: m hold 2
		5cylider: original point			Double: Secondar	ry go-down





27	X02	SER_1A&SER_2A: standby INV/INV+MZ/5C: terminal point	46	Y04	SER_1A&SER_2A: Single :standby Double:Secondary arm go-forward INV/INV+MZ/5C: Single:Primary arm hold 2 Double:Secondary forward
12	X03	Double:Secondary arm upper Single arm: hold 2 detected	47	Y05	SER_1A&SER_2A: Single :standby Double: Secondary clamp INV/INV+MZ/5C: Single: blowing 2 Double: Secondary clamp
28 X04		Primary arm upper position	17	Y06	SER_1A/INV/5C:Finished product arm go-down SER 2A/INV+MZ: standby
13	X05	Absorb 1 detection	18	Y07	Primary arm go-forward
5	X06	Hold 1 detection	43	Y08	Primary arm sorption 1
37	37 X07 Double arm:Secondary clamp detected Single arm: standby		45	Y09	Lateral posture
6	X08	Pressure lower	20	Y10	Insert 2
30	X12	Lateral posture	19	Y12	Buzzer, warning lamp
31	31 X13 Aligning		14	Y14	SER_1A/SER_2A: blow 1 INV+MZ: transverse in 5C: transverse in
		placement side zone			SER_1A/SER_2A: standby
11	X14	5c: terminal point	15	Y15	INV+MZ:Frequency conversion:transverse out 5C: transverse out INV: transverse out
29 X18 Finished product arm retreat signal		38	Y16	SER_1A/SER_2A: standby B         INV+MZ/INV:high speed         5C:line feed slowdown	





		SER_1	Single:			
		A/SER_2A	standby			SER_IA/SER_2A:Line feed
			Double:			servo: standby C
			Secondary			
			arm		48 Y17	
36	X20	INV	Single:Sorp2	48		
			detected			IN V/IN V + MIZ: low speed
		INV+MZ				
			Double:			
			Secondary			
		5C	retreat			5C:tandby
		SER_1A/SEI	R_2A:			
	X43	Y axis or	iginal point			
3		INV/5C: standby		49	Y18	Inserting 1
		INV+MZ: finished product				
		arm original point				
	X44	SER_1A/SEI	<b>R_2A:</b> Y axis			
		limit INV/5C:standby		42	Y19	Primary arm hold
4						
		INV+M7.fin	ished product			
		arm out-of-lir	nit			
						SER_1A/SER_2A:Primary arm
			44	Y22	sorption 2	
						INV/INV+MZ/5C:standby
				24	Y23	Aligning
					Y27	Spray
						INV/INV+MZ/5C:standby
		23	Y30	SER_1A/ser_2A:		
						Primary arm hold 2
				39	Y36	Allowing thimble retreat





### CN INO2

	С	'NIN_02	CNIO_02		
Stitch Numbers	Marks	Names (total 9 points)	Stitch Numbers	Marks	Names (total 8 points)
3 X09		hold 2 detection	13	Y01	SER_1A/SER_2A: standby B INV/INV+MZ/5C: Primary arm sorption 2
4	X15	INV/INV+MZ/5C: Sorption 2 detected SER_1A/SER_2A: standby 2	14	Y02	Add blowing Other:standby C
5	X21	Standby 5	15	Y21	StandbyF
6	X22	Standby 6	16	Y26	StandbyG
7	X37	Standby 9	31	Y11	StandbyE
21	X16	Standby 3	32	Y20	Add blowing
22	X19	Standby 4	33	Y28	StandbyD
23	X23	Standby 8	34	Y29	StandbyH
24	X27	Standby 7			

# 1.5 Position adjusting board layout and contact description



CN214,CN215: Contact output part



#### Suitable for motor, wiring diagram:

- 1. Suitable for motor: M-4RK25N-C (220V 25W) [PEI-EI]
- 2. Wiring diagram

Wiring, for example: power supply and wiring for Y31, Y32

Other motor will be by means of combination of Y \* 1, \* 2 Y, and SA for wiring.



- \*1 The output of SA will be according to the ON/OFF status of Y40.
- $2^{1}$  Y\*1 and Y\*2 shall not get ON at the same time.

### **1.5.1** Position adjusting board signal definition description

CN211 IO communication Type: 43045-0600 (MOLEX)

Stitch Number	Marks	I/O specification	Names	Circuit structure
1	TX+	О	TS LINK TX	Differential output
2	TX-	0		Differential output
3	5.2V		DC5.2V	
4	RX+	Ι	TS I INK RX	Differential input
5	RX-	Ι	15 LINK KX	Differential input
6	GND		GND	

CN212 (DC24V input stroke adjustment) Type: 5569-02 (MOLEX)



# 

Stitch Number	Marks	specification	Names	Circuit structure
1	24V		DC24V	
2	24G		24G	

# Type: 5569-06 (MOLEX)

Stitch Number	Marks	specification	Names	Circuit structure
1	24V		DC24V	
2				NC
3	X24	Ι	Position-adjusting motor safety	Optocoupler
4	X25	Ι	Position-adjusting go-forward limit	Optocoupler
5	X26	Ι	Position-adjusting retreat limit	Optocoupler
6	24G		24G	

CN214 (Used for contact output) Type: 2EHDRC-11P (MOLEX)

Stitch Number	Marks	specification	Names	Circuit structure
1	R			
2	S			
3	Y31	Ο	Primary arm position-adjusting go-upward (rising)	Contact output
4	Y32	0	Primary arm position-adjusting go-down	Contact output
5	SA(Y40)		Position-adjusting power supply	
6	Y41	0	Primary arm position go-forward	Contact output
7	Y42	0	Primary arm position retreat	Contact output
8	SA(Y40)		Adjusting motor's power supply	
9	Y43	0	Primary arm stroke go-forward	Contact output
10	Y44	0	Primary arm stroke retreat	Contact output
11	SA(Y40)		Adjusting motor's power supply	

CN215 (Used for contact output) Type: 2EHDRC-13P (DINKLE)





Stitch Number	Marks	specification	Names	Circuit structure
1	Y38		Secondary arm position-adjusting go-upward (rising)	Contact output
2	Y39		Secondary arm position-adjusting go-down	
3	SA	0		Contact output
4	Y45	Ο	Secondary arm go-forward adjusting motor	Contact output
5	Y46		Secondary arm retreat adjusting motor	
6	SA	0		Contact output
7	Y47	0	Secondary arm stroke go-forward	Contact output
8	Y48		Secondary arm stroke retreat	
9	SA	0		Contact output
10, 11	Y59	0	Primary arm position-adjusting motor braking	Contact output
12,13	(Y60)		Secondary arm position-adjusting motor braking	





```
IMM End
```

Robot End

Cable Code

IMM connection board









# **1.6.1** Injection machine signal connections definition description

Stitch number	Marks	I/O	Names	Line numbers	
1,6	24V				
2	X31	Ι	safety devices	6	SDM
3	X32	Ι	Molding open position	1	MOP
4	X28	Ι	Medium board signal		
7	X10	Ι	automatic	4	AUTO
8	X11	Ι	Reject	3	RJT
9					
5,10	24G			5,7	

# CN IN1:

**TB2:** 

Stitch number	Marks	I/O	Names	Line numbers	
1,2	Y33	0	enable mold closure	10,11	EMC
3,4	Y34	0	Enable ejector forward	14,15	EEF
5,6	Y13	0	Mold area free	16,17	MAF
7,8	Y25	0	Enable full mold opening	18,19	EMO
9.10	¥35	0	Conveyor belt	Null	CONV
),10	155	0	conveyor ben	Null	2011

CNIN2	(Option IO Injection molding machine)	Type: 43045-0400(MOLEX)
-------	---------------------------------------	-------------------------

Stitch number	Marks	Specification	Names	Circuit structure
1	24V2		DC24V	
2	X29	Ι	Ejector forward position	Optocoupler input
3	X17	Ι	Placement safety	Optocoupler input
4	24V2		24G	



# **1** Screen and operating instructions

# 2.1 Download

After confirming the correction of all wiring connection and attachment, turn on the power supply switch. If the machine is set up for the first time, after-sales service personnel shall be responsible for the machine commissioning. During the daily production operations, users can make download operation on the programs.

(1): Insert the USB flash disk into the USB interface on the controller, switch on the power supply and at the same time immediately press the "MENU" key + "START STOP" key.



(2) : Display the download menu. Press the  $\lceil \downarrow \rfloor$  key to display a white selection box, select the operating option 1 to 5, and then press the  $\lceil \bullet \rfloor$  key to perform the operation.



③ : Various operations:

Perform [1. BACKUP CLEAR] operation. When [Backup Clear Complete!] appears on the screen, the backup clearing operation ends.

Press any key to download the menu

Perform [2. DOWNLOAD] operation. When [Install Now Installing...] appears on the screen, start to perform the downloading operation.



%Caution %
Don't pull out the USB memory in the process of downloading .
Otherwise,
there will be possibility to lead to data corruption, moving failure or downloading error!

When [Install Complete!] appears, the downloading is complete. Please press any key to return to the download menu.

Perform [3. BACKUP USB] operation. Backup the data information of the setting value to the USB.

When [Backup All Now Writing...] appears, the "save" operation is in progress.

When [Backup All Complete !] appears, the data information has already been backuped to USB. A [4. RESTORE the USB] operation. Will be saved in the USB value data load the machine.

Display [Restore All Now Writing...] when saved to start.

According to [Restore Complete!] When have to save data to the machine from the USB.

Perform [5. ALL CLEAR] operation. Delete all data setting in the Flash ROM.

When [All Clear Complete!] appears, "delete" operation ends.

The objects to be deleted are for file data, operation record, alarm record, I/O record and system.

4 : After the completion of any above operations, restart the power supply and start up the system.

(5) : Display that the backup is cleared. Display [alarm system]. After the backup is cleared, press the [CLEAR] key to perform the clearing operation.

(6) : Use the [version] under the menu to confirm the version information of all files and confirm whether or not the correct version of a file has been downloaded.

 $\ensuremath{\overline{\mathcal{T}}}$  : When the downloading operation ends, restart the power supply and enter the following screen.





2.2 Menu screen and user switching

Press the "menu" button on the man-machine interface to display the menu screen. The "BACK/return" button can switch group, press the  $\lceil \leftarrow / \rightarrow \rfloor \rceil \uparrow / \downarrow \rfloor$  key to switch the dispay item under the menu, and press the  $\lceil \bullet \rfloor$  key to make confirmation.



## 2.2.1 Menu display under user permissions

The icon appears on the menu will change according to the user setting.

Group	Menu options	User 1	Standard user 2	Instruction user 3	Senior user 4	Senior user 5
	User switching	•	•	•	•	•
	Data transfer	-	-	•	•	•
	Maintenance	-	-	-	•	•
System setting	System setting	-	-	•	•	•
	Position adjusting (transposition	-	•	•	•	٠
	Acceleration and deceleration	-	-	•	•	•
	Mechanical parameters	-	-	-	٠	•



# 

	Instruction	-	-	•	٠	٠
	Files	-	-	•	•	•
	Zone setting	-	•	•	•	•
	Mode setting	-	•	-	٠	•
	Position setting	-	Sub-menu under the mode setting	-	•	•
Instruc	Linkage	-	٠	-	•	•
tion	Detailed mode	-	Next page of mode setting	•	•	•
	Timer	-	Sub-menu under the mode setting and automatic screen	•	•	•
	Counter	-	Sub-menu under the timer screen	•	•	•
	Operation record	-	-	•	٠	•
	Alarm record	-	-	•	•	•
Dogord	I/O status	-	•	•	•	•
Record	I/O record	-	-	-	•	•
	Production management	-	-	-	•	•
Others	Stack	-	The setting is possible within the position setting	•	-	•
	Free operation	-	Sub-menu under the manual screen	•	•	•

Among which, User 2 is referred to as the "Standard mode", and User 3 is also called "Instruction mode" 3.



# 2.2.2 User login

On the menu screen, select the "user login" to switch to the login screen as follows. On this screen, perform the confirmation and change of the current user login.



Firstly, the left screen appears. In the upper portion on the screen, the current logged-in user is displayed. On this screen, press the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  button to select the user to be changed, press the  $\lceil \bullet \rfloor$  key to change the user login.

When a more superior user is selected, the password input screen appears. After inputting a password on the password input screen, press the  $\lceil \bullet \rfloor$  key to change the user login. After inputting a password on the password input screen, press the  $\lceil \bullet \rfloor$  key to change the user.

### 2.2.3 User switching

User switching refer to switching between different user permissions, because it has already been described above, the display as well ad mould file processing way will vary depanding on different permissions As shown in the screen below.









# **2.3 Operation Screen**

# 2.3.1 Operating button instructions



Names	Functions





1	Screen name	Display the name of the current screen
2	Files	Display the number and comments of the file used cuurently. In case that the data in use are different with the logged data, the expression words will twinkle.
3	Axis's current value (when an axis is in service, the current value is displayed; when the axis's frequency is changing, no display.)	Y axis: Display the current position of the Y axis. MZ axis: Display the current position of the MZ axis.
4	Action mode expression	Display the current action's action mode. The status is " A: Automatic mode/M: Manual mode/O: Original point reset".
5	Running status window	According to the running condition. According to production status information.
6	MENU	Menu button, switch to the menu screen.
Ī	Screen transfer	Press the $[\leftarrow] / [\rightarrow]$ key to switch to the initial screen page display. Press the $[\bullet]$ key in the middle to switch to the detailed screen of the page from the initial screen.
8	BACK	Screens other than the initial screen, return to the previous screen
9	Speed adding and subtracting	According to the displayed screen, used when adjusting the speed. Usually corresponding to the return key and reset key.
10	Acceleration time (in case of frequency axis, without this item)	Display the acceleration time.
11	Timer	When it can operate once again automatically, enter into the timer screen.
(12)	RESET	According to the displayed screen, used in clearing the input, adjusting speed and eliminating the alarm.
13	Direction selection key	Used in turning pages or moving the selection box (cursor).
	Actio	n key part:
14	Y axis action button	Make the Y axis move to the take-out side/placement side.
14	Forward, backward, Upward, downward key action keys	Make the primary arm and secondary arm move forward/backward/upward/downeard.
15	Posture action key	Make the clamp plate's posture return/move.
(16)	Rotation key	Make the clamp plate rotate, return/move.
(17)	Clamp action key	Make the clamp open/close.

	(18)	MANU	Switch to manual mode.
--	------	------	------------------------





AUTO	Switch to automatic mode.
ORG	Switch to original point reset mode.
START/STOP	Perform the start/stop of the automatic operation, origina point reset action, and step action.

Screen button and man-machine interface



### Function 2

### Screen expression

	Names	Functions		
Press "HOME" button to switch to the screen of the function 2 and function 1, and then t				
functions displayed on the screen change. The changed functions will be displayed in blue. At				
the moment, press the "action possibility button" to display the "primary/secondary" in blue,				
and the "MENU" can be used to switch the primary/secondary arm for use.				
	Speed display	Can be used to adjust overall speed of movement.		
		Can be divided into five stages of "20% / 40% / 60% / 80% /		
		40%" for adjustment.		
	Speed	「RETURN」 corresponding to SPEED↑, used for SPEED		
	adjustment key	increase.		
		CLEAR key corresponding to SPEED↓, used for speed		
		decrease.		



### 2.3.2 Automatic screen

The automatic screen contains 3 sub-screens. Press  $[\rightarrow]$  button to switch the screen .

No.NE#			AUTO
Automa		Axis current	value
Y axis	ORG NO	Take-out T	0
Acc T	2.55	Molding T	0.0
MX a×is	ORG NO	Take-out T	0.00
Acc T	0.86	Cycle T	0.0
llenu	_	transfer	Speed 1
			Speed 4

No.NEW		AUTO
Automa	General 1	1 /15
X10	Full-automatic	OFF
X31	Safety gate	OFF
X32	M completed	OFF
<b>Y</b> 33	M load allowance	OFF
Y13	Mould zone safety	OFF
X05	Sorption detect	OFF
llenu	transfer	Speed 1
		Speed 1

No.NEW				AUTO	
Automa	Prod	Manage			
1 MFP	1	Take-out	T		0
Pro. Sum	0	Current	р		0
Ach. Rate()	0	Reject N			0
Reject Rat	0				
Scheduled end time					
llenu	tran	sfer		Speed	1
				Speed	Ţ

### [Automatic screen – Axis's current value]

Axis current value. display the axis's current value, acceleration time, take-out times,

mouloding time, take-out time, and cycle time.

To confirm the status of each point, press the  $\lceil \bullet \rfloor$  key on this screen to switch to the position setting.

When the system is in a status when the "Original point not reset," will be dipayed at axis position: .

### [Automatic screen - input/output]

Display the initial screen of the input and output. The input and output screen is divided into three parts for display:injection molding machine input/output, external input/output and take-out machine input/output. Press the  $\uparrow/\downarrow$  key to switch the the page display of each part.

To confirm each IO status, press the 「■ ] key on this screen to switch to the IO expression screen.

### [Initial screen - production management]

Display the initial screen of the

production management. Display the current production status.

To perform the production management, press the  $\lceil \bullet \rfloor$  key to switch to the production management screen.

The initial production management showing the name and description:





Names	Descriptions	
Mould finished product number	The number of products that can be formed by a mould	
	at one time.	
Take-out times	Number of times of taking out products.	
Scheduled production number	Scheduled number of products to be produced	
Current production number	Number of products taken out, excluding the discharged	
	products.	
Achieving rate of %	Reative to the scheduled production number, the	
	achieving degree is expressed as a percentage.	
	A chieving rate = (Production number ÷scheduled	
	number ) $\times 100$	
Defective product number	Number of product pieces open to the defective product	
	discharge position.	
	A standard program is not open to the defective product	
	discharge position.	
Defective rate %	The number of products taken out as defective products	
	in the total number of products taken out, expressed as a	
	percentage. Defective rate = Discharge number÷(one-time	
	finished product number x Taken-out times + discharge	
	times )	
Scheduled end time	Calculate and display the scheduled end time when the	
	molding cycle is restored.	

# 2.3.3 Manual screen

No.NE#			MANU P
Manu ope	ration	Axis current	value
Y axis	ORG NG	Take-out T	0
Acc T	2.55	Molding T	0.0
MX axis	ORG NG	Take-out T	0.00
Acc T	0.86	Cycle T	0.0
llenu t		transfer	Speed 1
Free			Speed 🖡

Press the "manual" button to enter a status of manual mode, press the safety switch and at the same time press the manual operation key to perform the manual (free) operation, which according to the screen changing can be divided into manual operation available/free operating available/both unavailable.

Manual operation-available screen

• Press the "manual" button on manual operation screen



# 2.3.4 Free screen



On the manual screen, press the "home page" button to enter a state of free operation, press the safety switch and at the same time press the manual operation key to perform the manual (free) operation, which according to the screen changing can be divided into manual operation available/free operating available/both unavailable..

Free operating-available screen

- Free operation screen
- Position setting screen
- Stack screen Screen for conducting axis setting on instruction screen
- Position-adjusting screen (transposition scren)
- other available screens

## 2.3.5 Original point reset

When the original point on the menu screen twinkles, it means that the original point has not been reset, or the corresponding prompty may also appear at the position of the axis's current value.

When the original point has been reset, you can see the subscription on the menu screen has been reflashed.

Press the "original point" button to enter a state of original point mode, momently press the "start" button to begin to reset the original. However, in the following circumstances, it is imposible to start the original point reset or even if it is started, the operation will not continue.

- · Press the safety switch and at the same time press the START button
- · Full stop alarm and axis stop alarm accur
- Axis is inside the mould
- Mouild outside standby mode gets ON and the mould unloading over (complete) (X32) gets OFF
  - · Axis goes down to a position other than tak take-out side or placement side



# 2.3.6 Primary and secondary arm switching

On the above screen, in the top right corner, "Primary" appears, indicating that the current operation is switched to "Primary arm", if the current operation is switched to "Secondary arm", in the top right corner, "Secondary " will appear.

On the screen able to switch primary arm and secondary arm, such as free screen, position setting and other screens associated to the use of primary arm and secondary arm, press the "action available " button on the left side of the man-machine screen, a primary/ secondary key similar to a hidden key will appear.



At the same time when the top of the screen becomes bright yellow, the "primary/secondary" botton will appear above the " function 2" button.

How to switch the primary/secondary arm for the corresponding operation?

The details on the foregoing are described as follows.

Firstly, switching the primary/secondary arm is required to be performed on a page available for free operation. For example, on the free screen, press the " function 2" key (i.e., HOME button) to make the "function 2" key get blue. And then, pressing "action available key" will let you find that the " primary/secondary " button is also changed into blue, indicating that it is currently available for switching.

Then, press "menu" button, you can free transform the use of "vice" is/arm.







Finally, press the primary/secondary " button to let the "primary in the top right corner become "secondary".

When switching "secondary", it means that the secondary arm related operation is available at the moment.

3 Standard user 2 operating instructions

Base on the above mentioned, on the screen of User 2, enter the menu in the standard mode.

On the screen of standard user, the menu options are shown as: free operation, mode setting, linkage, zone setting, I/O status, user switch, and position adjustment (transposition). If you want to display more menu, a permission at a higher level shall be required to modify the user setting.

# **3.1 Mode setting**

Select the "mode setting" on the menu screen to enter the "mode settings" screen. According to the operating steps, it is possible to perform mould read-out, mould selection, senior mode setting, timer and counter, insert function, mould save and other functions. The descriptions on the setting process are as follows.









#### 3.1.1 Mode selection



File: Read out the required mould files.

Primary arm: Primary arm's mode selection. 01-04 are usual mode.

Secondary arm: Secondary arm's mode selection. 11 to 18 are usual mode.

File save: Save the mould files.

File delete: Delete the mold files.

### Primary arm (finished product arm) mould inside take-out action diagram









#### Secondary arm (stub bar arm) mould inside take-out action diagram
















Insert

Position

Select

3.1.2 Detailed mode under standard user

Under the model setting, press the "next page" key to enter the mode setting screen. Depending on different machine types, the mode may also be somewhat different. Here is a mode page for the machine type of 1-axis.

No.NEW	No.NEW		No.NEW		MANU P	
Modesetting		1/5	Modesetting		2 / 5	
Inside lateral posture		ON	P traverse out p	P traverse out placing		
Inside lateral p	osture 2	OFF	P traverse in pl	P traverse in placing		
Posture standby		OFF	P forward traver	se	OFF	
Lateral posture	placement	ON	Take-out down st	andby	OFF	
Rotating in trav	erse	OFF	Nedium plate unu	sed	ON	
Mould outside st	andby	OFF	Thimble delay		OFF	
Insert	Select	Return	Insert	Salact	Return	
Position	Serect	Timer	Position	oerect	Timer	
No.NEW		MANU P	No.NE₩		MANU P	
Modesetting		3/5	Modesetting		4/5	
Thimble synchron	ization	OFF	Hold detection		OFF	
Thimble retreat	cont rol	OFF	Nould inside de	tection	OFF	
Door opened down	possible	OFF	Door opened stop		ON	
Sorption in use		ON	Taken-up platfo	Taken-up platfor∎ use		
Hold in use		ON	Opening reset		OFF	
Sorption detecti	on	ON	Standby mode 1		OFF	
Insert	Palaat	Return	Insert	Salact	Return	
Position	Select	Timer	Position	UETECL	Timer	
No.NE#		MANU P				
Modesetting		5/5				
Standby mode 2		OFF				
Standby mode 3		OFF				

Return

Timer



## Mode list

Standard mode

Mode names	Descriptions			
Interna lateral posture	By reason of a long finished product or other reasons and thus after the finished product taken out interferes with the molder action in the lateral posture status, gets ON.			
	Wait for forming at the take-out standby position and stand by at an aligning status, and after taken-out, allow forming after lateral posture. Later, make the transverse axis move.			
Interna lateral posture 2	Lateral posture status and molder action does not interfere with each otherm, but when performing take-out side < = > placement side movement in a lateral posture status and interfering with injection molding machine (safety door), get ON.			
	Wait for forming at the take-out standby position and stand by at an aligning status, and after taken-out, allow post-forming lateral posture. Later, make the transverse axis move.			
	By reason of a long clamp and other reasons, at the aligning status with interference with the molder action, gets ON.			
Lateral posture standby	Wait for forming at the take-out standby position and stand by at a lateral posture status, and after taken-out, allow post-forming lateral posture. Later, make the transverse axis move.			
Lateral posture placement	When releasing finished products and making it in a lateral posture, gets ON.			
Transverse midway lateral posture	When moving toward placement side, before moving toward the placement position, and when the placement side zone gets ON, perform a lateral posture movement.			
Mould outside standby	In a mould-loading status, when line feed mechanism comes to contact with the mould, and when failing to reach onto the mouild before the mould unloading over/complete, gets ON.			
Primary arm transverse-out placing materials	When performing primary arm stub bar releasing before releasing finished products, gets ON			
Primary arm transverse-in placing materials	When performing primary arm stub bar releasing after releasing finished products, when transverse-in, gets ON			



Secondary arm transverse-in placing materials	When performing stub bar releasing after releasing finished products, when transverse-in, gets ON				
Transverse-in go-down placing materials	When performing transverse-out/in primary arm stub bar releasing and making it go down, gets ON.				
Primary outside go-down(axis, frequency conversion with this item)	When performing finished product releasing and making it go down, gets ON.				
Primary outside go-down	When performing releasing and making it go down, gets ON.				
Primary arm lead-in transverse-out	When performing take-out side $\langle = \rangle$ placement side movement and letting primary arm go forward, gets ON.				
Secondary arm lead-out transverse-out	When performing take-out side $\langle = \rangle$ placement side movement and letting secondary arm move to line feed body side, gets ON.				
Medium plate unused	When medium plate limit not in use, gets ON. Please note that ON means not in use, OFF means in use.				
Thimble delay	When the control allows thimble to go forward, gets ON. When take-out go-down begin, after startup timer's limit time is up, allowing thimble to go forward gets ON.				
Thimble synchronization	When control allows the thimble go forward, gets ON. After take-out clamp's taking position has moved, allowing thimble to go forward gets ON.				
Thimble retreat control	When control allows the thimble to retreat (go back), gets ON.				
Sorption in use	When sorption is in use, gets ON.				
Hold in use	When clamp/jig 1 is in use, gets ON.				
Absorb detection	When confirming sorption to verify if finished products are firmly sucked, gets ON.				
Hold detection	When confirming clamp to verify if finished products are firmly clamped, gets ON.				





Secondary clamp detection	When confirming stub bar gripping verify if stub bar is firmly clamped, gets ON.			
Mould inside detection	Only perform mould inside gripping and dropping confirmation.			
Door open go-down available	When letting operating personnel perform mould inside items take-out action after opening the safety door, gets ON.			
Opening door stop	When temporarily stoppomg action after opening safety door, gets ON.			
Taken-up platform in use	When replacing conveyor belt action and letting taken-up platform rise, gets ON.			
Opening reset	When gripping action mistaking and omitting releasing action, gets ON.			
Take-out go-down standby .(2-axis and upper/lower axis servo type are provided with this item; 1-axis and frequency conversion are not provided with this item )	Waiting for go-down action at a certain distance outside the mould.			
USER MODE1~8	Unused in a standard program.			

Instruction model (User 3)

The the instruction mode is mainly used for safety protection in manual operation, if the action of mode setting is in need, the instruction program should be conducted according to the action sequence of the mode.

Mode names	Descriptions
Mould outside standby	In a mould-loading status, when line feed mechanism comes to
	contact with the mould, and when failing to reach onto the mouild
	before the mould unloading over/complete, gets ON.
Primary arm fixed mould	When taking out finished products from the fixed mould of the
take-out	injection molding machine, gets ON.





Primary arm	In the process of performing finished product take-out action, when
U-shaped take-out	making it act in the sequence of $\lceil$ moving toward above the gripping
	position $\rightarrow$ going down $\rightarrow$ clamp $\rightarrow$ extraction $\rightarrow$ going upward", gets
	ON.
Internal lateral posture	By reason of a long finished product or other reasons and thus after
	the finished product taken out interferes with the molding action in the
	lateral posture status, gets ON.
	Wait for forming at the take-out standby position and stand by at an
	aligning status, and after taken-out, allow forming after lateral posture.
	Later, make the transverse axis move.
Internal lateral posture 2	Lateral posture status and molding action does not interfere with
	each otherm, but when performing take-out side $\langle = \rangle$ placement side
	movement in a lateral posture status and interfering with injection
	molding machine (safety door), get ON.
	Wait for forming at the take-out standby position and stand by at an
	aligning status, and after taken-out, allow post-forming lateral posture.
	Later, make the transverse axis move.
Lateral posture standby	By reason of a long clamp and other reasons, at the aligning status
	with interference with the molding action, gets ON.
	Wait for forming at the take-out standby position and stand by at a
	lateral posture status, and after taken-out, allow post-forming lateral
	posture. Later, make the transverse axis move.
Medium plate unused	When medium plate limit not in use, gets ON. Please note that ON
-	means not in use, OFF means in use.

## **3.1.3 Position setting**

On the detailed mode setting screen, press the "next page" to enter into the "position setting".

Switch to the screen as showned below, where it is possible to set various points and speed of the take-out machine.(if the corresponding mode of this position is OFF, it will be displayed in gray and impossible to make setting)



#### Example: 1-axis's position setting



5 Speed

6 Position memory

(1): In general, indicates the key distribution in position adjustment. (selected only when the setting value is "axis position")

According to the safety switch: display position now.

(2): Indicates Y axis position/speed zone. Set the setting value of this position. In case of no setting value, displayed as "- - - - - " . ( in case of FUNC1, press the "MENU" button to switch the "axis position"/"speed".)

(3): Keys function selection. Press the "HOME" button to switch successively the expression of the "function 2" / "function1" key.

(4): Move the cursor to the item to be set and press the " $\blacksquare$ " key can to perform the digital key input for the setting value.

(5): Press the "RESET" button to switch successively the primary arm axie and secondary arm axis.

(6): Press the "∎" key to switch the setting value of "axis position"/"speed".

 $\bigcirc$ : Perform the position memory. Let the setting value be reflected at the current position.

(8): Raising or lowering the speed of manual operating/free operating.

#### 2-axis position setting

(1): In general, indicates the key distribution in position adjustment. (selected only when the setting value is "axis position")

According to the safety switch: display position now.

(2): Indicates Y axis position/speed zone. Set the setting value of this position. In case of no setting value, displayed as "- - - - - " . ( in case of FUNC1, press the "MENU" button to switch the "axis position"/"speed".)

(3): Keys function selection. Press the "HOME" button to switch successively the expression of the "function 2" / "function1" key.

(4): Move the cursor to the item to be set and press the " $\blacksquare$ " key can to perform the digital key input for the setting value.

(5): Press the "RESET" button to switch successively the primary arm axie and secondary arm axis.

(6): Press the "■" key to switch the setting value of "axis position"/"speed".

 $\widehat{(7)}$ : Perform the position memory. Let the setting value be reflected at the current position.

(8): Raising or lowering the speed of manual operating/free operating.

No.NE₩ Position	2:-0.1 3:+0.	MANU P	 ①Key status/current pos	ition
T	Y exis	MX axis		
lake pos down sby pos		0.0 *****.*	<ol> <li>Setting(Y axis,</li> </ol>	MZ axis
Take pick-pos		*:+>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	position speed	
Stack se <mark>t 1</mark>			 ► ③Key function select	ion
Speed Funct i on2	Selection	Keturn	 <pre>@Selection</pre>	

Note: The variable-frequency bype is not provided with position setting.

When using the "function 2" on the position setting screen, it is possible to use position memory function.

Position setting procedure: When using the "position memory"

- 1. Select the "free operation".
- 2. Press the action available key, and at the same time, press the corresponding action key to move to the position desired to be set.
- 3. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the point desired to be set.

4. Press the " $\blacksquare$ " key to select the "position memory" and set the current value as the setting value.

Use the  $\lceil\uparrow\rfloor / \lceil\downarrow\rfloor$  button to select the point desired to be set. Move the cursor to the point desired to be changed and then press the " $\blacksquare$ " key, with the screen displayed as follow; after the setting value column is selected, it is displayed as cyan, and at this place, use the action button to enter the numerical value of the position desired to be moved, press the " $\blacksquare$ " key to complete the input, with unit in "mm.





#### Speed setting:

Turn the "Key function selection" to the "Functional1", press the speed (the MENU button) to switch to the "speed setting". Select the speed setting column of each point, with the screen displayed as below in light blue, using the action key to input numerical values from 0 to 100 and pressing the " $\blacksquare$ " key to complete the input, where the unit is in "%", i.e. the percentage of all the speed.

In the speed setting, according to the requirements by various production processes, it is also possible to set separately the rising speed of the upper and lower axis.

To set the next point, use the  $\lceil \downarrow \rfloor$  key to move to the last option on this page, and then press to switch to the next page.

Select the stack to perform the in the following stack settings. The stack setting consists of seven items.

No.NEW		MANU P	No.NEW		MANU P
Position	2:-0.1 3:+0.	5:-1 6:+1	Position	2:-0.1 3:+0.	1 5:-1 6:+1
	Y axis	MX axis		Y axis	MX axis
Take pos	30	30	Place R.PT		30
down sby pos		30	P place-pos	30	30
Take pick-pos		30	M out sby-pos	30	30
S place-pos	30		Standby pos 1	30	30
Stack set 1	30	30	Standby pos 2	30	30
Axis POS	Selection	Return	Axis POS	Selection	Return
Function2 🚺	.1[1.0]		Function2	1]1.0	

[Start position]

No.NE#		MANU P		No.NEW		MANU P
Stack				Stack <mark>Setti</mark>	ng 1000-1	D ~ 19000.0
Package Ho.	Y	MX		Package <b>H</b> o.	Y	MX
Start pos.	******_*			Start pos.		
packing number			<u> </u>	packing number	1	
Interval movt	0.0	0.0		Interval movt	0.0	0.0
Speed %	30	30		Speed %	30	30
Stack number	1			Stack number	1	
Pos MEM	Selection	Return			Selection	Return
Function2	1[1.0]				.1[1.0]	Clear

First of all, the starting position of the stack can be set, with the screen displaying the Y axis's current value and setting value column. When no setting value, the display is \* \* \* . \*. Press the " $\blacksquare$ " key, with the screen dispayed as that on the right side, where the action key may be used to input the setting value. to cancel the input, press the "RESET" button, and press the " $\blacksquare$ " key to make confirmation after the input is completed. Click the "BACK" button to return to the previous screen.



#### **Stack starting point**:

Use the  $\lceil \downarrow \rfloor$  key to move the cursor to the "stack starting point".



On this screen, it is possible to set the current number of packing, with the numeric value input method being the same as that used in the setting for the "start position". After the value setting here is accumulated to the setting value of the "stack number", the value will accumulate from the very beginning, whereby to achieve the movement of the stack and conveyor belt and perform the next stack action.

#### [Interval movement amount] :

Use the  $\lceil \downarrow \rfloor$  key to move the cursor to the "Interval movement amount".



On this screen, it is possible to set the position interval when releasing the products. For example, when the setting value is 10.0, the products will be released in an interval of 10 mm, with the numerical value input method being the same as that used in the setting for the "start position".





#### [Speed %」:

Use the  $\lceil \downarrow \rfloor$  key to move the cursor to the "speed %".



On this screen, it is possible to set the speed moving toward the placement side, which can be set as a numerical value from 1 to 100, with the unit in %, i.e. the percentage of the whole speed. The numerical input method is the same as that used in the setting for the "start position".

Use the  $\lceil \downarrow \rfloor$  key to move the cursor to the "stack number".



On the stack number screen, it is possible to set the number of axis position, with a settable range from 1 to 127 and a maximum stack number up to 127. The numerical input method is the same as that used in the setting for the "start position". The stack number is exactly the maximum number the user desired to stack; when the stack starting point accumulate to the stack number, the value will accumulate once again from the very beginning.





## **Stack priority** *∃* :

Use the  $\lceil \downarrow \rfloor$  key to move the cursor to the "stack priority

No.NEW		MANU P	No.NEW			MANU P
Stack			Stack <mark>Settin</mark>	ng	1~	2
Package No.	Y axis	MX axis	Package <b>k</b> o.	Y axis		Kaxis
Starting point			Starting point			
Interval movt	0.0	0.0	Interval movt	0.0		0.0
Speed %	30	30	Speed %	30		30
Stack number	1		Stack number			
Stack prior	and the second	2	Stack prior			2
Pos MEM	Selection	Return		Selection		Return
Function2 🚺	.1]1.0]					Clear

On the stacking sequence screen, it is possible to set the axis from which to start the stack. The numerical input method is the same as that used in the setting for the "start position". If the axis number is different, the sequence will automatically change.

#### [Stack direction] :

Use the  $\lceil \downarrow \rfloor$  key to move the cursor to the "stack direction".

No.NEW		MANU P
Stack		
Package No.	Y axis	₩X axis
Interval movt	0.0	0.0
Speed %	30	30
Stack number		
Stack prior		2
Stack DIR	+	· · · · · · · · · · · · ·
Pos MEM	Selection	Return
Function2	.1[1.0]	

The interval direction is set for the direction of the product release. Press the " $\blacksquare$ " key to switch the direction of  $\lceil + \rfloor / \lceil - \rfloor$ . Before the direction changes, the confirmation message will be be displayed.





#### 3.1.4 Timer

Select the "timer" under the menu to switch to the screen as shown below. The content changes will be expressed according to the user setting.

On this screen, it is possible to set the timer, including the setting of position and the time between steps. The timer setting can also be performed in automatic operation. The corresponding mode-effective timer mark is displayed with white text, and the mode-ineffective timer is displayed in gray, which can not be set.

Select the timer settings column, press the " $\blacksquare$ " key to switch to a screen as below, with the selected item displayed in green, where the action key may be used to input time, with an unit in second.

No.NEW MANU P	No.NEW	MANU P
Timer 1/6	Timer	2/6
T82 Take: P go-do <del>w</del> n 0.00 <mark></mark> S	T89 Take: S advance	0.00 <mark>S</mark>
T81 Take: p advance 0.00 S	T90 Take: S retreat	0.00 \$
T83 Take: P retreat 0.00 S	T91 Take: S go-down	0.00 \$
T84 Take: p-rising 0.00 S	T92 Take: Srising	0.00 \$
T86 Place: primary go-down 0.00 S	T93 Place: Sgo-down	0.00 \$
T88 Place: primary rising 0.00 S	T94 Place: Srising	0.00 \$
Counter Select Return	Counter	Return
	oerect	
No.NEW MANJ P	No.NEW	MANU P
Timer 3/6	Timer	4/6
T13 F.H -closing delay 0.00 S	T21 F.S clamp opening delay	0.00 S
T14 F.S absorbing delay 0.00 S	T19 P.S clamp-open delay	-0.50 S
T22 F.S clamp closing delay 0.00 S	T23 Fore-aligning delay	0.00 <mark>S</mark>
T10 F.S -release delay 0.00 S	T24 Fore posture delay	0.00 \$
T9 F.H opening delay 0.00 S	T27 Fore-thinble delay	-0.00 S
T17 P.H opening delay 0.50 S	T30 Conveyor belt	3.00 <mark>S</mark>
Counter Select Return	Counter Select	Return
No.NEW MANU P	No.NE#	MANU P
limer 5/6	Timer	6/6
132 Spray output keeping	T52 Inserting Y18 ON delay	0.00 <mark>S</mark>
131 Fore-spray delay 0.00 S	T53 Inserting Y18 OFF delay	0.00 \$
129 Fore-token return delay 0.00 S	T54 Inserting Y10 ON delay	0.00 \$
146 Vibrating U.50 S	155 Inserting Y10 OFF delay	0.00 \$
	195 User timer 1	0.00 \$
144 Emergency KST delay 1.00 S	196 User timer 2	0.00 S
Counter Select Keturn	Counter Select	Keturn

[Timer alarm] is only for display of User 4 and User 5.



The timer page begins from page 9, which is all for the timer alarm setting.

On the timer alarm screen, it is possible to set the time of alarm output for each abnormal situation occurs

It is also possible to set the timer in automatic operation.



Select the numerical value bar/column of the timer desired to be set, and use the action key to set the numerical value of the timer.

Timer status expression:

The the timer start up (ON), [T] \* \* is shown in red word. After the timer's time is up, the [T \* \* + name] are all displayed as red word.





# Timer list

Serial number	Names	Descriptions
T82	Take-up side: Primary down	Finished-product arm mould inside go-downward delay, after fore-action is complete, timing begins, after timing is complete, goes downward.
T81	Take-up side: Primary forward	Finished-product arm mould inside extraction go-forward delay, after fore-action is complete, timing begins, after timing is complete, goes forward.
T83	Take-up side: Primary back	Finished-product arm mould inside extraction retreat (go-back)delay, after fore-action is complete, timing begins, after timing is complete, retreats (goes back).
T84	Take-up side: Primary up	Finished-product arm mould inside rising (go-upward), after fore-action is complete, timing begins, after timing is complete, rises (goes upward)
T86	Placement side: Primary down	Finished-product arm mould outside go-downward delay, after fore-action is complete, timing begins, after timing is complete, goes downward
T88	Placement side: Primary up	Finished-product arm mould outside rising (go-upward) delay, after fore-action is complete, timing begins, after timing is complete, rises (goes upward)
T89	Take-up side: Secondary forward	Stub bar arm mould inside extraction forward delay, after fore-action is complete, timing begins, after timing is complete, goes forward
Т90	Take-up side: Secondary back	Stub bar arm mould inside go-down delay, after fore-action is complete, timing begins, after timing is complete, goes downward
T91	Take-up side: Secondary down	Stub bar arm mould inside go-down delay, after fore-action is complete, timing begins, after timing is complete, go downward
Т92	Take-up side: Secondary up	Stub bar arm mould inside go-upward delay, after fore-action is complete, timing begins, after timing is complete, rises (goes upward)
Т93	Placement side: Secondary down	Stub bar arm mould outside go-downward delay, after fore-action is complete, timing begins, after timing is complete, go downward
T94	Placement side: Secondary up	Stub bar arm mould outside rising (go-upward) delay, after fore-action is complete, timing begins, after timing is complete, rises (goes upward)



T13	Holder closing	After fore-action is complete, timing begins, after timing is
	Tore-delay	After fore action is complete, timing begins, after timing is
<b>T</b> 14	Sorption absorb	After fore-action is complete, thing begins, after thing is
114	fore-delay	action
		After fore-action is complete timing begins after timing is
т22	Secondary clamp	complete stub har arm's secondary clamp performs closing
122	closing fore-delay	action
		After fore-action is complete timing begins after timing is
Т10	Sorption releasing	complete finished-product arm's absorb performs opening
110	fore-delay	action
	Hold opening	After fore-action is complete, timing begins, after timing is
Т9	fore-delay	complete, finished-product arm's hold performs opening action
	Hold opening	After finished-product arm hold opening, timing begins, after
T17	post-delay	timing is complete, goes into next action
<b>T</b> 21	Secondary clamp	After fore-action is complete, timing begins, after timing is
121	opening fore-delay	complete, stub bar clamp opens
<b>T</b> 10	Secondary clamp	After stub bar clamp opening, timing begins, after timing is
T19	opening post-delay	complete, goes into next action
<b>T</b> 22	Aligning fore-delay	After fore-action is complete, timing begins, after timing is
125		complete, lateral posture aligns
Т24	Lateral posture	After fore-action is complete, timing begins, after timing is
124	fore-delay	complete, performs lateral posture
т27	Thimble fore-delay	After fore-action is complete, timing begins, after timing is
127	Timble fore-delay	complete, thimble goes forward
Т30	Conveyor belt	After conveyor belt's action, timing begins, after timing is
150	conveyor ben	complete, stops
Т32	Spray output	After spray action, timing begins, keeping ooutput, after
102	keeping	timing is complete, stops output
T31	Spray fore-delay	After fore-action is complete, timing begins, after timing is
	~	complete, performs spray operation
T29	Taken-up platform	After fore-action is complete, timing begins, after timing is
	go-down fore-delay	complete, taken-up platform goes downward
T46	Vibration	Set time interval of vibration (interval of go-forward and
		go-backward)
T43	Blow 1	Set blowing 1 time when sorption is open.
Т44	Emergency stop	Set the delay time from abnormal stop to serve ON
	reset post-delay	Set als delay time from achomia stop to set to ort.
	Insert 1 (Y18) ON	Finished-product arm insert delay, after fore-action is
T52	delay	complete, timing begins, after timing is complete, insert 1 gets
		ON





T53	Insert 1 (Y18) OFF delay	Finished-product arm insert delay, after fore-action is complete, timing begins, after timing is complete, insert 1 gets OFF
T54	Insert 2(Y10)ON delay	Finished-product arm insert delay, after fore-action is complete, timing begins, after timing is complete, insert 2 gets ON
T55	Insert 2 (Y10) OFF delay	Finished-product arm insert delay, after fore-action is complete, timing begins, after timing is complete, insert 2 gets OFF
T95~T100	User timer 1	Temporarily not used in standard program.
T1	Take-out side: Primary arm go-forward	Set the go-forward over (complete) time when letting the primary arm go forward outside the placement side.
T35	Take-out side: Primary arm retreat(go-back)	Set the retreat(go-back) over (complete) time when letting the primary arm retreat(go back) outside the placement side.
T2	Take-out side: Primary arm go-down	Set the go-dowm over (complete) time when letting the primary arm go down outside the placement side.
T36	Take-out side: Primary arm rising(go-upward)	Set the rising (go-upward) over (complete) time when letting the primary arm rise (go upward) outside the placement side.
Т3	Take-out side: Secondary arm go-forward	Set the go-forward over (complete) time when letting the secondary arm go forward outside the placement side.
T37	Take-out side: Secondary arm retreat(go-back)	Set the retreat(go-back) over (complete) time when letting the secondary arm retreat (go back) outside the placement side.
T4	Take-out side: Secondary arm go-down	Set the go-down over (complete) time when letting the secondary arm go dowm outside the placement side.
T38	Placement side: Secondary arm rising(go-upward)	Set the rising (go-upward) over (complete) time when letting the secondary arm rise (go upward)outside the placement side.
Τ5	Placement side: Primary arm go-forward	Set the go-forward over (complete) time when letting the primary go forward outside the placement side.
T39	Placement side: Primary arm retreat (go-back)	Set the retreat (go-back) over (complete) time when letting the primary retreat (go back) outside the placement side.



T6	Placement side: Primary arm go-down	Set the go-down over (complete) time when letting the primary go down outside the placement side.			
T40	Placement side: Primary arm rising (go-upward)	Set the rising (go-upward) over (complete) time when letting the primary rise (go upward) outside the placement side.			
Τ7	Placement side: Secondry arm go-forward	Set the go-forward over (complete) time when letting the secondary arm go forward outside the placement side.			
T41	Placement side: Secondry arm retreat(go-back)	Set the retreat (go-back) over (complete) time when letting the secondary arm retreat (go back) outside the placement side.			
Т8	Placement side: Secondry arm go-down	Set the go-down over (complete) time when letting the secondary arm go down outside the placement side.			
T81	Placement side: Secondry arm rising (go-upward)	Set the rising (go-upward) over (complete) time when letting the secondary arm rising (go upward) outside the placement side.			
Т33	Aligning	Set the aligning over (complete) time in aligning.			
T34	Lateral posture	Set the lateral posture over (complete) time in lateral posture.			
T28	Go-forward lateral posture delay	When the lead-in transverse-out mode is ON, set the time from the primary arm beginning go-forward to the lateral posture beginning			
T25	Primary arm take-out go-down delay	Set the delay time of go-down when the primary arm take-out goes down			
T26	Secondary arm take-out go-down delay	Set the delay time of go-down when the secondary arm take-out goes down			
T29	Taken-up platform go-down delay	Set the time from the primary arm rising (go-upward) status to the taken-up platform go-down after the finished-product release when the taken-up platform rising (go-upward) mode is ON.			
Т 31	Spray delay	Set the delay time for spray.			
Т 32	Spary output delay	Set the time from the spray start to its stop			
T44	Abnormal stop reset delay	Set the delay time from the abnormal stop released to servo ON			
T45	Inverter braking delay	Set the delay time of the frequency conversion motor braking OFF			





T46	Vibration	Set the time interval of vibration (interval of go-forward and retreat/go-back)
T61	Mould loading over (complete)time	Set the time between mould loading start to mould loading end
T62	Molding over(complete) monitoring	In automatic operation, after molding start, if no mould unloading within the setting time of this timer, alarm occurs.
T64	Molding keeping start	When the injection molding machine type is a Japanese style, set time that keeps allowing forming signals.
T65	Mould over(complete) OFF monitoring	In automatic operation, after giving out allowing mould loading, if no mould loading within the setting time of this timer, alarm occurs.
T63	Medium plate mould monitoring delay	When the medium plate unused mode is OFF, after mould unloading, the medium plate limit is not ON within this timer's setting time, alarm occurs
T69	Rotating action monitoring	After rotation reset and rotation action, when the action is not complete within this timer's setting time, alarm occurs
T70	Posture action monitoring	After aligning and lateral posture, when the action is not complete within this timer's setting time, alarm occurs
T71	Thimble go-forward limit monitoring	Stadrad program does not use it.
T72	Release confirmation monitoring	After releasing finished-products and stub bar, and exceeding this timer's time, performs releasing confirmation.
T73	Primary arm retreat (go-back) ON monitoring	When using primary arm retreat(go-back) limit, after primary arm beginning retreat(go-back), when the primary arm retreat (go-back) limit is not ON within the timer's setting time, alarm occurs
T74	Primary arm retreat (go-back) OFF monitoring	When using primary arm retreat(go-back) limit, after primary arm beginning go-forward, when the primary arm retreat (go-back) limit is not OFF within the timer's setting time, alarm occurs
T75	Primary arm rising(go-upward) upper position ON monitoring (Variable frequency style)	After primary arm beginning go-upward(rising), when the primary arm go-upward (rising) upper position is not ON within the timer's setting time, alarm occurs



T76	Primary arm go-down upper position OFF monitoring (Variable frequency style)	After primary arm beginning go-dowmward, when the primary arm go-downward upper positiont is not OFF within the timer's setting time, alarm occurs
T77	Secondary arm retreat (go-back) detection ON monitoring	When using secondary arm retreat (go-back) limit, after the secondary arm begins to retreat (go back), when the secondary arm retreat (go-back) detection is not ON within the timer's setting time, alarm occurs
T78	Secondary arm retreat (go-back) detection OFF monitoring	When using secondary arm retreat (go-back) limit, after the secondary arm begins to go forward, when the secondary arm retreat (go-back) detection is not OFF within the timer's setting time, alarm occurs
T79	Secondary arm rising (go-upward) upper position ON monitoring	After the secondary arm begins to rise (go upward), when the secondary rising (go-upward) is not ON within the timer's setting time, alarm occurs
T80	Secondary arm go-down upper position OFF monitoring	After the secondary arm begins to go down, when the secondary go-dwon upper positioin is not OFF within the timer's setting time, alarm occurs
T66	Line feed movement start monitoring	From the start point or end point, when the Y axis starts action, monitors its normal movement. After the movement starts, stays at the start point or end point within the time of T66, alarm occurs
T67	Line feed high-speed movement monitoring	In automatic or manual operation, monitor the high-speed movement. When the time of high-speed movement is over the time of T67, alarm occurs
T68	Line feed low-speed movement monitoring	Monitor the low-speed movement in free operation, or high-speed movement accompanied with low-speed movement. When the time of low-speed movement is over the time of T68, alarm occurs



# 3.1.5 Counter

Select the "counter" on the menu screen to switch to the screen as below, where it is possible to set and reset the counter used for the option action.

No.NEW		- N	ANU P		No.NEW			- N	NU P
Counter			1/2		Counter	Setti	ng	$0 \sim 99$	99999
Total counter		0			Total co	unter		0	
	Current	Setting		→(2)			Current	Setting	
Count 1 vib.	0	0	Reset		Count 1	vib.	0		Reset
Count 2 sprav	0	0	Reset	<b>`</b> ~⁄	Count 2	spray	0	0	Reset
Count 3	0	0	Reset		Count 3		0	0	Reset
Count 4	0	0	Reset	<b>→</b> 3	Count 4		0	0	Reset
	Select		Return				Salact		Return
							UETELL		

#### Screen display description

Display	Expression meanings			
contents				
①Total counter	Display the	e total of products taken out		
	Name column	Displays the name of the counter.		
(2) Counter	Setting value	According to the selection, operate and set the		
(expressed	column	preset counter's value.		
starting from the		Click on the gray zone to let it get green, as shown on		
left column		the right screen, and use thje action key to input		
)	numerical values.			
		The preset counter's value can only be set in manual		
	mode.			
	Current value	Display the counter's current value		
	column			
③ Reset	Reset the counter's value.			
	Before automatic operation and manual operation, confirm the			
	counter's value, reset if necessary.			
	In manual	operation and automatic operation, it is possible to reset.		

About damge placement, you would be pay attention to :

You should setup value more than 0, when the damge signal is ON, the counter will begin to up.





## 3.1.6 Insert function

This screen can be applied to the insert function.



- (1) The insertion points are: Y18 ON; Y18 OFF; Y10 ON; Y10 OFF.
- (2) The insertion contents are as follows:

	Unuse		Unuse	
	Start to cross out		Start to cross out	
	Start to cross into		Start to cross into	
	Before Primary arm		Before Secondary arm	
	go-down in placement		do-down in placement	
	Before Primary arm		Before Secondary arm upon in	
	upon in placement		placement	
	Before Primary arm hold		Before Sencondary arm hold	
	close	Inconting 2	close	
Inserting 1	Before Primary arm	Y18	Before Secondary arm	
Y10	forward in take-place		forward in take-place	
	Before Primary arm		Before Primary arm retreat in	
	retreat in take-place		take-place	
	Before Primary arm hold		Before Secondary arm hold	
	open		open	
	Before Primary arm		Before Secondary arm	
	go-down in take-place		go-down in take-place	
	Before Primary arm		Before Secondary arm upon in	
	upon in take-place		take-place	

### 3.1.7 Save and delete

Select the "save: to enter the save page.

In user 2 mode, the user can only manage the mould files with standard attributes.

For save/delete and attributes of files,

please refer to the description on documentation for User 3



# 3.2 Zone setting

"Zone setting", switch to the screen as below.

The variable frequency axis is not provided with zone setting, taking the upper/lower axis servo and 2-axis servo as an example.

Zone setting of 2-axis

No.NEW		MANU P	No.NE#		MANU P
ZoneSetting	_	171	ZoneSett Setting	$0.0 \sim$	550.0
Yaxis max value	20000.0		Yaxis max value	20000.0	
Mz axis max value	20000.0		Mz axis max value	20000.0	
Take side Y min val.	10.0		Take side Y min val.		
Take side Y max val.	550.0		Take side Y max val.	550.0	
PlaceYmini val.	1000.0		Place Y mini val.	1000.0	
PlaceYmaxval.	19000.0		PlaceY max val.	19000.0	
Mz declining standby	0.0		₩z declining standby	0.0	

#### Maximum value of Y axis and Mz axis

On this screen, it is possible to se the axis maximum value. The axis maximum vaue setting is shown on the left side of the screen above. Select the setting value and then press the " $\blacksquare$ " key to switch to the screen as shown on the right side; at the position of the setting value displayed in a light blue, use the action key to input values.

It is imposible to set a value which is smaller than each zone maximum value of the zone setting.

#### Action zone setting

Restricted zone	Descriptions
Take-out side Y axis's minimum value Take-out side Y axis's maximum value	When performing zone setting, please make sure that the mould inside axis go-down position is within a safe range.
Placement side Y axis's minimum value Placement side Y axis's maximum value	When performing zone setting, please make sure that, when the placement side finished-product release, the axis go-down position is within a safe range.
Mz go-dowm standby	When performing zone setting, please make sure that the Mz axis go-down position is at the safety position over the mould.





To change these maximum value and minimum value, firstly use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  to select the value desired to be changed and than press the "**•**" key. On the following screen, use the action key to input values.

It is imposible to set a value which is more than the maximum value of the maximum setting screen.

# .3.3 I/O status

On the menu, select the [I/O status] to switch to the screen as below, where the ON/OFF status of each IO is displayed, and the status of each IO in operation can be confirmed.



On the I/O status screen, it is possible to monitor all IO, with IO's marks, names and status shown on the screen. Use the  $\lceil \leftarrow / \rightarrow \rfloor$  key to switch the page display, where the IO will be shown in yellow if it is ON, and in blue if OFF.

Select the "I/O record" on the menu screen to switch to the I/O record related screen, where it is possible to set the recording conditions for I/O record and access the I/O record.



3.4 Position adjustment(Transposition)

On the menu screen, select the "Position adjustment(Transposition)" to switch to the position adjustment page. On the position adjustment page, a prompt message will appear. Press the reset key to let the prompt message disappear and then enter the adjustment interface.

	No.NEW		MANU P
	Stroke	Summary	1 / 2
	Action expression Get into the stru- making a position that the cylinden To ensure that th adjustment in the So that the motor Press RESET butto	1 (09) oke (STK) scree 1 adjustment, p r is in a relea 1e motor can pe e case of no st r is protected on to get into	n. Before Jease ensure asing status rform ress, adjustment.
In the manual mode, Press and hold any	No NEW	<u>[[.u]</u>	
the action of the	Stroke	Summary	2/2
position-adjusti	S post retreat	OFF Pos.	motor safety
is the method	S pos. advance	0FF X24	OFF
whereby to	S pos-adj. up	OFF Pos.	forward LMT
position.	S pos-adj down	0FF X25	OFF
-	S STK advance	OFF Pos.	retreat LMT
	S STK retreat	0FF X26	OFF
		Selection	Return
	0.	1[1.0]	





#### 3.5 Pass

Select the "Pass" on the menu screen to witch to the sxreen as below, where it is possible to set the linkage.

Example: 2-axis

No.NEW MANU	Р	No.NEW	MML P
Pass Out PS advance AD 0.0 PS Z and Y PASS 0.0 TS Z and X PASS 0.0	In the automatic mode, an adjusting utton will appear. Please see Section 2.4 Files for specific descriptions.	Pass Out PS advance AD PS Z and Y PASS TS Z and X PASS	0.0 0.0 0.0

Placement side transverse running: when moving from Y axis side to the placement side and the difference between Y axis's target value and Y axis's current value is the same as the setting value, the program will proceed to the processing in next step.

Placement side rising (go-upward): When the MZ axis on the placement side begins to rise(goes upward) and the difference between MZ axis's target value and MZ axis's current value is the same as the setting value, the program will proceed to the processing in next step.

Primary arm go-down: when the MZ axis on the take-out side goes downward and the difference between MZ axis's target value and the setting value is the same, the program will proceed to the processing in next step.



Director User 3 Operation description

# 4.1 Files

Select the "File" button on the menu screen to switch to the following screen where it is possible to perform the mould data management on the currently used data and the logging data in the local memory.



In this screen, it is possible to perform five data-related operations: load, save, cover, compare and delete. Use  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the operation desired to be performed and press the " $\blacksquare$ " key to get into the operation.

#### [Load]:

During the loading operation, each user can only load the files that the user shall have the permission to load.

To load a mold setting value, select the load operation mode to switch to the load operation screen as below.



① The files is loaded with attributes, and respectively are the files of standard attributes, and the files of instruction (teaching) attributes. The file of standard attributes, corresponds to the fixed users while the file of instruction (teaching) attributes, corresponds to instruction (teaching) users, with specific setting to be changed through the user setting.



In the course of file loading, load files with corresponding attributes according to the user permission. For details, please refer to the Section 2.17 User setting and user switching.

On the data screen on the left side, press the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  button to select the file desired to be executed, and press the " $\blacksquare$ " key to confirm the selection and then show the screen on the right side. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select "YES" and perform the load operation. Select "NO" to cancel the operation and return to the file screen. After the load operation is complete, click the "RETURN" key to return to file screen.

[Save]:

Select the "save" operation to display the screen on the left side below, where the system will automatically display the current minimum unused serial number, and press the "**■**" button in the yellow box on the left side to switch to the screen as shown on the right side. When the changed setting values and the written programs need to be saved, perform the save operation here, with a capacity to save up to 50 data. (For the descriptions on attributes please refer to the next page)









To perform a save operation on the above screen, use the action button as the number keys to perform input operation. The corresponding relation between the action button and the number key is shown as mentioned above. For this machine, all input operations are always performed by means of the action button.

Firstly, input a data sequence number (from1 to 999) which is desired to be saved, and after the input is done, use the up and down keys to move the cursor to select an option in the comment column, and press the "Decide/OK" button to switch to the screen as below.

Nk	).	2		SE	R_	2/	Ð	IR							M	AN	U	ł	>
Fil	е						F	i le	e	Si	a٧	е							
	3																		
A I	} C	D	Ε	F	G	H	Ι			1	b	C	d	e	f	g	h	ſ	
Jł	(L	•	1	0	P	Q	R				k			n	0	р	q	r	
<b>S</b> 1	ſU	¥		Х	Y	Z				3	t	U	۷		X	y	z		
0 1	2	3	4	5	6	7	8	9											
€.	.,	=	;			¥	\$	X			?	å	#	t	*	=	7		2
	Ŷ		(	)	<	>	I	]		ł	ł					S	PAC	Æ	
Conf i rn				ľ	<b>6</b> 2	lor	st i	•						Re	etu	Irn			
Back 3				oe	ret		U	"					C	le	ar				

On this screen, input the data name, use the  $\uparrow \rfloor / \lceil \downarrow \rfloor / \lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select English letters or symbols, and then press the "**u**"key to complete the input. To delete the input, press the "HOME" button to delete the same one by one, which may also be deleted by pressing the "RESET" button. After the operation, press the "MENU" button for confirmation. Please note that, at this time, the previous file name will be covered (overwritten) and saved. After the save operation is complete, automatically return to the file screen. To cancel the operation, click the "BACK" button to return.

#### File attributes are defined as follows:

According to the user setting, it is possible to define whether or not a user can save or read a file with the Attributes.

(Move the cursor to the "change" button and then continuously press the "■" key to change the file s. The setting of file attributes can be changed in the user setting. For user management, please refer to the descriptions in the "user setting" column.

Attribute names	Descriptions	User1	User 2	User3	User 4	User5	
Standard (read)	Standard	0	0	-	0	0	
Standard (save)	Standard	-	0	-	0	0	
Instruction(teaching)	Instruction	0				<u>_</u>	
(read)	(teaching)	0	-	0	0	0	
Instruction/teaching	Instruction			0	0	0	
(save)	(teaching)	-	-	0	0	0	
Privilege attribute (read)	-	_	0	0	0	0	
Privilege attribute (save)	-	-	-	-	0	0	



#### [Cover]:

During cover operation, each user can only perform the operation on the file that the user has the permission to operate.

To cover (overwrite) the selected data number with data, select the "cover" key to switch to the screen as shown on the left side and then press the "YES" key to perform the operation of cover (overwrite), and return to the mould management screen after the cover operation is complete.

No.	3 SER_2ADIR MANJ	Р
File	File save	
	Cover the existing data	
No		
Co		
Ту	Yes	

#### [Compare]

To make a comparison with the logged-in data, select this operation. It is possible to confirm whether or not the data in use is the same as the existing data. On the above screen on the right side, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the file desired to be compared and then press the " $\blacksquare$ " key for comparison.

According to the comparison results, the comparison information will be displayed. If the results are consistent, "consistent" will be displayed. If the results are inconsistent, the changed contents will be displayed by contrast. After confirmed, click the "BACK" button to return to the file screen.

#### **Delete**:

Each user can only operate the file that the user has permission to operate.

To delete the logged in data, select this operation to switch to the following screen. Use the  $\lceil \uparrow \rfloor$  /  $\lceil \downarrow \rfloor$  key to select the file to be deleted, press the "**u**" key to make a confirmation and then switch to the screen as shown on the right side. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the "YES" key to perform the delete operation, which will automatically return to the file screen after the delete operation is complete . Select the "NO" key to cancel the operation and return to the delete screen.

No.	3 SER_2ADIR	MANU P	No.	3	SER_2ADIR	MANU P
File	Delete	171	File	-	Delete	1/1
1	SER_2ASTD	STD			Delete in progress.	
2	SER_2ADIR	DIR				
3	SER_2ADIR	STD				
						_
					Yes NO	



4.2 Detailed mode under the instruction (teaching) users

The detailed mode under the instruction (teaching) user covers a total of nine pages, with a difference with the standard user mode that the standard mode of 01-04 and 11 to 18 is divided into single action modes as respectively: Primary arm U-shaped take-out, primary arm fixed mould taking objects, secondary arm U-shaped take-out, secondary arm movable mould taking materials, secondary arm mould inside placing materials.

	TRC1300										
	No	Name	Primary arm	primary arm fixed mould taking							
			U-shaped take-out	objects							
		L-shaped									
	1	clamp male	OFF	OFF							
		mould									
		L-shaped									
	2	clamp	OFF	ON							
	2	female	OFF	UN							
Primary		mould									
arm	3	U-shaped clamp male mould	ON	OFF							
	4	U-shaped clamp female mould	ON	ON							

The detailed differences are as shown in the table below.



# 

	TRC1300									
	0	Names		Secondary arm U-shaped take-out	Secondary arm movable mould taking materials	Secondary arm mould inside placing materials.				
	1	L-shaped clamp female mould		OFF	ON	OFF				
	2	L-shaped clamp male mould		OFF	OFF	OFF				
Secondary arm	3	U-shaped clamp female mould		ON	ON	OFF				
	4	U-shaped clamp female mould		ON	OFF	OFF				
	5	L-shaped clamp female mould inside placing materials		OFF	ON	ON				
	6	L-shaped clamp male mould inside placing materials		OFF	OFF	ON				
	7	U-shaped clamp female mould inside placing materials		ON	ON	ON				
	8	U-shaped clamp male mould inside placing materials		ON	OFF	ON				



# 4.3 Instruction (teaching) operation

## 4.3.1 [Main Menu]

On the menu screen, select the "Instruction/teaching" button to switch to the screen as below, where it is possible to perform the Instruction/teaching, with an initial display of main screen as below.

	No. :	3 SER_2ADIR	MANU P	
	Directi	ion		
	#001	Take-out action main	prognull	
1 🔶	#061	Holder open/close		
	#062	Sorptioin open/close		2
	#063	S clamp open/close		
	#065	Inserting		
	#066	Inserting 2(Y10)		
	New	Selection	Return	
	No.	2: Retrieve	Delete	

① Program no. : Express a subprogram in the sequence of serial number.

(2) Program name: Express the name of the subprogram.

[New] :

Press the "MENU" button to create a new program, with a serial number to be decided manually or generated automatically (in an automatic, start from the minimum number that has never been used).

[Program No.]:

Press the "HOME" button to switch to a digital key input mode to input the program No. desired to display/edit and switch to display the program.

【Return】:

Press the "BACK" key to execute the returning action and returns to the initial screen at the end of the program compiling. But, before returning to the initial screen confirm whether or not the program is compiled, and if compiled, there will be a prompt of error on grammar mistakes.

Select the program desired to delete and press the "RESET" button to perform the deleting action, with a prompt to confirm the information before the deleting action. After deleted, the screen will switch to the display of the next program, and if the deleted is a last program, the display will be the last program deleted.

Press the " $\blacksquare$ " key to implement the selection. After the selection has been decided, press the " $\blacksquare$ " key for confirmation.



[Retrieve] :

Press the "1" key to perform the retrieve action and switch to the retrieve screen.

Use the  $[\uparrow] / [\downarrow] / [\leftarrow] / [\rightarrow]$  to select the program name and serial number.

In the process of selecting program name, it is possible to edit the program name on the following screen, with up to 20 words to be input as comments.



Use the  $[\uparrow] / [\downarrow] / [\leftarrow] / [\rightarrow]$  button to select English letters, numbers or symbols, and after selected press the "**•**" key to perform the input action. Press the "HOME" button to delete the input item one by one, press the "RESET" button to delete all the input item at one time, and press the "MENU" button to confirm the input. To cancel the input, click the "BACK" button to return to the main screen.

Select a program number to switch to the following teaching/instruction screen for teaching/instruction.

It is possible to switch the "Basic instructions expression"/"Extended instruction expression.







#### Description of the display part:

①Step: serial number column/bar: displays the program's line serial number.

(2) Tab column/bar: displays the tab of the program, where it is possible to edit the tab.

③ Command (instruction) column/bar: displays the mark of this line command, where it is possible to select the type of commands/instructions.

④ Operand column/bar: displays the contents of the command/instruction, which is selected when only edit the content of this command. In case of a large amount of input contents and incomplete display, press the  $\lceil \rightarrow \rfloor$  key to view the contents not displayed.

(5) Name column/bar: display the serial number and name of the current program.

[Return]: Press the "back" button to return to the previous screen.

Select ]: Press the "■" key get into the corresponding program edit screen.

[Insert]:

Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select line desire to be inserted in, and press the "MENU" button to perform the inserting action. A blank line will be inserted into the position before the selected line.


#### [Delete]:

Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select line desire to be deleted, and press the "RESET" button to perform the deleting action.

#### Feature 2:

Press the "HOME" button to switch to the function 2 screen as below. According to the button setting mentioned above, switch the primary and secondary amt selection, speed, and etc..

Y	axis	ORG 🗱 a	cis (	RG NG	MANU P		
Direction Pno.001				ce-out	action main		
001		CALL	#13	#131(Early treatment			
002		CALL	#1	13 (Unus	ed axis retr		
003	237	Internal I	10 RE	RETO1 OFF			
004		CALL	#1	#118(Molding standby			
005		CALL	<b>#</b> 1-	#148(Molding standby)			
006	083	Cond. call	ΙΥ.	TA ON	GOSUB #117(L		
	2:Basic Selec			n	Speed 1		
Function1 [0.1]1.0]					Speed 🖡		

 $\llbracket 2 \rrbracket$  :

As shown below, it is possible to switch to the "Basic command/instruction display"/"Extended command/instruction display" screen. On the "Basic command/instruction display" screen and the "Extended command/instruction display" screen, the types of commands/instruction that can be entered are different.

X In the user setting, when he "Extended command/instruction display button" is set as "OFF", the switch button is not shown. In addition, when the user setting is set as "Extended command/instruction display", it is possible to set to firstly display the "Basic commands/instructions" or the "Extended commands/instructions".

[Basic command/instruction expression]

Y	axis	ORG 🔛	(axis	ORG	NG	MANU	Р	
Din	ectio	n Pro	o.001	Take-o	out a	ction 🛛	ain	
001		CALL		<b>#</b> 131 (I	Early	t reat	ent)	
002		CALL	#113(	Jnuse	d axis	retr		
003	237	Interna	l IO	RETO1 OFF				/
004		CALL		#118(	loldi	ng star	ıdby	
005		CALL		#148()	loldi	ng star	idby)	
006	083	Cond. a	all	NYTYA	ON G	osub #1	17(L	
Ins	ert	2:Basic	Selec	tion		Ret	ırn	
Funct	i on2	0.1	[1.0]			Delo	ete	

[Extended command/instruction expression]

Y	axis <mark>ORG MX</mark> axis	ORG NG	ANU P		
Dire	ection Pno.001	Take-out act	ion main		
001	≭Early treat∎ent				
002	*Unused axis retre	at nove			
003	Internal IO	RETO1 OFF			
004	≭∎olding standby P	OS NY			
005	*Nolding standby				
006	Cond. call	MYTHA ON GOSUB #117			
Ins	ert 2: ExtendSelec	tion	Return		
Funct	ion2 0.1[1.0]		Delete		





#### 4.3.2 $\lceil \text{Retrieve screen} \rfloor$ :

No.	3 SER_2ADIR MANU P	Yaxis ORG MX axis ORG NG MANU P
Direct	ion	Direction
#001	Take-out action main prognull	Axis CMD Axis over User code >
#061	Holder open/close	TST Line feed axis null ator
#062	Sorptioin open/close	TST P fore and back = indi
#063	S clamp open/close	≠(#)
#065	Inserting	<
#066	Inserting 2(Y10)	>
New	Selection Return	Retrieve Return
No-	2: Retrieve Delete	serection

Press the  $\lceil 2 \rfloor$  key on the above instruction/teaching screen to switch to the retrieve screen as shown on the right side, where a command/instruction classification list displayed on the top for the convenience of search, and use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  button to select the list of commands/instructions.

#### **Retrieve screen- axis commands/instructions**



Select the axis command/instruction list to switch to a screen as shown above, where the axis (TST) and conditions are shown on the two columns on the left side. After pressing the " $\bullet$ " key, the list of moveable positions is showed on the right side, with the conditions to be displayed in the sequence of  $[null] [=] [\neq] [<] [>]$ . Use the  $[\uparrow] / [\downarrow]$  key to select the required conditions, and then press the " $\bullet$ " key for confirmation. Use the  $[\uparrow] / [\downarrow]$  key to select the position in the list. It is possible to turn pages when moving to the last line and then pressing the  $[\downarrow]$  button. Select the position and then press the " $\bullet$ " key for confirmation. After a keyword is input, press the "MENU" button to begin the retrieve. Press the "BACK" button to cancel and reenter the input. Start to search this keyword from the start of the program. When a consistent keyword is found, the expression at this line the will appear blue. Press the "BACK" button to quit and return to the program screen for entering into the retrieve command/instructions.



Retrieve screen- axis over/complete



When selecting the axis over/complete list, the screen as shown above will appear. The axis (TEN) and condition is displayed in the two columns on the left side. The retrieval method is the same as that for the axis commands/instructions.

Refile ve seree	n- user coue			
Yaxis ORG	MX axis ORG	NG MANU P	No.NEW	
Direction		_	Direction Set	ting
Axis CMD	Axis over	User code >	< Axis CMD	Axis over
TST	null		TST	null
TST	=		> ¶STĽ	=
VSTN	≠(#)		<b>VST</b>	≠(#)
SST	<		SST	<
ZST	>		ZSTM	>
Retrieve	Selection	Return		Calaatiaa
	Derection			Selection

#### Retrieve screen- user code

Select a user code list to switch to the screen as shown above, where the code mark and condition are shown in the two columns on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the "•" key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lceil \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, use the action key to input a code value and after the input is complete, press the "MENU" button to start the retrieve.



No.NEW				MA	NU	Р
Direction Setti	ng			0~	999	
<numerical fun<="" th=""><th>Tar</th><th>ning</th><th>EXP</th><th>Timer</th><th></th><th>&gt;</th></numerical>	Tar	ning	EXP	Timer		>
CODE1		null				
CODE2		=		10		
DP2		≠(#)				
DBK8		<				
JKCT1		>				
		Retur	n			
	Selection					





Select the numerical function list to switch to a screen as shown above, where the function type and condition are shown in the two columns on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the "∎" key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lfloor \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, use the action key to input a function serial number value and after the input is complete, press the "MENU" button to start the retrieve.



Select the warning list to switch to the screen as shown above, where the warning information type(alarm, operating error and action expression) and condition are shown in the two columns on the left side, which will appear blue when selected with the  $\left[\uparrow\right] / \left[\downarrow\right]$  key and then pressing the " $\blacksquare$ " key before the next column can be selected. When the right condition is selected as shown on the screen on the right side, use the action key to input a warning information serial number value and after the input is complete, press the "MENU" button to start the retrieve.



**Retrieve screen- timer** 

**Retrieve screen- Warning expression** 

Select the timer list to switch to a screen as shown above, where the timer mark and name are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the " $\blacksquare$ " key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $[\downarrow ]$  button. When the right condition is selected as shown on the screen on the right side, press the "ON" key to start up the timer, press the "OFF" to complete the timer, and press the "null" key to delay the time. All outputs can be retrieved. After the input is complete, press the "MENU" button to start the retrieve.





Yaxis ORG ∎Xaxis ORG N	IG MANU P		Yaxis ORG	MX axis ORG	NG M	NU P
Direction			Direction		_	
< Mode setting Counter	T-out MACH	•	<li>Ide setting</li>	Counter	T-out I	IACH >
TPASS Traverse axis point pas	ss null		TPASS Traverse	axis point pa	iss	null
¶PASS P arm F-B axis point pa	ass ON		TPASS P arm F-	B axis point p	oass	ON
SPASS S arm F-B axis point pa	ass OFF		SPASS S arm F-	B axis point p	oass	OFF
TORG Traverse original reset	to		TORG Traverse	original rese	et o	
¶ORG Par∎ F-B original rese	et		TORG P arm F-	B original res	set	
Retrieve	Return		Retrieve	Salaction		Return
Selection				Serection		

#### **Retrieve screen- function**

Select the function list to switch to a screen as shown above, where the function mark and name are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the " $\blacksquare$ " key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lceil \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, press the "ON" key to put the function in use, press the "OFF" to let the function out of use, and press the "null" key to retrieve the function only, unrelated to the condition. After the input is complete, press the "MENU" button to start the retrieve.

#### **Retrieve screen- counter**

Yaxis ORG 🛚X axis ORG NG 🔛	NU P	Yaxis <mark>ORG</mark> ∎Xaxi	s ORG NG 🛛	ANU P
Direction	-	Direction		
< Node setting Counter T-out I	IACH >	<li>Inde setting Council Counc</li>	inter T-out	MACH >
PCUP1	null	PCUP1		null
PCUP2	ON	PCUP2		ON
PCUP3	OFF	PCUP3		OFF
PCUP4		PCUP4		
PCUP5		PCUP5		
Retrieve Selection	Return	Retrieve Sele	ection	Return

Select the counter list to switch to a screen as shown above, where the counter mark and name are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the "**•**" key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lceil \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, press the "ON" key to start up the counter, press the "OFF" to complete the counter, and press the "null" key to retrieve the counter only, unrelated to the condition. After the input is complete, press the "MENU" button to start the retrieve.





Yaxis ORG 🛋 axis ORG NG 🙀	ANU P	Yaxis ORG MX axis ORG NG 🚺	NJ P
Direction		Direction	
< Node setting Counter T-out	MACH >	< Mode setting Counter T-out	IACH >
X43 Yaxis original pt	null	X43 Y axis original pt	null
X44 Yaxislinit ON		X44 Yaxis li∎it	ON
XO4 Pupper position OFF		X04 P upper position	OFF
X18 Pretreat signal		X18 P retreat signal	
X14 Place-side zone		X14 Place-side zone	
Retrieve	Return	Retrieve	Return
Serection		oerectron	

**Retrieve screen- take-out machine** 

Select the take-out machine list to switch to a screen as shown above, where the take-out machine side's signal and name are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the "**•**" key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lceil \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, press the "ON" key to start up the signal, press the "OFF" not to start up the signal, and press the "null" key to retrieve the take-out machine's signal only, unrelated to the condition. After the input is complete, press the "MENU" button to start the retrieve.

Retrieve screen- injection molding machine



Select the injection molding machine list to switch to a screen as shown above, where the injection molding machine side's signal and name are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the " $\blacksquare$ " key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lceil \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, press the "ON" key to start up the signal, press the "OFF" not to start up the signal, and press the "null" key to retrieve the injection molding machine's signal only, unrelated to the condition. After the input is complete, press the "MENU" button to start the retrieve.





#### 1 Retrieve screen- user position 1

Yaxis ORG	MX axis ORG N	G MANU P		Yaxis ORG MX axis ORG NG 🚺	N P
Direction				Direction	
< 🛛 🖬 machine	User POS 1	Tab No. 🛛	>	<li>Imachine User POS 1 Tab N</li>	o. >
ATSTP Automati	c status releas	e null	,	ATSTP Automatic status release	null
TANT Inject-machine auto-stand ON				TANT Inject-machine auto-stand	ON
STPEN Cycle st	op allowing	OFF		STPEN Cycle stop allowing	OFF
CYSTP Cycle stop mark				CYSTP Cycle stop mark	
SZAN Swith a	nd without mark			SZAN S with and without mark	
Retrieve	Palastias	Return		Retrieve	Return
	Selection	_		Serection	

Select the user position 1 list to switch to a screen as shown above, where the user position code and name are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the "**•**" key before the next column can be selected. It is possible to turn pages when moving to the last line and then pressing the  $\lceil \downarrow \rfloor$  button. When the right condition is selected as shown on the screen on the right side, press the "ON" key to start up the memory, press the "OFF" not to start up the memory, and press the "null" key to retrieve the user position only, unrelated to the condition. After the input is complete, press the "MENU" button to start the retrieve.





Select the tab/program number list to switch to a screen as shown above, where the tab/program number are shown in the column on the left side, which will appear blue when selected with the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key and then pressing the "**•**" key before the next column can be selected. When properly selected as shown on the screen on the right side, use the action key to input the value of the tab number or program number After the input is complete, press the "MENU" button to start the retrieve.





#### **Retrieve screen – commands/instructions**

Yaxis ORG MX axis ORG NG MANU P				Yaxis ORG MMX axis ORG NG MANU P			
Direction				Direction			
< Connand				< Command			
Linear nove	Axis ACC	counter +1		Linear nove	Axis ACC	counter +1	
Axis move PD	Axis moving	counter RST		Axis move PD	Axis moving	counter RST	
Axis reset	Axis moving P	Register+1		Axis reset	Axis moving P	Register+1	
Axis reset P	Internal IO	Register -1		Axis reset P	Internal IO	Register -1	
Axis stop	External IO	Time delay		Axis stop	External IO	Time delay	
Retrieve	Selection	Cancel		Retrieve	Selection	Cancel	

Select the commands/instructions list to switch to a screen as shown above, where the names of the retrievable commands/instructions are shown, which will appear blue when selected with the  $\lceil\uparrow\rfloor/\lceil\downarrow\rfloor/\urcorner\to\rfloor$  key and then pressing the " $\blacksquare$ " key, press the "MENU" button to start the retrieve.



## 4.3.3 $\lceil$ Command edit method $\rfloor$ :

Tab (Displayed only in case of "extended command/instruction display)

Y	axis	ORG ∎X axis	ORG NG MANU P		Ya	axis 🤇	ORG 🛚 🗛 axis	ORG NG	MANJ P
Dir	ectio	n Pno.001	Take-out action main		Dire	ction	Pno.001	Take-out	t action main
001		CALL	#131(Early treatment)		L	_UU1	LUU	z i	L003
002		CALL	#113(Unused axis retr						
003	237	Internal IO	RETO1 OFF	N					
004		CALL	#118(Molding standby						
005		CALL	#148(Molding standby)	V					
006	083	Cond. call	MYTHA ON GOSUB #117(L						
Ins	ert	2:Basic Selec	tion Return		Nei		C_1_	· · · ·	Cancel
Funct	i on2	0.1[1.0]	Delete				Sele	ction	
Y	axis	<mark>ORG ∎X</mark> axis	ORG NG		Ya	uxis (	🕷 🖊 axis	ORG NO	MANU P
Dire	ectio	n Pno.001	Take-out action main		Dire	ction	Pno.001	Take-out	t action main
001	003	CALL	#131(Early treatment)		001 (	003 <mark>(</mark> C	ALL	#131 (Ea	rly treatment)
002		CALL	#113(Unused axis retr		002	C	ALL.	#113(Un	used axis retr
003	237	Internal IO	RETO1 OFF		003 2	237 I	nternal IO	RETO1 O	FF
004		CALL	#118(Molding standby		004	C	ALL	#118(No	lding standby
005		CALL	#148(Nolding standby)		005	C	ALL	#148(No	lding standby)
006	083	Cond. call	MYTHA ON GOSUB #117(L		006 (	083 C	ond. call	NYTVA O	N GOSUB #117(L
Ins	ert	2:Basic Selec	tion Return		Inse	rt 2:I	Basic Selec	tion	Return
				_					
Funct	i on 2	0.1[1.0]	Delete		Funct i	ion2	0.1[1.0]		Delete

Y	axis	<mark>ORG</mark> <b>MX</b> axis	ORG NG	ANU P
Di	ectio	n Pno.001	Take-out act	ion main
001		CALL	#131 (Early 1	treatment)
002		CALL	#113(Unused	axis retr
003	237	Internal IO	RETO1 OFF	
004		CALL	#118(Moldin	g standby
005		CALL	#148 (Noldin:	g standby)
006	083	Cond. call	NYTHA ON GO	SUB #117(L
Insert 2:Basic Selec		tion	Return	
Function2			Delete	



Select the blank TAB column on the main screen of the program, press the " $\blacksquare$ " key to display the candidate tab. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor / \lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the tab desired to add, press the " $\blacksquare$ " key for confirmation. Press the "MENU" button to automatically generate a new tab (automatically retrieve the selection starting from the smallest number). To stop a tab setting, press the "BACK" button to cancel and return to the program.

A alfa robot

If selecting a tab that has been set in the program and then press the "RESET" button, the tab can be deleted.

Y	axis	<mark>ORG</mark> <b>MX</b> axis	ORG NG MANU P	Yaxis ORG	MX axis ORG	IG MANU P
Direction Pno.001 Take-out action main Direction Pno.001 Take-out action				ut action main		
001		CALL	#131(Early treatment) <	903		
002		CALL	#113(Unused axis retr	Linear nove	Axis ACC	counter +1
003	237 🤇	Internal IO	RETO1 OFF	Axis move PD	Axis moving	counter RST
004		CALL	#118(Molding standby	Axis reset	Axis moving P	Register+1
005		CALL	#148(Molding standby)	Axis reset P	Internal IO	Register -1
006	083	Cond. call	MYTHA ON GOSUB #117(L	Axis stop	External IO	Time delay
Insert 2:Basic Selection Return 2:Basic Selection Cancel						
Function2 0.11.0 Delete Function2 0.11.0						

#### Commands/Instruction edit

Select the commands/instructions bar on the main screen to switch to several candidate lists on a screen as shown on the right side. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor / \lceil \leftarrow \rfloor / \rceil \rightarrow \rfloor$  button to select commands/instructions desired to be selected, press and hold the key to can move fast and continuously, and press " $\blacksquare$ " key after properly selected. Select the "step" bar or command/instruction column and press the "RESET" button to delete the line of command/instruction. If the operand part is selected, only the content of the command/instruction is deleted. To cancel the entered commands/instructions, press the "BACK" button.

When using a single arm, the secondary arm related basic commands/instructions are also all hidden for the convenience of the command/instruction edit.

In the "Basic command/instruction display"/"Expanded command/instruction display", it is possible to input commands/instructions as follows.





#### Basic commands/instruction list

Names	Actions		
Linear movement	Perform axis movement at the setting point.		
Axis reset	Perform the axis reset action.		
Internet contract	Perform the output action of the internal I/O and the internal		
Internal output	memory.		
External output	Perform the output action of the external I/O		
Conditional waiting	Perform the conditional waiting action of I/O and internal memory.		
Time delay	Perform the setting time delay action.		
Primary arm retreat/go-back	Perform the primary arm retreat/go-back action.		
Primary arm go-forward	Perform the primary arm go-forward action.		
Primary arm rising/go-upward(1-axis, fully pneumatic)	Perform primary arm rising/going upwards action.		
Primary arm decline/g-downward (1-axis, fully pneumatic)	Perform primary arm declining/going down action		
Secondary arm retreat/go-back	Perform secondary arm retreat/go-backward action.		
Secondary arm go-forward	Perform secondary arm going forward action.		
Secondary arm rising/go-upward	Perform secondary arm rising/ going upward.		
Secondary arm decline/g-downward	Perform secondary arm declining/going down action.		
Posture correction/aligning	Perform posture correction/aligning action.		
Posture lateral posture	Perform posture lateral posture action.		
Secondary arm moving towards primary arm side	Perform secondary arm moving towards primary arm side.		
Secondary arm moving towards line feed side	Perform secondary arm moving towards line feed side		
Primary arm and secondary arm	Perform primary arm and secondary arm returning to the		
returning to the middle	middle action		
Primary arm and secondary arm going to both ends	Perform primary arm and secondary arm going to both ends		
Primary arm and secondary arm	Perform primary arm and secondary arm rising/going upward		
rising/going upward simultaneously	simultaneously		
Primary arm and secondary arm	Perform primary arm and secondary arm declining/going		
declining/going downwards simultaneously	downwards simultaneously.		
Stack	Perform finished product placement position movement action.		
Finished product releasing action	Perform finished product placement action		
Secondary arm clamp opening action	Perform secondary arm clamp opening action		
Clamp closing action	Perform clamp closing action .		





Molding standby	Perform molding standby action.	
Mould unloading over/complete	Take-out side decline/gdown fore-processing, mainly	
license	include mould unloading over/complete waiting.	
Mould loading normission	Take-out post-placement side movement fore-processing,	
Mould loading permission	mainly including mould loading permission output.	
Transverse out or transverse in	Frequency conversing motor moving towards placement side	
Transverse-out of transverse-in	and take-out side	
thimble go-forwards or thimble	Molding machine post-mould-unloading thimble go-forward	
retreat/go-back	and go-backward.	

#### Extended commands/instruction list

Names	Actions	
Linear movement	(Refer to basic commands/instructions description)	
	Perform axis movement action at the setting point.	
Axis movement PD	Proceed to next step no before completion .	
Axis reset	(Refer to basic commands/instructions description)	
Axis reset P	Perform reset action. Proceed to next step no before completion.	
Axis stop	Stop axis action.	
Axis acceleration	Set each axis's acceleration.	
	Perform axis movement action at the setting position point.	
Axis movement	Position point can also be changed.	
	Perform axis movement action at the setting position point.	
	Perform axis movement action at the setting position point.	
Axis movement P	Position point can also be changed.	
	Proceed to next step no before completion	
Internal output (Refer to basic commands/instructions description)		
External output	(Refer to basic commands/instructions description)	
Counter + 1	Designated counter + 1.	
Counter reset	Reset designated counter.	
Memory + 1	Designated memory + 1.	
Memory - 1	Designated memory -1.	
Time delay	Perform time delay action.	
Axis pass	Designated axis pass action effective/ineffective	
jump	Perform tab unconditional jump	
call	Perform subprogram unconditional call.	



return

Conditional waiting

Conditional transfer

Conditional call

	a cfa robot
Back from subprogram.	
Perform setting condition waiting.	
Perform tab jump according setting conditions	
Perform program(subprogram) call according setting condit	ions

Program end	Perform program end processing
Alarm	Perform alarm display processing.
Program startup	Perform program (subprogram) startup
Program stop	Perform program (subprogram) stop.
Program pause	Perform temporary stop processing.

In instruction sreen, you can see all the commond will be rank.

If you want to change the expression back to old type, you should swich to the [system]-[user setting] to change it.plesase see the picture.

Y ORGING MX ORGING MANU P				
Direction	Pno.001 T-out	action main PRG		
Axis movement	Axis movement	Axis move D		
External output	Axis reset	Axis move PD		
Condition wait	Axis linkage	Axis movement		
Branch	Axis stop	Axis movement		
Function	Axis acc.			
counter				
system				
Internal output				

No.NEW				手动	正
用户设定		_	_	_	_
			用户5		
Compilation DIS	1	2	3	4	5
Extended command					
Extended command					
Stratification					

#### The diagram

		Axis move D
	Axis movement	Axis move PD
		Axis movement
		Axis movement
Axis movement	Avia react	Axis reset
	Axis reset	Axis reset P
	Axis linkage	Axis linkage
	Axis stop	Axis stop
	Axis acc.	Axis acc.
External output	Std. output	Std. output
External output	Rev. output	Rev. output
Condition wait	Time delay	Time I waiting
Condition wait	Condition wait	Condition wait





	Uncondition C	return
	Condition C	Pause
	Return	end
Branch	Uncondition J	call
	condition J	Condition B
		PRG startup
	Prallel PRG	PRG stop
	Standard stack Stack	
		P jig open
	CHUCK	P jig close
	CHUCK	S clamp open
		S clamp close
		M unload over
	M mach.control	M-load permiss
		Aligning
	Posture CTL	Posture
		P retreat
Funtion	F-p arm CTL	P advance
	S arm control	S T-O startup
		S retreat
		S advance
		S rising
		S go-down
		Thimble advance
		thimble retreat
	Others	P and S to M
		P and S to end
		Vibration T-out
acumtan	Counter+1	Counter-1
counter	CounterRST	Counter-1
	Pause	Pause
system	End	End
	Alarm	Alarm
	UserBit	UserBit
	UserCode	UserCode
	Timer	Timer
Internal output	Axis command	Axis command
	Axis control Axis control	
	Warning EXP	Warning EXP
	Memory	Memory-1
	INTERIOLY	jump





# 4.3.4 [Linear movement/Axis movement PD]

	Yaxis ORG	MX axis ORG N	IG MANU P	
	Direction	Pno.001 Take-o	ut action main	
	001			
<	Linear ∎ove	Axis ACC	counter +1	
	Axis move PD	Axis moving	counter RST	
	Axis reset	Axis moving P	Register+1	
	Axis reset P	Internal IO	Register -1	
	Axis stop	External IO	Time delay	
	2:Bas	Cancel		
	Function2	0.1]1.0]		

in
2
%
el

(3)

Note: The 2-axis part all includes Mz axis setting, and the following part takes the 1-axis as an example for description.



(1) Position: The position where the axis desired to move will be set, with an unit in mm.

(2) Speed: The axis's moving speed to be set, with an unit in %, as the percentage of the whole speed.

(3) Mz axis: 2-axis also includes the moving position of the Mz axis, with an unit in mm.

Select the axis movement/axis movement PD command/instruction to switch to the screen as shown above, where it is possible to edit the axis moving position and speed. The moving position desired to move can be selected for specific numerical setting. The action based on the setting value will be recorded as a program that later can still be based on to perform a same action. When the movement is complete, the next step of processing can be performed. Press the "**u**" key to switch axis's selecting/not selecting operation. After selected, set the axis's moving position. Use the  $\lceil \rightarrow \rfloor$  button to select the ① numerical value position, when the "**u**" key is pressed and the selected is displayed in orange, use the action key to input the moving value. After the completion of the input, press the "**u**" key for confirmation. Use the  $\lceil \rightarrow \rfloor$  button to select ② speed again, when the "**u**" key is pressed and the selected is displayed in orange, use the action key to input the moving value.





Yaxis ORG	MX axis (	RG N	G MANU	Р	Y	axis	ORG MX axis	ORG NG	MANU P
Direction Pno.001 Take-out action main					Dir	ectio	n Pno.001	Take-out a	action main
001 Linear nove					001		Linear nove	Yaxis(80	0.0 , 30 <b>%</b> )
Yaxis	800.0	mm	30	%	002		CALL	#131 (Ear I	y treat∎ent)
MX axis	*****	mm	30	%	003		CALL	#113(Unus	ed axis retr
					004	237	Internal IO	RETO1 OFF	
					005		CALL	#118(Nold	ing standby
					006		CALL	#148 (Nold	ing standby)
Conf i r	Selectio	n	Cance	əl	Ins	ert	2:Basic Select	lion	Return
Function2	0.1 1.0				Funct	t i on2	0.1[1.0]		Delete

After the completion of the command/instruction input, press the "MENU" button to confirm the command/instruction output, only when the axis is selected can the confirmation be made.

Press the "HOME" key to switch to function selection 2 ( $\lceil$  function 2 $\rfloor$ ) screen, where it is possible to perform the speed change and position memory for free operation (For the method of "position memory", please refer to Section 1.2.5 - Position setting).

# 4.3.5 [Axis movement/Axis movement P]



① Point number: Select the serial number of the point desired to be move.

2 Position/speed: The axis's position and speed to be set, with the position unit in mm and speed unit in % as the percentage of the whole speed.

Select the axis movement or axis movement P command/instruction to switch to the screen as shown above. On the axis movement screen, select the point number to set (it is possible to set the point position/speed value) the movement position. The movement over/complete processing transfers to the next line. The axis movement P does not wait for the movement over/complete.





Y axis	ORG MX axis	ORG NO	A MANU P						
Direction Pno.001 Take-out action									
002 Axis moving P									
Y axis	*xxxxx.*	mm 001 T	ake pos						
∎X axis	mm 002 down sby pos								
		003 1	003 Take pick-pos						
		006 S	place-pos						
		030 S	tack set 1						
Conf i r 🛛	Selec	t i on	Cancel						
Funct i on2	0.1[1.0]								

No.NEW				MANU P				
Direction	Setting		10.0 ~ 550.0					
002 Axis 🛾	oving P							
Y axis		mm	001 Take	pos				
MX axismm 002 down sby pos								
			003 Take	pick-pos				
			006 S pl	ace-pos				
			030 Stac	k set 1				
	Sel	ect i d	on	Cancel				
				Clear				

On the axis selection screen, press the " $\blacksquare$ " key to repeat the "select/not-select". After selected, set the point serial number. Then, set the position desired to move. Use the  $\lceil \rightarrow \rfloor$  button to select the ① numerical value position, press the " $\blacksquare$ " key. When displayed in orange, use the action key to input the numerical value of movement. After the input value is confirmed, press the " $\blacksquare$ " key.

Y axis	ORG MX axis	ORG NG MANU P								
Direction	Pno.001 T	ake-out action main								
002 Axis 🖿	002 Axis moving P Y axis P001									
Y axis	100.0 <mark>mm</mark>	009 Place R-PT								
MX axis	mm	005 P place-pos								
		007 🛿 out sby-pos								
		052 Standby pos 1								
		053 Standby pos 2								
Speed	Selecti	on								
Function1	0.1 1.0									

Y axis	ORG MX axis	ORG NG MANU P							
Direction	n Pno.001 Ta	ake-out action main							
002 Axis moving P Y axis P001									
Y axis	100.0 mm	009 Place R-PT							
WX axis	mm 005 P place-pos								
		007 l out sby-pos							
		052 Standby pos 1							
		053 Standby pos 2							
Pos MEM	Selectio	on Speed †							
Function 3	0.1[1.0]	Speed 🖡							

The axis moving speed can also be set. To perform function selection on the "Function 1" screen, press the "MENU" button (" speed "), when the display is in orange, input the value of movement with action key. Input the values and press the "•" key for confirmation.

	¥axis	ORG D	axis	;	org n	G		Р
	Direction	n Pro	o.001	Ta	ake-ou	it ac	tion	nain
	002 Axis 🖿	oving F						
	Y axis	10	0.0	ПП	001 1	ake	pos	
	WX axis	-		ПП	002 d	lo in	sby p	os
					003 1	ake	pick-	pos
					006 8	S pla	ace-po	s
					030 8	Stac	< set	1
C	Confir∎	)	Sele	ctio	on		Can	cel
	Function2	0.1	[1.0]					

Y	axis	ORG	10	axis	OR	G NG		IANU	Р	
Direction Pno.001				Take	e-out	act	ion	ain		
001		Line	ar	ove	Yau	cis(8	00.0	),3	0 <b>%</b> )	
002		Axis	1	wing	'Yao	cis(1	00.0	1,3	0 <b>X)</b> P	
003		CALL	CALL			#131(Early treatment)				
004		CALL			#113(Unused axis retr					
005	237	Inte	erna	I IO	RETO1 OFF					
006		CALL			#118	3(llol	ding	s sta	ndby	
Ins	ert	2:Bas	ic	Selec	tion			Ret	urn	
Funct	i on 2		0.1	[1.0]				Del	ete	





When the command/instruction input is complete, perform function selection on the "function 1" screen, and press the "MENU(" ok ")" key for confirmation). Press the "ok" key to display the axis movement command/instruction in the program list. Only when the axis is selected can the confirmation be made.

Press the "HOME" key to switch to the function selection 2 ("Function 2") screen where it is possible to perform the speed change and position memory of free operation. (For the method of "position memory", please refer to Section 1.7-Position setting).





# 4.3.6 [Axis reset/Axis reset P]

Yaxis ORG	MX axis ORG N	IG MANU P		Yaxis ORG	IX axis	ORG NG	W	NU	Ρ
Direction	Pno.001 Take-o		Direction	Pno.001	Take-out	act i	on 📭	in	
004				004 Axis res	et				
Linear nove	Axis ACC	counter +1	(	Y axis				30	%
Axis move PD	Axis moving	counter RST		WX axis				30	%
Axis reset	Axis ∎oving P	Register+1							
Axis recet P	Internal IO	Register -1							
Axis stop	External IO	Time delay							
2:Bas	ic Selection	Cancel		Conf i re	Kalaat			Cance	el
Function2	0.1[1.0]				Select	.100			

To reset or return the axis to the original point, select the "Axis reset/Axis reset P command/instruction", press the "•" key and select the axis with "•" key.



Yaxis <mark>OR</mark>	<mark>G 🛚 X</mark> axis	ORG NG	MA	NU	Ρ
Direction	Pno.001	Take-out	actio	n nai	in
004 Axis re	set				
Y axis				80	2
MX axis				30	%
Conf i r	Calas	Alian		Cance	
	serec	tion			

Y	axis	OR	G 🛙	axis	OR	G NG			Р
Direction Pno.001				Take	-out	act	ion 📭	ain	
001		Linear nove			Yax	axis(800.0 , 30 <b>%</b> )			
002		Axis moving F			Yax	is(1(	)0.0	, 80	<b>X)</b> P
003		CAL	CALL			#131(Early treatment)			
004		Ax i	s re	set	Yaxis(80)				
005		CAL			#113	(Unus	sed	axis	retr
006	237	Int	erna	I IO	RETO	1 OFF	-		
Insert 2:Basic Selec				tion			Retu	rn	
Funct	i on 2	0.1	<u>[1.0]</u>				Dele	te	

Use the  $[\rightarrow]$  key to move the cursor to the speed, press the " $\blacksquare$ " key ("SELECT") and use the action key to input values when displayed in orange. Press the " $\blacksquare$ " key after confirming the input values. When completing the command/instruction input, press the "MENU (OK)" key for confirmation. Press the "OK" to display the axis movement command/instruction in the program list.





The axis reset P is the h is the axis's original point reset command/instruction which after issued will immediately proceed to the next processing, without waiting for the original point reset end, while the axis reset will need to wait for the original reset end before performing the next processing. The axis's original point reset command/instruction will be closed at the end of the reset or when the stop command/instruction (BREAK) is executed.

# 4.3.7 [Axis stop]

Yaxis ORG	i∎Xaxis ORG I	IG MANU P	Yaxis ORG MX axis ORG NG MANU P
Direction	Pno.001 Take-o	ut action main	Direction Pno.001 Take-out action main
005			005 Axis stop
Linear nove	Axis ACC	counter +1	Yaxis
Axis move PD	Axis moving	counter RST	MX axis
Axis reset	Axis moving P	Register+1	
Axis reset P	Internal IO	Register -1	
Axis stop	External IO	Time delay	
2:Bas	ic Selection	Cancel	Confirm Cancel
Funct i on2	0.1]1.0	]	Berectron

To stop the axis's movement, select the axis stop command/instruction and press the " $\blacksquare$ " key to switch to the screen as shown on the right side for the output of Y axis stop command/instruction.

Y	axis	OR	G ID)	(axis	OR	G NG			Р		
Dire	ectio	m	Pro	o.001	Take-out action main						
001		Lin	Linear nove			Y axis(800.0 , 30%)					
002		Axi	Axis moving P			Yaxis(100.0 , 80%) F					
003		CAL	CALL			#131(Early treat∎ent)					
004		Axi	s re	eset	Yaxis(80)						
005		Ax i	s st	op	Yaxis						
006		CAL	L		<b>#</b> 113	) (Unu	ised	axis	retr		
Ins	ert	2:Ba	sic	Selec	tion			Ret	urn		
Funct	i on 2		0.1	[1.0]				Del	ete		

Use the  $\lceil \rightarrow \rfloor$  key to move the cursor to the speed, press the " $\blacksquare$ " key ("SELECT"), and use the action key to input values when displayed in orange. Press the " $\blacksquare$ " key after confirming the input values. When completing the command/instruction input, press the "MENU (OK)" key for confirmation. Press the "OK" to display the axis movement command/instruction in the program list. Only when the axis is selected can the confirmation be made.



# 4.3.8 **[Axis]**

Yaxis ORG MX axis ORG NG MANU P		No.NE	1		MANU P
Direction Pno.001 Take-out action main		Directi	or Setting	0.0 $\sim$	20000.0
006 Axis PASS		006 Ax	is PASS		
Yaxis 0.0 ■		Y axis			50
MX axis 0.0 🚥		MX axis			0.0
Confirm Cancel			Salar		Cancel
ON			Selec	cron	Clear
Yaxis ORG MX axis ORG NG MANU P		Y axis	ORG WX axis	ORG NG	MMI P
Yaxis ORG MX axis ORG NG MANU P Direction Pro.001 Take-out action main		Y axis Directi	ORG ∎X axis	ORG NG Take-out a	MANU P action main
Yaxis ORG MX axis ORG NG MANU P Direction Pro.001 Take-out action main 006 Axis PASS		Yaxis Directi 006	ORG MX axis on Pno.001 Axis PASS	ORG NG Take-out a Y axis 50	MANU P action main
Y axisORGMX axisORGMANUPDirectionPno.001Take-out action main006AxisPASSY axis50.0mm		Yaxis Directi 008	ORG WX axis on Pno.001 Axis PASS CALL	ORG NG Take-out a Y axis 50 #113(Unuse	MANU P action main ed axis retr
Y axisORGMX axisORGMANUPDirectionPno.001Take-outactionmain006AxisPASSY axis50.0mainMX axis0.0main	$\square$	Y axis Directi 006 007 008 237	ORG WX axis on Pno.001 Axis PASS CALL Internal IO	CRG NG Take-out a Y axis 50 #113(Unuse RETO1 OFF	MAND P action main ed axis retr
Y axisORGMX axisORGMANUPDirectionPno.001Take-out action mainOD6AxisPASSY axis50.0mmWX axis0.0mm		Y axis Directi 006 007 008 237 009	ORG WX axis on Pno.001 Axis PASS CALL Internal IO CALL	ORG NG Take-out a Y axi=>50 #113(Unuse RETO1 OFF #118(Mold	MAND P action main ed axis retr ing standby
Y axisORGMX axisORGNGPDirectionPno.001Take-out actionmain006AxisAxis50.0mainY axis0.0N		Y axis Directi 008 007 008 237 009 010	ORG WX axis Pno.001 Axis PASS CALL Internal IO CALL CALL CALL	ORG NG Take-out a Yaxis>50 #113(Unuse RET01 OFF #118(Moldi #148(Moldi	MANU P action main ed axis retr ing standby ing standby)
Y axis       ORG       MX axis       ORG       MANU       P         Direction       Pno.001       Take-out action main         006       Axis PASS         Y axis       50.0         WX axis       0.0		Y axis Directi 006 207 007 200 008 237 009 20 010 20 011 083	ORG WX axis Pho.001 Axis PASS CALL Internal IO CALL CALL CALL Cond. call	ORG NG Take-out a Yaxis>50 #113(Unuse RET01 OFF #118(Nold) #148(Nold) MYTWA ON 0	MAND P action main ed axis retr ing standby ing standby) GOSUB #117(L
Y axis       ORG       MX axis       ORG       MANU       P         Direction       Pno.001       Take-out action main         006       Axis       PASS         Y axis       50.0       mm         MX axis       0.0       mm         Confirm       Selection       Cancel		Y axis Directi 006 237 009 237 009 010 010 083 Insert	ORG WX axis ON Pno.001 Axis PASS CALL Internal IO CALL CALL Cond. call 2:Basic Selec	ORG NG Take-out a Yaxis>50 #113(Unuse RETO1 OFF #118(Mold) #148(Mold) MYTWA ON 0 tion	MAND P action main ed axis retr ing standby ing standby) GOSUB #117(L Return

To edit the axis-pass action, select the axis-pass command/instruction and press the " $\blacksquare$ " key, with the screen displaying the axis and pass-amount setting dialog box. Press the "HOME" key to switch the ON/OFF status of the axis pass. When the status is ON, the set amount is effective. Use the  $[\rightarrow]$  key to select the numerical box and press the " $\blacksquare$ " button, and use the action key to input the pass amount when displayed in orange. Press the " $\blacksquare$ " key for confirmation when the input is complete. After the edit is complete/over, press the "MENU" button for confirmation. After the edit is complete/over, press the MENU key to confirm the command/instruction.

Yaxis <mark>0RG ∎X</mark> axis 0	RG NG MANU P
Direction Pno.001 Tak	e-out action main
001 Axis PASS OFF	
Yaxis	0.0
NX axis	0.0
Confirm Selection	Cancel
OFF	

Y	axis	ORG 🖬	(axis	ORG	G	MANU	Р		
Dire	ectio	n Pro	o.001	Take-out action main					
001		Axis PA	ISS	OFF					
002		Linear	nove	Y axis(800.0 , 30%)					
003		Axis mo	wing F	Yaxis(100.0 ,80%)P					
004		CALL		#131(Early treatment)					
005		Axis re	eset	Y axis(80)					
006		Axis st	op	Y axis					
Ins	ert	2:Basic	Select	tion		Retu	Irn		
Funct	i on 2	0.1	[1.0]			Dele	te		





When the status is OFF, the set pass amount is ineffective. Press the "MENU" button switch to the screed as shown on the right side, showing that the output axis pass amount is ineffective.

Yaxis ORG	Yaxis ORG NG MANU F		MANU P		/axis	ORG	i NG		MANU	Р
Direction	Pno.001	Take-o	ut action main	Di	rectio	m	Pno.001	Take-o	ut action 🛾	ain
001				001	Prim	ary a	urn retrea	ıt		
Linear nove	Internal IO 🛛 Cond. wait		Cond. ∎ait	T	T35 Take: P retreat				0.50	S
Axis reset	External IO		Ti∎e delay	T	T39 Place: P retreat			,	0.50	S
¥Nould unloadir	ng over	*∎-load	ing permission							
*Thimble adv	ance	*Thi∎	ble retreat							
Stack		Primar	y ar∎ retreat							
2: Ext	t en <mark>Se l e</mark>	ction	Cancel	Co	nfirm		0		Cano	:el
Funct i on2	0.1[1.0]	)					Ui			

# 4.3.9 [Primary arm go-backward/ Primary arm go-forward]

Command the primary arm to perform the go-back/go-forward action. Select the "primary arm go-back (go-forward) "command and then press the "•" key.

No.NEW	MANU	P Ya	axis ORGNG	MANU P
Direction Setting 0.	00 ~ 99.99	Dire	ction Pno.001	Take-out action main
001 Primary arm retreat		001	Primary arm retro	eat
T35 Take: P retreat	1.00	S 002		
T39 Place: P retreat	0.50	S 003	Return	
Conf i ra	Cance	I Inse	rt 2: Exten <mark>sele</mark> c	tion Return
Ui		Funct	i on 2 0.1 1 .0	Delete



# 4.3.10 [Primary arm rising / Primary arm declining]

Command the primary arm to perform a rising/declining action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.11 Secondary arm go-backward/ Secondary arm go-forward

Command the secondary arm to perform go-back/go-forward action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.12 Secondary arm rising/ Secondary arm declining

Command the secondary arm to perform the rising (go-upward)/declining (go-downward) action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.13 [Posture aligning/correction]

Command the posture aligning/correction action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.14 [Posture lateral posture]

Command the lateral posture action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.15 [Primary arm and secondary arm returning to the middle / Primary arm

### and secondary arm going to both ends

Command the action of primary arm and secondary arm returning to the middle (going to both ends). For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.16 [Primary arm and secondary arm rising simultaneously/Primary arm and

#### secondary arm declining simultaneously

Commands the action of primary arm and secondary arm rising (declining) simultaneously. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.17 [Secondary arm take-out action entrance]

This command is a parallel startup command. The secondary arm take-out the action requires the user to enter the command and then edit the action program of secondary arm in the command, which will be implemented





together with the primary arm action at the same time. The operation after entering the command is the same as those for the other commands/instructions.

## 4.3.18 [Stack]

Yaxis <mark>ORG</mark>	NG		MANU P	Yaxis	ORG NG	MANU P		
Direction	Pno.001	Take-o	ut action main	Directi	on Pno.001	Take-out	action main	
001				001	ge Nå.			
Linear nove	Intern	al IO	Cond. wait			Yaxis		
Axis reset	Extern	al IO	Time delay	Start po	S -	******		
¥∎ould unloadin	g over	<b>≭i</b> -load	ing permission	Interval movt 0.0				
*Thimble adva	ance	*Thi	ble retreat	Speed X 30				
Stack Pri∎ary ar∎ retreat			y ar∎ retreat	Starting point				
2: ExtendSelection Cancel				Confirm Selection			Cancel	
Function2	0.1]1.0]	)		Funct ion2	0.1[1.0]			

Command the movement action towards to finished product position. Select the finished product placement position movement command and press the "∎" key.

No.NEW		MANU P	Y	axis	ORG NG		MANU P		
Direction Setting	1000.0 $\sim$	19000.0	Dire	ection	Pno.001	Take-out	action main		
001 Stack	Packag	e Né.	001	001 Stack			Package Né.		
	Y axis					Y axis			
Start pos.			Star	t pos.		1000.0			
Interval novt	0.0		Inte	Interval movt 0.0					
Speed X	30		Spee	ed X		30			
Starting point	1		Star	Starting point		1			
Confir <b>n</b> Sel	ect i on	Cancel	Confir∎ Selec			:tion	Cancel		
Function2			Funct	ion2	0.1[1.0]				

Use the  $\lceil\uparrow\rfloor \lceil\downarrow\rfloor \ \leftarrow \rfloor\rfloor$  key to move the cursor to each position desired to be set and press the " $\blacksquare$ " key ("SELECT"), use the action key to input values when displayed in orange. Press the " $\blacksquare$ " key after confirming the input values. After the command input is complete, press the MENU (OK)) key for confirmation. Press the OK key to show the primary arm go-back/retreat in the program list.

Press the "HOME" key to switch to the function selection 2 ("Function 2") screen where it is possible to perform the speed change and position memory of free operation. (For the method of "position memory", please refer to Section 1.7-Position setting).





Names	Actions
Starting position	Set the starting position.
Interval conveying	Set the interval conveying amount
amount	
Speed	Set the stack speed.
Stack number	Left: set the current stack number.
	Right: set the stack number.
Stack sequence	Set the sequence for performing stack.
	(1-shaft has only 1)
Interval direction	Select the interval direction from the +
	and

# 4.3.19 [Clamp opening 1/ Clamp closing 1]

Command the clamp opening/closing action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

### 4.3.20 [Secondary arm clamp opening/Secondary arm clamp closing]

Command the secondary arm clamp opening/closing action. For the input method of setting, refer to the "primary arm go-backward/ primary arm go-forward".

## 4.3.21 [Finished product post-processing]

Processing action after finished product release. For the input method of setting, refer to the "**primary arm go-backward**/ **primary arm go-forward**".

#### 4.3.22 [Mould unloading over/complete]

Take-out side go-down/declining fore-processing, mainly including mould unloading over/complete waiting. For the input method of setting, refer to the "**primary arm go-backward/ primary arm go-forward**".

## 4.3.23 [Molding permission]

Take-out post-transverse-out fore-processing, mainly including model loading permission output. For the input method of setting, refer to the "**primary arm go-backward**/ **primary arm go-forward**".

## 4.3.24 [Jump]

To jump towards a specified tab, select the unconditional jump command to switch to the screen as shown above, where the tab list that can jump to. Use the  $\lceil\uparrow\rfloor/\lceil\downarrow\rfloor$  key to select the tab desired to be performed, and press the " $\blacksquare$ " key. When the selected is displayed in blue display, press" MENU " key to a screen as shown on the right





side for the command output. To jump towards a new tab, press the "HOME" key to set a new one that will be automatically numbered from the smallest serial number. It is only possible to display a tab defined within the same program number, or described within the operand (impossible to jump towards a tab of other program).

# 4.3.25 [Call]

Yaxis ORG	NG	MANU P	Yaxis ORG NG		MANU P
Direction	Pno.001 Take-o	ut action main	Direction Pno.	.001 Take-o	ut action main
001			001 CALL		
Axis reset P	Internal IO	Register -1	1~100	101~200	201~250
Axis stop	External IO	Time delac	#001 Take-out a	action main	prognull
Axis PASS	Cond. wait	Alarn output	#051 Secondary	arn take-ou	ut stnull
Jump	Cond. jump	Progran start	#061 Holderop	en/close	
CALL	Cond. call	Program stop	#062 Sorptioin	open/close	
2:Bas	ic Selection	Cancel	Confire	Peleetine	Cancel
Function2	0.1]1.0]			Serection	

	Y	axis	OR	i NG						Р
	Din	ectio	n	Pno	.001	Take	e-out	act	ion 📭	ain
	001		CALL			#00)(Take-out action				ion
002			CALL	CALL			#171(Primary arm ret			
	) 003			Return						
V										
	Ins	ert	2:Bas	sic	Selec	tion			Retu	Irn
	Funct	i on2		0.1	[1.0]	)			Dele	ete

To compulsorily execute a specified subprogram, select the unconditional call commands to switch to the screen as shown above, where an executable program list is displayed. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the program desired to be performed, press the " $\blacksquare$ " key, when the selected is displayed in blue, press the "MENU" key to switch to the screen as shown on the right side for the command output. Based on the serial number, the program is displayed in three list, namely "1 ~ 100" "101 ~ 200" and "201 ~ 250". Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the list, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the target program, press the " $\blacksquare$ " key to display the selected in blue. At the end of the edit, press the "MENU" key to confirm the output command. Program number 251 ~ 251 cannot be called.





# 4.3.26 **[Return]**

	Yaxis ORG NG MANU P			Y	axis	ORG NO	ì		MANU P	
	Direction	Pno.001 Take-o		Din	ectio	n Pn	o.001	Take-out	action main	
	003				001		CALL		<b>#</b> 001 (Take	e-out action
	Axis stop	External IO	Ti∎e delay		002		CALL		#171 (Pri	ary ar∎ retr
	Axis PASS	Cond. wait	Alarn output		003		Return			
	Junp	Cond. jump	Program start	$\square$						
	CALL	Cond. call	Program stop							
$\langle$	Return	Program end	Progran pause							
	2:Bas	ic Selection	Cancel		Ins	ert	2:Basic	Selec	tion	Return
	Function2	0.1[1.0]			Funct	i i on 2	0.	[]1.0]		Delete

To return to the program from the branch, select this command, press the " $\blacksquare$ " key to switch to the screen as shown on the right side for the command output. When instructing/teaching to the last line, a blank line will ge automatically generated for the convenience of continuing the program editing.

# 4.3.27 [Axis speed]



Y	axis	ORC		MANU	Р				
Instruction Pno.001 Take-out action ma									
003 Axis ACC									
Ya	kis					ľ			
						Canc	:e l		
OF	F		Selec	OFF Selection					
			Yaxis ORG NG MANU						
Y	axis	OR	à NG			MANU	Р		
Y Dire	axis ectio	OR An	<mark>a NG</mark> Prio.001	Take-o	out a	MANU ction m	P ain		
Y Dire 001	<mark>axis</mark> ectio	OR( xn CALL	<mark>a NG</mark> Prio.001	Take-0 #001 (1	out a Take-	MANJ ction m out act	P ain ion		
Y Dira 001 002	axis ectio	OR( X) CALL	3 NG Pno.001 L	Take-o #001 (1 #171 (F	out a Take- Prima	MANU ction m out act ry arm	P ain ion retr		
Y Dira 001 002 003	axis ectio	OR( Xn CALL CALL Axis	a NG Prio.001 L s ACC	Take-o #001 (1 #171 (F	out a Take- Prima 5 14	MANU ction ⊫ out act ry ar∎	P ain ion retr		
Y Dira 001 002 003 004	axis ectio	CALL CALL CALL Axis Retu	a NG Pno.001 L s ACC urn	Take-0 #001 (1 #171 (F Y ax)s	out a Íake- Pri∎a s 14	MANU ction ma out act ry arm	P ain ion retr		
Y Dira 001 002 003 004	axis ectio	CALL CALL CALL Axis Retu	a NG Pno.001 L s ACC urn	Take-0 #001 (1 #171 (F Y ax)s	out a lake- Prima s 14	MANU ction ma out act ry arm	P ain ion retr		
Y Dir 001 002 003 004	axis ectio	ORC CALL CALL Axis Retu	a NG Pno.001 L s ACC urn	Take-o #001 (1 #171 (F Y ax)s	out a Take- Prima 5 14	MANU ction a out act ry arm	P ain ion retr		
Y Dira 001 002 003 004	axis ectio	CALL CALL CALL Axis Retu	a NG Pno.001 L s ACC urn sic Selec	Take-co #001 (1 #171 (F Y ax) stion	out a Take∽ Pri∎a s 14	MANU ction act out act ry ar Retu	P ain ion retr		





To set the axis acceleration, select the axis acceleration command, press the "**u**" button to switch to the screen as shown above for edit, where the axis and acceleration setting box is displayed. Press the "HOME" key to switch the axis acceleration's ON/OFF status. When the status is ON, the setting of acceleration is effective. Use the  $[\rightarrow]$  key to select the numerical value box and press the "**u**" key, with the output value 14 is displayed in orange, use the  $[\uparrow ]$  (increase)/  $[\downarrow ]$  (reduce) key to change the acceleration value, with a variable range of 26 stages from 1 to of 26. at the end of input, press the "**u**" key for confirmation, with the orange display disappearing. At the end of edit, press the "MENU" key to confirm the output command.

Yaxis ORG NG	MANU P		Y	axis	OR	G NG		MANU P
Instruction Pno.001 Take-out	action ma		Din	ectio	n	Pno.001	Take-out a	tion main
003 Axis ACC			001		CAL		#001 (Take-o	out action
¥		_\	002		CAL		#171 (Prima	ry ar∎ retr
TAXIS		-/	003		AX IS	s ACC	OFF	
			004		Ret	rn.		
Confirm	Cancel		Ins	ert	2 <b>: Ba</b> s	sic Selec	tion	Return
ON Selection			Funct	i on 2	_	0.1[1.0]		Delete

When the status is OFF, the setting acceleration value is ineffective. Press the "HOME" key to confirm the output of the axis acceleration ineffective command.

## 4.3.28 [Internal output]

To control the internal output, select the internal output command. Press the "**•**" button to switch to the edit screen. Once the internal output is set as ON/OFF, it will keep the state until a counter command is input, which can also be set as ON/OFF only within the setting time. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  button to select upper classification list, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the internal storage and output in the list. Move to the last line and then press  $\lceil \downarrow \rfloor$  button to turn pages. When the "**•**" key is pressed, output is ON, when the "HOME" key is pressed, the output is OFF. Edit after completion of an output edit, the button on the screen will change to get the conditions ready for editing the next output. At this point, press the "**•**" key to increase the output by an "or" condition, press the "HOME" button to increase the output by an "and" condition. To delete the input, press the "RESET" button to delete them one by one, and press the "BACK" button to cancel the input. At the end of the edit, press the "MENU" key to confirm the output command.





Yaxis <mark>ORG</mark>	MANU P								
Direction Pno.001 Take-out action main									
001 Internal IO									
User POS 1	User POS 2	User POS 3 >							
ATSTP Automatic status release									
TATT Inject-machine auto-stand									
STPEN Cycle stop allowing									
CYSTP Cycle stop mark									
Conf i rm	ON	Cancel							
OFF	CM	Delete							

Yaxis ORG NG	MANU P						
Direction Pno.001 Take-out action main							
001 Internal IO ATSTP ON							
< User POS 4 User code STD t	imer 1 >						
T1S Take: P reach							
T1 Take: P reach over							
T2S Take: P descend							
T2 Take: P descend over							
Confirm Salastian	Cancel						
and(,)	Delete						

Yaxis ORGNG	MANU P							
Direction Pno.001 Take-out action main								
001 Internal IO ATSTP ON								
< Function Axis command Marning EXP								
TPASS Traverse axis point pass								
¶PASS P ar∎ F-B axis point pass								
SPASS S ar∎ F-B axis point pass								
TORG Traverse original reset o								
Confirm Cance								
and(,) Selection Delete								

#### **Output of user position 1~user position 4:**

Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the list groups of the user position 1 ~ user position 4, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select each memory. When the " $\blacksquare$ " key is pressed, the selected is ON, when the "HOME" key is pressed, the

#### **Output of user codes:**

Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the user code list, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  button to select the user code. Use the  $\lceil \rightarrow \rfloor$  key to move to the numerical bar to make it appear orange, and then use the action key to input the code value. Press the " $\blacksquare$ " key to confirm the output the command.

# Output of standard timer, user timer and fixed timer:

Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the list of the standard timer, user timer and fixed timer, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key select the timer. Press the " $\blacksquare$ " key to let the selected timer to get ON (startup) and press the "HOME" key to let the selected timer to get OFF (not in use).

#### **Output of function:**

Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the function list, and use  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the functions desired to be controlled. When the "**•**" key is pressed, the selected function gets ON the (in use), and when the "HOME" key is pressed, the selected function gets OFF (not in use).

#### Output of axis command/instruction

Use the  $\lceil \leftarrow \rfloor / \rceil$  key to select the command/instruction list, and, when pressing the " $\blacksquare$ " key to let the selected displayed in blue, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$ key to select the movement position. After confirmation has been made, press the " $\blacksquare$ " key to output the command/instruction.





Yaxis <mark>OR</mark>	MANU	Р						
Direction Pno.001 Take-out action								
001 Internal IO ATSTP ON								
< Function	Axis com	and	arning EXP					
ALM								
USRER								
CONE								
Confirm	Salacti	Cance						
and(,)	oerect	UII	Delete	e				

4.3.29 [External output]

#### **Output of warning expression:**

Use the  $\lceil \leftarrow \rfloor / \rceil \rightarrow \rfloor$  key to select the warning expression list, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the types of warning messages; when the column on the right side is displayed in orange, use the action key to input the serial number of the message. Press the "" key to confirm the output command.

	Yaxis ORG NG NAMU P		Y	axis	ORG NG		MANU P
	Direction Pno.001 Take-out action main	1	Din	ectio	n Pno.001	Take-out	action main
	001 External IO	N	001	$\langle$	External IO	Y06 ON	
	STD output Res output		002				
<	YN6 P go-do <b>v</b> n	$\triangleright$ '	003		Return		
	Y07 P go-forward						
	Y19 Phold						
	YO8 P sorption						
<	Confire Cancel		Ins	ert	2:Basic <mark>Selec</mark>	tion	Return
	OFF Delete		Funct	t i on2	0.1[1.0]		Delete
	Yaxis ORG NG MANU P		Y	axis	ORG NG		MINI P
	Direction Pno.001 Take-out action main		Dire	ectio	n Pno.001	Take-out	action main
	UUZ External IO		001		External IO	Y11 ON	
	STD output Res output		001 002		External IO	Y11 ON	
<	UU2     External     10       STD output     Res output        Y11     SBY 1		001 002 003		External IO Return	Y11 ON	
<	UU2     External     10       STD     output     Res     output       Y11     SBY 1		001 002 003		External 10 Return	Y11 ON	
<	VU2     External     IU       STD     output     Res     output       Y11     SBY 1       Y01     SBY 2       Y02     SBY 3		001 002 003		External IO Return	Y11 ON	
<	UU2     External     IU       STD     output     Res     output       Y11     SBY 1     Image: SBY 2       Y02     SBY 3       Y28     SBY 4		001 002 003		External IO Return	Y11 ON	
	UU2     External     10       STD     output     Res     output       Y11     SBY 1	<b>P</b> _/	001 002 003 	ert	External IO Return 2:Basic Selec	Y11 ON	Return

On the screen, it is possible to edit the external output control commands/instructions. External output is displayed in two list by type. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the take-out machine output or the injection molding machine output. Use the  $\int \int \langle \downarrow \rangle$  key to select the output in each list. Use the  $\int \int \langle \downarrow \rangle$  key to move to the bottom line of the screen and press for turning pages. Press the "•" key to let the selected external output to get ON, and press the "HOME" key to let it get OFF. Finally press the "MENU" key to confirm the output command.



# 4.3.30 [Conditional waiting]

Yaxis ORG NG MANU P	Yaxis ORGNG MANU P
Direction Pno.001 Take-out action main	Direction Pno.001 Take-out action main
001 Cond. wait	001 Cond-wait X43 ON
Manipulator Manipulator Preparation 2 >	Manipulator Manipulator Preparation 2 >
X43 Yaxis original pt	X43 Yaxis original pt
X44 Yaxis li∎it	X44 Yaxisli∎it
XO4 P upper position	XO4 Pupper position
X18 Pretreat signal	X18 P retreat signal
Confire Ot Cancel	Confire Cancel
OFF Delete (	and(,) Delete
Y axis ORG NG MALLE D	Y avia ORG NG MANI D
Yaxis ORG NG MANU P	Yaxis ORG NG MANJ P
Yaxis ORG NG MANU P Direction Pro-001 Take-out action main	Y axis ORG NG MANU P Direction Pro.001 Take-out action main
Y axis       ORG NG       MANU       P         Direction       Pno       OO1       Take-out action main         OO       Cond. wait       X43 ON,         Manipulator       Manipulator       Preparation 2 >	Y axis       ORG NG       MANU       P         Direction       Pno.001       Take-out action main         001       Cond- wait       X43       ON,X44       ON         Manipulator       Manipulator       Preparation 2       >
Y axisORG NGMANUPDirectionPno.001Take-out action main00Cond. waitX43 ON,ManipulatorManipulatorPreparation 2 >X43Y axis original pt	Y axis       ORG NG       MANU       P         Direction       Pno.001       Take-out action main         001       Cond. wait       X43       ON,X44       ON         Manipulator       Manipulator       Preparation 2       >         X43       Y axis original pt       P
Y axis ORG NG MANU P Direction Pro 001 Take-out action main OO Cond. wait X43 ON, Manipulator Manipulator Preparation 2 > X43 Y axis original pt X44 Y axis limit	Y axis       ORG NG       MANU       P         Direction       Pno.001       Take-out action main         001       Cond-mait       X43       ON,X44       ON         Manipulator       Manipulator       Preparation 2       >         X43       Y axis original pt       X44       Y axis limit
Y axis ORG NG MANU P Direction Pno 001 Take-out action main 00 Cond. wait X43 ON, Manipulator Manipulator Preparation 2 > X43 Y axis original pt X44 Y axis limit X04 P upper position	Y axisORG NGMANJPDirectionPno.001Take-out action main001Cond. waitX43ON,X44ONManipulatorManipulatorPreparation 2>X43Y axis original ptX44Y axis limitX04P upper position
Y axis ORG NG MANU P Direction Pro 001 Take-out action main OO Cond. wait X43 ON, Manipulator Manipulator Preparation 2 > X43 Y axis original pt X44 Y axis limit X04 P upper position X18 P retreat signal	Y axis       ORG NG       MANU       P         Direction       Pno.001       Take-out action main         001       Cond-mait       X43       ON,X44       ON         Manipulator       Manipulator       Preparation 2       >         X43       Y axis original pt       X44       Y axis limit         X04       P upper position       X18       P retreat signal
Y axis ORG NG MG MANU P Direction Pro OO1 Take-out action main OO Cond. wait X43 ON, Manipulator Manipulator Preparation 2 > X43 Y axis original pt X44 Y axis limit X04 P upper position X18 P retreat signal Confirm ON Cancel	Y axis       ORG NG       MANU       P         Direction       Pno.001       Take-out action main         001       Cond. wait       X43       ON,X44       ON         Manipulator       Manipulator       Preparation 2       >         X43       Y axis original pt       X44       Y         X44       Y axis limit       X04       P       upper position         X18       P retreat signal       Cancel

If desire to stop the stepping program before the condition is met, select the conditional waiting command/instruction to access to the edit screen, where it is possible to set the ON/OFF status of all I/O (including output and memory) and also possible to set the register code's (8 bit) consistence, inconsistence and size comparison, until the condition is established, and then stop the stepping program. The classification I/O list group is displayed at the upper side. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the list, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select each I/O and memory in the list.

Press the "**u**" key to let the selected as ON and press the "HOME" key to let the selected as OFF. At the end of the condition input, to increase the condition, the key display changes as shown on the right screen, where, press the "**u**" key to increase conditions (or) in an "or," form, and press the "HOME" key to increase the condition in an "and" form. To cancel the input, press the "RESET" button to delete them one by one.

Y	axis	OR	G NO	i		_	MANU P
Direction Pno.001				Take-out action main			
001		Con	d- 1	ait	X43	ON,X44	ON
002		Ext	erna	al IO	Y11	ON	
003		Return					
Insert 2:Basic Selec			tion		Return		
Funct	i on 2		0.1	[1.0]			Delete



At the end of condition input, press the "MENU" button to confirm the output command.



# 4.3.31 [Conditional transfer]

Commands/Instructions to transfer towards a specified tab when such editing conditions are satisfied, and the method for the condition input is the same as that for the input of the [conditional waiting] command. At the end of the condition input, press the "MENU" key for confirmation, and the tab within the specified executable program is displayed. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the group classified by tag number, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the tab, and press the "**u**" key to make it displayed in blue, meaning that the selection is proper. To transfer to a new Tab, press the "HOME" key to set up a new one (Numbered starting from the smallest tab serial number). Press the "MENU" button to confirm the output command.



# 4.3.32 [conditional call]

Yaxis ORG NG MANU P	Yaxis ORG NG MANU P
Direction Pno.001 Take-out action main	Direction Pno.001 Take-out action main
001 Cond. call	001 Cond. call X43 0N,X44 0N
Manipulator Manipulator Preparation 2 >	1~100 101~200 201~250
X43 Yaxis original pt	(#001 Take-out action ∎ain prognull
X44 Yaxis li∎it	#002 null
XO4 P upper position	#051 Secondary ar∎ take-out stnull
X18 P retreat signal	#061 Holder open/close
Confire Cancel	Confire Cancel
OFF Delete	

	Y	axis	ORG NO	i i			MANU	Р
	Din	ectio	n Pro	5.001	Take	e-out ac	tion ma	ain
<u>\</u>	001		Cond. c	all	X43	ON,X44	on gos	UB #>
$\sqsubseteq$	002		Cond. j	unp	X04	ON GOTO	L003	
	003		Cond.	ait	<b>X4</b> 3	ON,X44	ON	
	004		Externa	ul IO	¥11	ON		
	005		Return					
	Ins	ert	2:Basic	Select	tion		Retu	Irn
	Funct	i on 2	0.1	[1.0]			Dele	te

Commands/Instructions to transfer towards a specified subprogram when such editing conditions are satisfied, and the method for the condition input is the same as that for the input of the [conditional waiting] command. At the end of the condition input, press the "MENU" key for confirmation, and the specified executable program list is displayed. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the list classified by program number, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the subprogram, and press the " $\blacksquare$ " key to make it displayed in blue, meaning that the selection is proper. Press the "MENU" button to confirm the output command.





# 4.3.33 [Program end]

Yaxis ORG NG MANU P				Yaxis ORG	NG	MANU P
Direction Pno.001 Take-out action main				Direction	Pno.001 Take-o	ut action main
005				005		
Axis stop	External IO	Time delay		Axis stop	External IO	Ti∎e delay
Axis PASS	Cond. wait	Alarn output		Axis PASS	Cond. wait	Alarn output
Junp	Cond. jump	Program start		Junp	Cond. jump	Program start
CALL	Cond. call	Program stop		CALL	Cond. call	Program stop
Return	Program end	Progran pause		Return 🤇	Program end	Program pause
2:Bas	ic Selection	Cancel		2:Bas	ic Selection	Cance I
Function2	0.1[1.0]			Function2	0.1]1.0	

To end the program run, select this command/instruction. After selected, press the " $\blacksquare$ " key to output the command directly as shown on the screen on the right side.

# 4.3.34 [Counter+1 / Counter reset]



Y	Yaxis ORG NG MANU P										
Direction Pho.001			)1	Take-out action main							
001		Cond. call			X43 ON,X44 ON GOSUB #						
002		Cond. jump			X04 ON GOTO LOO3						
003		Cond. wait			X43 ON,X44 ON						
004		External IO			Y11 ON						
005		Pro	gran en	Ч							
006		cou	nter +1		PCIN						
Insert 2:Basic Selec				ect	tion		Return				
Function2 [0.1]1.0]						Delete					

Yaxis ORG NG MANU										
Direction	Pno.001	Take-ou	ut action ma	ion main						
006 counter	+1									
1 page	2 pa	ges								
PCIN1										
PCIN2										
PCIN3										
PCIN4										
Conf i r <b>n</b>	Salaa	tion	Canc	el						
	serec	tron								





On this screen, it is possible to set the value of the counter. According to the types of counter, the display will consist of 2 pages. Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to switch the page display, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the counter of each page. Press the " $\blacksquare$ " key to make displayed in blue, and then, press the "MENU" key to confirm the "output counter + 1 or reset" command/instruction.

Yaxis <mark>OR</mark>	G NG		MANU	Р
Direction	Pno.001	Take-out	action 🖿	ain
007 Registe	r+1			
TST				
-ST				
VST				
SST				
ZST				
Conf i r <b>n</b>	Calar		Can	:el
	Selec	T 101		

4.3.35 [Memory+1 / Memory-1]

Y axis	ORG NO	ì		MANU	Р
Directio	n Pro	o.001	Take-out	action	main
007 Regi	ster+1				
TST					
ST					
VST					
SST					
ZST					
Conf i r		Selec	tion	Car	ncel

Y	Yaxis ORG NG MANU P										
Direction			Pno.001 Take-out act			tion main					
002		Cond.jump			X04 ON GOTO LOO3						
003		Cond. wait			X43 ON,X44 ON						
004		External IO			Y11 ON						
005		Program end									
006		counter +1			PCIN1						
007		Reg	iste	er+1	TST						
Insert 2:		Basic Select		tion		Return					
Funct	i on 2	0.1[1.0]					Delete				

On this screen, use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the memory desired to be set, press the " $\blacksquare$ " key to make it displayed in blue, and then press the "MENU" key to confirm the output command, with the operating steps as shown on the above screen.





# 4.3.36 [Time delay]

Yaxis ORG	MANU	Р		Yaxis <mark>ORG</mark>	MANU	Р		
プログラム編集				7	いう編集			
002 時間待ち				00:	2 時間待ち			
Direct	T1-20	T21-40	>		Direct	T1-20	T21-40	>
T1 Take: P	reach over	0.50	8	Т	1 Take: P	reach over	0.50	8
T2 Take: P	descend over	1.00	8	Т	2 Take: P	descend over	1.00	8
T3 Take: S	reach over	0.50	8	T	3 Take: S	reach over	0.50	8
T4 Take: S	descend over	1.00	8	T	4 Take: S	descend over	1.00	8
決定	ON	CANC	EL		決定	ON	CANC	EL

	Y	axis	- M		Р				
	Dire	ectio	on Pno.001			Take-out	act i	on 📭	ain
	001 1		Tin	e de	lay	0.00 s			
	002		Time delay T			T1			
	003		Return						
Ν									
$\square$									
V									
	Insert 2:Basic Select					tion		Retu	rn
	Funct	i on 2		0.1	[1.0]			Dele	te

The program only stops the stepping within the delay time. It is possible to select the timer mark through the list, or the value of it may be directed input. To select a timer mark, use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select the timer list, and use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the timers in the list. Press the " $\blacksquare$ " key to make the timer get ON and then press the "MENU" key to confirm the output the command. To change the setting value of the timer, select the numerical value bar to make it displayed in orange, and then use the action key to input values. Press the " $\blacksquare$ " key to end the input and press the "MENU" key to confirm the output command/instruction.






	Y	axis	OR	G NG			M	W	Р
	Dir	ectio	n	Pno	.001	Take-out	act i	on 🗖	ain
	001		Tin	e de	lay	0.00 s			
	002		Īi	e de	lay	2.00 s			
	003		Tin	e de	lay	T1			
Ν	004		Ret	urn					
$\square \rangle$									
r									
	Ins	ert	2:Ba	sic	Select	tion		Retu	ırn
	Funct	tion2		0.1	[1.0]			Dele	ete

To set the delay time directly, use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to directly input the list, press the " $\blacksquare$ " key to make it get ON, and then it is displayed blue. Use the  $\lceil \rightarrow \rfloor$  key to select the numerical bar, press the " $\blacksquare$ " key to make it displayed in orange, and then use the action key to input values. Press " $\blacksquare$ " key to end the input and press the "MENU" key to confirm the output command/instruction.

# 4.3.37 [Alarm]







P

Cancel

To display the specified alarm information, select the "alarm" command/instruction. The alarm's serial number can be set. The alarm serial numbers can be specially used by the subprogram are numbers from  $01 \sim 55$ . use the  $\left[\leftarrow\right]/\left[\rightarrow\right]$  key to switch the display of the list, and use the  $\left[\uparrow\right]/\left[\downarrow\right]$  key to select the alarm sequence number in the list. After selected, press the """ key or the "HOME" key for confirm the output command as shown on the screen on the right side.

#### Yaxis ORG NG P Yaxis ORG NG Pno.001 T-out action main PRG Pno.001 T-out action main PRG Direction Direction 001 PRG start 00 PRG start #001 1~100 101~200 201~255 1~100 101~200 201~255 T-out action main PRG #001 #001 T-out action main PRG #051 S take-out startup S take-out startup #051 Holder open/close #061 #061 Holder open/close #062 Sorption open/close Hoee Serption open/close <u>Cance</u> I Conf i re Confire Selection Selection Yaxis ORG NG P Pno.001 T-out action main PRG Direction 001 PRG start #001 1~100 101~200 201~255 #001 T-out action main PRG #051 S take-out startup

#061

#062

Conf i re

## 4.3.38 [Program Start/Program Stop]

To start or stop the specified subprogram, select the program start/stop command, with the edit can be performed on the screen as shown above. For the convenience of selection, the selection list is classified by serial number as three lists for display, namely  $[1 \sim 100]$   $[101 \sim 220]$ and  $[221 \sim 255]$ . Use the  $\left\lceil \leftarrow \mid / \mid \rightarrow \mid \right\rangle$ key to switch the selection list, use the  $\left[\uparrow\right] / \left[\downarrow\right]$  key to select the target program, and press the " $\blacksquare$ " key for confirmation. When the selected program serial number is displayed on the upper editing bar, press the "MENU" key for execution. As shown in the screen below, the commands are output.

Holder open/close

Sorption open/close

Selection

Cancel





Yaxis ORG NG MANJ P		Y	axis	ORG NG		_	MANU P
Direction Pno.253 Safety gate ON/OFF MT		Dire	ectio	n Pno.:	253	Safety gate	ON/OFF MT
006 PRG pause		001	253	Cond. vai	it	NLDN ON	
		002		Internal	IO	X31PL OFF	
	N	003		Cond. vai	it	X31 OFF	
	V	004		Cond. vai	it	X31 ON	
		005		Cond. ju	р	X32 OFF GOT	0 L253
		006		PRG pause	e	ON	
Confire Cancel		Ins	ert	2:Basic S	elect	ion	Return
OFF		Funct	i on2	0.1]1	.0]		Delete

To temporarily stop the steps of all programs, select the "Program pause" command/instruction. The axis's action will also be paused, with the exception of programs No.  $251 \sim 255$ . When selecting the program pause command, be sure to confirm whether or not to insert in the programs No.  $251 \sim 255$ . If yes, the screen will be shown as above. In programs with a number less than 251, this command is ineffective. Press the " $\blacksquare$ " key to let it get ON, or press the "HOME" key to let it get OFF, and press the "MENU" key to confirm the output command.

To sum up, after the completion of the instruction/teaching, click the "BACK" key to return to the instruction (teaching), and then press the "BACK" key to perform a program transformation.

Y	axis	ORG NG	MANU P		No.NEW		MANU	Р
Din	ectio	n Pno.253	Safety gate ON/OFF MT		Direction			
001	253	Cond. wait	MLDM ON			nrogram ti	raneformation	
002		Internal IO	X31PL OFF		#	program c	ransformation	
003		Cond. wait	X31 OFF		t User	program ti Implem	ranstormation ent?	
004		Cond. wait	X31 ON		#			
005		Cond. jump	X32 OFF GOTO L253		#			
006		PRG pause	ON		#			
Ins	ert	2:Basic Selec	tion Return		Yes	N	) Cancel	
Funct	i on2	0.1[1.0]	Delete	$\supset$				
					NU	• Netrieve	De	lete
			No.NEW		MANU P			
			Direction					
			1					







Use the  $\lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  key to select "YES" and press the " $\blacksquare$ " key to perform a program transformation. At the of the program assembly, if there is no error, return to the main screen of the program and end the instruction (teaching).



If there is an error, this screen will be displayed. When pressing the "•" key and selecting the "YES" key, the line where the error occurs will be prompted and displayed in the yellow select box on the right side of the screen, and it will be OK to correct this position according to this prompt.

# 4.4 Acceleration and deceleration

Variable frequency axis is not provided with acceleration setting.

Select the "deceleration" button on the menu screen to switch to the sreen as below (see 1-axis and 2-axes as shown respectively on the left side and the right side), where it is possible to set the manipulator's all axis acceleration. Acceleration setting can also be performed in the automatic operation.







On the deceleration setting screen, press the "acceleration $\uparrow$ " button to increase the acceleration, press the (acceleration $\downarrow$ ) button decrease the acceleration.

Press and hold the key to achive a continuous change . The initial value of the acceleration is 14, with a settable range from 1 to 26, total 26 stages.

In cas of 2-axis, the acceleration setting can be made respectively for Y axis and MZ axis, which can be performed by pressing the "axis switch" button to switch the Y axis and MZ axis, with the selected axis mark to be displayed in white and the unselected item to be displayed in gray.

# 4.5 Operation record

On the menu screen, press the "operation record" button to switch to the following screen where the operations that have been performed will be shown, including dispaly contents such as power ON/OFF, manual operation, toperating error, alarm occurring, changes to setting values and other related records. In case of too many content, use the  $\lceil \uparrow / \downarrow \rfloor$  key to turn the pages.

No.NEW		MANU P		
Ope Record	Manual/run	171		
2013/11/06 16:4	42			
Power supply ON				

The above screen shown the manual/operation records which can used to confirm the operation contents and performing time, where press the  $[\rightarrow]$  key to switch to set the screen as below.

No.NEW	MANU P	
Ope Record	Manual/run	1/1
2013/11/06 16:	42	
Power supply O	N .	

The record of the "setting" operation is display on the screenand can be used to confirm the operation contents and performing time, where press the  $\lceil \rightarrow \rfloor$  key to switch to the following save screen.





On this screen, the operation records can be saved to the internal memory. In the above pop-up dialog box, select the "Yes" key to make a confirmation and then perform the save operation, after which, return to the previous screen.



#### 4.6 Alarm record

Select the [alarm record] on the menu screen to switch to the screen shown as follows. The alarm record is divided into "usual alarm" and "system aarm", the display of which can be switched by pressing the  $\lceil \leftarrow / \rightarrow \rfloor$  key, where it is possible to view up to 30 alarms that have happened so far and is possible to confirm the alarm happening time and alarm sequence number as well as its trend.

No.NEW MANU P		No.NEW		MANU P
Alarm Record Usual alarm 171		Alarm Record	System alarm	1/1
2013/11/06 16:47		2013/11/06 16:	48	
Alarm: 04 Nould-loading is abnormal		Sys	sten alarn (34)	
2013/11/06 16:47	ſ→IJ	2013/11/06 16:		
Alars: 03 Rotation action is not ove		Sys	stem alarm (03)	
2013/11/06 16:47	v	2013/11/06 16:	48	
Alarm: O2 Posture input is abnormal		Sys	sten alarn (01)	

Press the  $\lceil \rightarrow \rfloor$  key on the screen as shown on the right side to save the recorded alarm contents to the internal memory, with the operation screen as below, where select the "Yes" key to perform save operation. After which return to the alarm record screen.

No.NEW	MANU P		No.NE#	MAN	Р
Alarm Record			Alarm Record		_
			Sav	e in progress.	
		■ _			
		$\square$			
		V			
			Yes		
	Save			loave	



#### 4.7 System setting

On the User 3 screen, press the in the "system setting" under the menu to switch to the system setting screen, where it is possible to perform the system's basic settings.

No.NE#	MANU P		No.NEW	M	NU P
System Setting	1/4		System Se <sup>Setting</sup>	1~	31
Time setting			Time setting		
2014 year 1 🕷	on 28 Dav		2014 year 1	Mon 📃	Day
8 Hour 38 M	in 18 Sec	N	8 Hour 38	Min 3	9 Sec
Screen saver time	10 Min		Screen saver time		0 Min
Display brightness	3	V	Display brightness		3
Language switch	中国语		Language switch	中国	语
	Save			Save	

On this screen, the clock setting is displayed, showing the OFF time and display brightness. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor / \lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  button to select the gray box, press the "**u**" key to switch to the screen as shown on the right side, where use the action key to input setting values. After the setting, select the "save" key and press the "**u**" key to compete the save operation. The settings will take effect immediately.

#### **Expression descriptions**

Time setting	Set the machine's display time
Screen saver time (minutes)	Set the screen closing time.
Display brightness (0 ~ 7)	Set the screen display brightness.
Language switching	Switch between Chinese/English

In case of User 4 and User 5, the following page setting will be additionally added.

Select the item on the far right zone of the screen, press the  $\lceil \rightarrow \rfloor$  button to switch to the next page display.



It is possible to perform the setting of the buzzer and axis on this screen. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key





to select the setting items, press the "∎" key to switch the ON/OFF of the mode. After the setting, select "save" and then press the "∎" key.

F	
Buzzer	ON: The buzzer is effective. Set whether or not to
	enable the buzzer when alarm occurs in the automatic
	operation.
	OFF: The buzzer is ineffective.
Machine type	Single arm: Use a style of 1-axis + primary arm
	cylinder
	Double arm: use Double arm: Use a style of 1 axis
	+ + secondary arm cylinder.
Primary arm	Use the signal of the primary arm retreat (go-back)
retreat (go-back) limit	limit.
in use	
Secondary arm	Use the signal of the secondary arm retreat
retreat (go-back) limit	(go-back) limit.
in use	
Safety door reset	After selecting ON, when gripping mistakes, it is
ban	imposible to make reset through opening and closing
	safety door.

#### Expression descriptions:

On this screen, press the  $\lceil \rightarrow \rfloor$  button to switch to the next page display.

No.NEW	MANU P
System Setting	3/4
Injection molding mach	EUROMAP12 TYPE1
Machine type	fixed model
User setting	Change
Password setting	Change
	Save

On this screen, it is possible to set the signal style used by the injection molding machine and select the machine type to be used. Use the  $\lceil\uparrow\rfloor/\lceil\downarrow\rfloor$  key to select the setting items, press the "**•**" key to switch successively the signal style and machine type. After the setting, select the "save" key and press the "**•**" key.

	Save	Expression descriptions	
Injection molding	Use the stye of EUROMAP12.		
machine signal style	Use the style of JAPAN.		
	Use the style of CHINA SPECIAL.		
Machine type	Display the machine type name according to		
	machine downloading files		
User setting	Change the user permissions.		
Password setting	Change the use	er passwords	

Select the "version" key on the menu screen to display the following screen where the version





information of each data currently in use is shown. After files are downloaded, when the machine is in operation or the display is abnormal, it is possible to confirm here whether or not the necessary data files have been correctly downloaded to the controller.

No.NEW			MANU F
System Setting			4/4
PEN IPL/MAIN:	TPIV1.00	7	TPMV1.00
MOT IPL/MAIN:	MTAI1.02	7	MTNA3.12
Screen data :	2STF1.18		
Axis data:	51020M40		
program data:	TBL-DEMO		
Information 1:	1SCH114a		
NCP :	S2S_002K		

Display data (from top	Version information
to bottom)	
Operator IPL	Display the version information of
	operator IPL.
Operator program	Display the version information of
MAIN	operation program.
Action IPL	Display the version information of action
	IPL.
Action program MAIN	Display the version information of action
	program files.
Screen data	Display the version information of screen
	data.
Axis data	Display the version information of axis
	data.
Program data	Display the version information of
	program data files.
Information 1	Display the version of information files.
NCP	Display the version information of
	imported NCP files.



# 4.8 Data transfer

Select the "data transfer" on the menu screen to switch to the screen as below, where it is possible to perform data transfer between USB and internal memory.

No.NEW	WWU P	No.NE₩	MANU P
Data Transfer		Data Transfer	_
All data	USB - > internal storage	Load in progress.	
	Internal storage -> USB		
Program data	JSB - > internal storage		
	Internal storage -> USB		
Document data	JSB - ≻ internal storage	Yes NO	
	Internal storage -> USB		

	Transfer all data from the USB flash
All data transfer	disk to the internal memory.
USB	
All data transfer	Transfer all data from the internal
MEMORY USB	memory to the USB flash disk.
Program data	Transfer all data from the USB flash
USB $\longrightarrow$ MEMORY	disk to the internal memory.
USB Program data	Transfer all data from the internal
MEMORY USB	memory to the USB flash disk.
Document data	Transfer the program from the file to the
USB $\longrightarrow$ internal storage	USB flash disk.
Document data	Transfer the program from the USB
internal storage $\longrightarrow$ USB	flash disk to the internal memoery.

want to operation, press the s key. Display images such as right to "write"/" left "key to select" yes "for the operation, select" no "to cancel the operation, the returned data transfer







①The number of files read out from the USB can't be more than 8, and those more than 8 will not be expressed out.

② The name of a file to be saved in the USB consists of not more than 8 English letters and numbers, whiel an archive not more than 12 characters.

③ In case of read-out failure, related information will be prompted.





Senior user operating instructions

# 5.1 I/O record

#### 5.1.1 Display and storage method

I/O record display:

I/O record can record a total of 400 items(lines) of information, and the last item/line exceeding the 400 will disappear. It is possible to view the latest records only when entering the I/O record screen from the main screen; If keeping on the I/O record screen, it will not update itself, and it will update itself only when once again entering into the I/O record screen from the main screen.

The I/O resume save:

When the system alarm occurs, the system will save the current record; If there has been no alarms, after the power supply is cut off, the previous record will disappear.

#### 5.1.2 I/O record display

Press the "I/O record" key to enter the following screen as shown on the left side, which mainly shows the I/O change status in the record condition setting, with the line number displayed on left side, each I/O change status displayed a timed sequence, and the I/O recorded in the same line being the I/O changed with the scanning cycle when the ON/OFF of the I/O in the record condition having channged(See Section 2.25.1 for the record condition setting description).

On the screen as shown on left side, press the  $\lceil \rightarrow \rfloor$  button to switch to the screen as shown on the right side, which displays the step in the subroutine that is executed by the user program when the I/O in the record condition has changed.

Program	Step Number	As
001	002	pro the
005	004	

As shown on the left side, this item of record refers to that the program is executing the step 002 in the program 001, and at the same time also executing the step 004 in the program in 005.

No.NE#	MANU P	No.NE#			MANU P
I/ORecord	1/1	I/ORecord		F	EC No.001
2013/11/06		Y axi:	0.0	MX a×	0.0
001 16:48:30	TC1 ON				
002 16:48:29	ALM= 0	PRG No.	STEP	PRG No.	STEP
003 16:47:43	ALM= 4	000	000	000	000
004 16:47:40	ALM= 3	000	000	000	000
005 16:47:38	CHAS ON,* ON,SHBZ ON *	000	000	000	000
006 16:42:46	* ON,MANU ON,DENB ON *	000	000	000	000



An a star robot

On the screen as shown on the right side, press the  $\lceil \rightarrow \rfloor$  button to switch to the screen shown as below, which displays the status of all the I/O in each record, with each I/O respectively corresponding to one address. Use the  $\lceil \rightarrow \rfloor \lceil \leftarrow \rfloor \rceil \upharpoonright \downarrow \rfloor$  key to view all data in the same record and can also use the digital key  $\lceil 1 \rfloor$  and  $\lceil 4 \rfloor$  to quickly switch each item of I/O record.

The record number in the record (such as Record No. 001) is corresponding to the line number on the left side of the above screen.

No.NEW			MANU P
I/ORecord		F	EC No.001
Y axi:	0.0	MX a×	0.0
PRG No.	STEP	PRG No.	STEP
000	000	000	000
000	000	000	000
000	000	000	000
000	000	000	000

# **5.2 Production management**

Select the "production management" button on the menu screen to switch to the production management screen. Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  key to select the item desired to be set, with the settable item to be displayed in white in the setting column, including four parts like "1-time take-out number", "scheduled production number", " Fore-forecast notice time" and "reset". Press the " $\blacksquare$ " key to let them to be displayed in cyan and then use the the action key to input values.





### **Display descriptions**

Names	Functions
Molding time	Measuring molding time.
1-time	The number of products that can be formed inside a mould at one
take-out number	time.
Take-out	Express the number of times of taking out products.
times	
Scheduled	Possible to input the scheduled number of products to be produced
production	
number	
Current	Display the number of products taken out, excluding the discharged
production	products.
number	
Achieving	Relative to the scheduled production number, the achieving degree
rate %	is expressed as a percentage.
	Achieving rate = (Production number $\div$ scheduled number ) $\times 100$
Defective	Number of product pieces open at the defective product discharge
product number	position.
Defective	The number of products taken out as defective products in the total
product rate	number of products taken out, expressed as a percentage. Defective
	rate = Discharge number÷(one-time finished product number x
	Taken-out times + discharge times )
Fore-forecast	Before the end of production, give out the forecast warning time of
notice time	the production end
Scheduled	Express the calculated scheduled time of a molding cycle ending.
end time	
Reset	Reset thetake-out number, current production numbe, defective
	product number, molding time.





# 5.3 Mechanical parameters

The frequency conversion type is not provided with the mechanical parameter setting and is thus only aimed at the 1-axis and 2-axis style. Select the "mechanical parameters" key on the menu screen to switch to the following screen. Press the  $[\downarrow]$  key to move the cursor, with the item rolling when the cursor reach the bottom line.

1-axis's mechanical parameter setting

No.NE#		MANU	Р
Parameter	_		
	Y a×is		
Pitch(0.01 mm)	63492		
Pulse each turn	12288		
Max speed of motor	65535		
ORG offset (mm)	0.0		
Min. ACC T (0.01 s)	255		
Save	tion	Retu	rn
Initial			

2-axis's mechanical parameters setting, additionally provided with the MZ axis's parameters setting

No.NE#		MANU P	
Parameter			
	Y axis	MX a×is	
Pitch(0.01 mm)	63492	56333	
Pulse each turn	12288	4135	
Max speed of motor	65535	53255	
ORG offset (mm)	0.0	0.0	
Min. ACC T (0.01 s)	255	50	
Save		Return	
Initial			

(1) Press the  $\lceil MENU \rfloor$  key( "save" ) button to save the setting. The saved setting will not take effect immediately and will not go into effect until the power supply is turned off and then turned on once again to restart. Please don't cut off the power supply during the save operation.

(2) Press the "HOME" button (" initialization ") to initialize the setting value. the initialized setting value will not take effect immediately, and will not go into effect until the power supply is turned off and then turned on once again to restart. Please don't cut off the power supply during the save operation..





③ To perform the setting, press the " $\blacksquare$ " on the screen as shown on the right side, and when the setting value column gets cyan, use the action key to input values.

Use the  $[\rightarrow]$  key to switch various setting value pages of the displayed axises, with the axis's basic setting items shown in the table below:





Items Descriptions	
<b>D</b> ' 1 1 (0.01	To set the actual walking distance for a motor to turn in one
Pitch value (0.01	circle.
mm)	(The helical pitch relevant to a motor's rotating in one circle)
	Unit: Pulse number
Pulse number per	To set the number of pulses needed for a motor to turn in one
turn (impulse)	circle.
	Unit: RPM
Maximum	To set the number of circles (revolutions) relevant to a motor's
revolutions of motor	rotating at maximum speed for 1 minute.
Original point	Unit: mm
offset (mm)	The setting is required when the original point resets and the
	original point is in need to be corrected.
	Unit: 0.01 sec
Minimum	To minimum value of acceleration and deceleration time. In
acceleration and	order to achieve maximum speed and slowdown stop, the speed
deceleration (0.01	changes according to the time that is set here. The shorter the setting
SEC)	is, the faster speed changes.
	Unit: 0.01 sec
Maximum	To maximum value of acceleration and deceleration time. In
acceleration and	order to achieve maximum speed and slowdown stop, the speed
deceleration (0.01	changes according to the time that is set here. The shorter the setting
SEC)	is, the faster speed changes.
	Unit: %
	In case of failure to confirm current position (position cannot be
Origina point	detected), the speed setting for original point to return(reset).
speed (%)	The setting should be made according to a percentage of the
	motor's maximum speed (100%).
	Unit: %
	All speed setting in free operation (low speed).
Free speed I (%)	The setting should be made according to a percentage of the
	motor's maximum speed (100%).
Free speed 2 (%)	Unit: %
-	All speed setting in free operation (medium speed).
	The setting should be made according to a percentage of the
	motor's maximum speed (100%).
Free speed 3 (%)	Unit: %
	All speed setting in free operation (high speed).
	The setting should be made according to a percentage of the
	motor's maximum speed (100%).
Oiling distance	Unit:10 m
setting (10 m)	To set the running distance that leads to urge refueling.





# 5.4 Maintenance

Select the "maintenance" key on the menu screen to switch to the screen as follows, where the information, regular inspection and oiling data of the machine are display. It is also possible to record the information of regular inspection and oiling/refueling history. In order to achieve safety in using the take-out machine, you are suggested to perform a regular inspection.

No.NE#	MANU P
Mainten	
Machine type 📒	
Туре	TRC-1300
Manufacture dat	****
Spot check prompt	Use Unused
Check cycle	1 Month
	Check list
	oiling status

#### **Expression description**

Names	Expression contents
Machine type	To display the machine name
Controller type	To display the controller type.
Manufacture date	The date when the machine starts to be put into operation
Prompt for spot	To prompt the "in use/not in use" by a prompt warning for
check	regular check.
Check cycle	To set the interval of time for inspection.
Check list	To display the item to be checked and record the inspection
	history.
Oiling/refueling	To display the necessary degree of oiling/refueling of each
	aixs according to the moving distance. The oiling/refueling results
	can be used as history records, which can also be expressed as the
	accumulative distance of each axis.

Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor / \lceil \leftarrow \rfloor / \lceil \rightarrow \rfloor$  keys to select the "in use/not in use" expressed/prompted by the warning for spot check. The display in yellow text means "selected" and the display in black text means "not selected".

Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  keys to select the regular check, press the " $\blacksquare$ " key and use the action key to input the regular inspection intervals, with an unit in month.

Use the  $\lceil \uparrow \rfloor / \lceil \downarrow \rfloor$  keys to select the checklist/oiling data, press the " $\blacksquare$ " key to switch to a screen as below.



### [Check list]:



Display ① Check contents and ② Privious check date. Use the  $\leftarrow \rfloor / [\rightarrow]$  key to switch page display. If there is no check, the ② previous check date is displayed as \* \*. Confirm ①check content. When the check is completed, select the check, press the " $\blacksquare$ " key to complete the operation. As shown on the screen on the right side, the check date of this time is shown in the ③ previous check date. After the check, click the "return" key to return to the maintenance screen.

#### Р No.NEW No.NEW oiling status Mainten oiling status Mainten (1) 0.00 km 0.00 km Y axis Distance Y axis Distance Previous oi xx/xx/xx Previous oil13/11/06 Oiling Oiling (2)

[Oiling/Refueling data]:

In the oiling/refueling data, it is possible to confirm the axis' accumulative running distance. (1) the cumulative distance is the running distance after one time of oiling/refueling. The (2) previous oiling/refueling is displayed as \* when oiling/refueling has not been performed. Select oiling/refueling, press the " $\blacksquare$ " key, and then, as shown on the screen on the right side, the oiing/refueling date of this time is displayed in the previous oiing/refueling date; at this moment, the cumulative distance is reset, and the accumulation restarts again. After oiling/refueling, click the "back" button to return to the maintenance screen.



# **2** Special Machine type description

# 6.1 Single-step forward and backward

## 6.1.1 Operating

when entering the program-editing screen and appearing "STEP" on the bottom of the screen, you can use the single-step operation.

No.NE		NOV P				
Direct	ion					
#001	T-out action main PRG					
#061	Holder1 op/cl	Holder1 op/cl				
#062	Sorption1 op/cl					
#063	S clamp op/cl	S clamp op/cl				
#065	Inserting1(Y18)	Inserting1(Y18)				
#066	Inserting 2(Y10)					
New	Selection	Return				
No -	2: Retrieve	Del.				

In this screen, if press number"3", you can enter the model of single-step operation.



According to the message of tips, you can do the single-step operation.

# 6.2 Bad product placement application

### 6.2.1 Bad product counter

Add the bad product counter in the screen of counter.

When the set value is greater than 2, that bad product singal is OFF will not stop the bad product placement.





Counter			1 / 2
Total counter		0	
	Current	Setting	
Count 1 vib.	0	0	Reset
Count 2 spray	0	0	Reset
Count 3	0	0	Reset
damage place	0	0	Reset
الفنفنان والتلفية والمتحدث		_	Return

When the set value is 0 and the bad product singal is ON, that will not do the operation.

When the set value is greater or equal to 1 and the bad product singal is ON,that will start to do the bad product operation.

1)If the following two cycles and the bad product singal is OFF, that will not stop the bad product operation.

2)If two cycles passed and the bad product singal is ON, the counter is not 0.

When automation is working, the bad product counter is automatically cleared.

### 6.3 Function of Mechanical arm not using

#### 6.3.1 Function of Mechanical arm not using

In the screen of model setting, the model of "Mechanical arm unused" is ON. Then pressing "RESET" can remove the model. If return to the menu, the model will be OFF automatically.

### 6.4 Hold and absorb function

If you set hold and absorb function, you need change the input point. In the screen of system, hold and absorb's IO is optional.

No.NE#	1	Р	No.NEW		e P
System Setting		2/4	System Setting		2/4
Buzzer	ON		Buzzer	UN	
dachine type	Signal		Machine type	Double	
nold2/sorp2 10 plate	STD		hold2/sorp2 10 plate	ADD	
P retreat signal use	OFF		P retreat signal use	OFF	
S retreat signal use	OFF		S retreat signal use	0FF	
safety gate reset ban	OFF		safety gate reset ban	0FF	
			2028		
		Save			Save

**Original screen IO** 

**Manual operation** 





#### Model screen

No.NEW		P RANK
Manu oper	ration Chuck I/O	7 /16
Y30	Phold 2	OFF
X03	S upper/Hold 2 Det	OFF
X09	ADD hold 2 detected	OFF
X07	S clamp detected	OFF
Y05	S clamp/Blowing 2	OFF
Y27	Spray	OFF
llenu	transfer	Speed 1
Free		Speed 1
No.NEW		enti P
No.NEW Modesetti	ing	P 4 / 5
No.NEW Modesetti Sorption d	ing letection	4 / 5 OFF
No.NEW Modesetti Sorption d Sorption 2	ing letection	4/5 OFF OFF
No.NEW Modesetti Sorption d Sorption 2 Sorption 2	ing letection in use detection	A/5 OFF OFF OFF
No.NEW Modesetti Sorption d Sorption 2 Sorption 2 Hold 2 in	ing letection in use detection use	4/5 OFF OFF OFF OFF
No.NEW Modesetti Sorption d Sorption 2 Sorption 2 Hold 2 in Hold 2 det	ing letection in use detection use ection	4/5 OFF OFF OFF OFF OFF
No.NEW Modesetti Sorption d Sorption 2 Sorption 2 Hold 2 in Hold 2 det Mould insi	ing letection in use detection use ection de detection	4/5 OFF OFF OFF OFF OFF OFF
No.NEW ModeSetti Sorption 2 Sorption 2 Hold 2 in Hold 2 det Mould insi Insert	ing letection in use detection use ection de detection	4/5 OFF OFF OFF OFF OFF OFF OFF

No.NEW		I TENNE
Manu ope	eration Chuck I/O	7 /16
Y30	Phold 2	OFF
X03	S upper/Hold 2 Det	OFF
X09	ADD hold 2 detected	OFF
X07	S clamp detected	OFF
Y05	S clamp/Blowing 2	OFF
Y27	Spray	OFF
llenu	transfer	Speed 1
Free		Speed

### When editing the program

The main arm and secondary arm arm both increase application, please have a look.

Y 0-0		Y	ORG NO	X	ORG N	G HEAV	Р
Direction Pno.00	11 T-out action main PRG	Directio	n Pro	o.001	T-out a	action ma	ain PRG
001		001	Piigo	pen			
Aligning	Posture	ON OFF	Conf i re	Sorpt	Delay	-open	Blow
P jig open	S clamp open	Holder1		-	0.00	0.50	
P jig close	δ lamp close	Sorption		0	0.00	0.50	1.00
Pand S to M	P and S to end	Holder2		-	0.00	0.50	-
*Vibration T-out		Sorption		0	0.00	0.50	0.00
2:Extend Sel	ection Cancel	Conf i rm		01		C	ancel
Function2 0.11.0				UN			

Directi	on Po	0.001	T-out a	ction main PR
001	P jig c	lose		
ON OFF	Conf i re	Sorpt	Delay	-close
Holderl		्स	0.00	0.00
Sorption		0	0.00	0.00
Holder2			0.00	0.00
Sorption		0	0.00	0.00
Conf i r		ON		Cancel



# 7.1 Alarm

#### Alarm types and releasing methods

Alarm types	Actions when an alarm accurs	<b>Releasing methods</b>
Usuall alarm	Alarm is expressedt said, but I/O axis is not stopped.	An alarm is automatically released when the condition for alarm occurance is not met.
Axis stop alarm	When an alarm occurs, axial movement is banned, without changes to output of cylinder axis. When an alarm is occurring, automatic operation and and original point reset can not be performed.	An alarm is automatically released when the condition for alarm occurance is not met.
Full stop alarm	When an alarm occurs, axial movement is banned, without changes to output of cylinder axis. When an alarm is occurring, automatic operation and and original point reset can not be performed.	In the status that the condition for alarm occurance is not met, press the safety switch and at them same time press the CLEAR button
Axis alarm	When an alarm occurs, axial movement is banned, without changes to output of cylinder axis. When an alarm is occurring, automatic operation and and original point reset can not be performed.	An alarm is automatically released when the condition for alarm occurance is not met.
System alarm		
User alarm	In automatic operation, alarms occurring in the user program	

#### Alarm occurance and alarm sound

System model of "buzzer" ON, alarm occurs in automatic mode, alarm sound. The pattern for manual, buzzer sound stopped.



# TRC1300 Alarm list

# Usual alarm

No.Ala	Alarm	Alarm	<b>D</b> olooging mothods	Stop t	уре
rm No.	names	descriptions	Releasing methods	Axis stop	Full stop
01	Posture action not over/complete	Posture action is not over/complete	Please check the posture output (Y09) and sensors (X12, X13). If Y23 is used as a posture retset, please confirm Y23 also. Axis stop alarm occurs, after removing alarm reason and press the RESET button to release axis stop.	0	-
02	Posture input abnormal	Posture movement limit (X12) and reseting limit (X13) get ON simultaneously.	Please check the posture action limit and resetting limit (X12, X13). This is a full stop alarm, and after removing the alarm reason, please press the RESET button to release the full stop.	-	O
04	Mould loading abnormal	When mould unloading over/complete (X32) gets ON, mould unloading over/complete gets OFF, monitoring timer (T65) timer's time is up	Please confirm the injection molding machine and the injection molding machine's status. This is a full stop alarm. Please press the RESET button to release the alarm and get into the free operation mode to let the arm rise.	-	0
05	Mould unloading abnormal	When mould unloading over/complete (X32) gets OFF, molding over/complete monitoring timer's (T62) time is up.	Please confirm the injection molding machine and the injection molding machine's status. This is a full stop alarm. After removing the alarm reason, please press the RESET button to release the full stop.	-	0



06	Primary arm retreat/go-back abnormal	Primary arm retreat/go-back is not over/complete	When the primry arm retreat/go-back limit use mode gets ON, please confirm the primary arm go-forward output (Y07) and the following timer T22, T23, T73. This is an axis stop alarm. After remove the alrm reason, please press and hold the reset button to release the axis stop.	0	-
07	Primary arm go-forward abnormal	Primary arm go-forward is not over/complete	Please confirm the primary arm go-forward output (Y07) and primary arm retreat/go-back limit (X18), primary arm retreat/go-back limit OFF monitoring timer (T74). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-
08	Primary arm rising/go-upwar d abnormal	Primary arm rising/go-upward is not over/complete	Please confirm the primary arm go-down output (Y06) and primary arm rising/go-upward limit (X04), primary arm rising go-upward/rising limit ON monitoring timer (T75). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-
09	Primary arm go-down abnormal	Primary arm go-down is not over/complete	Please confirm the primary arm go-down output (Y06) and primary arm rising/go-upward limit (X04), primary arm rising go-upward/rising limit ON monitoring timer (T76). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	O	-



10	Secondary arm retreat/go-back abnormal	Secondary arm retreat/go-back is not over/complete	Please confirm the secondary arm go-forward output (Y04) and secondary arm retreat/go-back limit (X20), secondary arm retreat/go-back limit ON monitoring timer (T76). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-
11	Secondary arm go-forward abnormal	Secondary arm go-forward is not over/complete	Please confirm the secondary arm go-forward output (Y04) and secondary arm retreat/go-back limit (X20), secondary arm retreat/go-back limit ON monitoring timer (T78). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	Ο	-
12	Secondary arm rising/go-upwar d abnormal	Secondary arm rising/go-upward is not over/complete	Please confirm the secondary arm go-down output (Y03) and secondary arm rising/go-upward limit (X03), secondary arm rising/go-upward limit ON monitoring timer (T79). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-
13	Secondary arm go-down abnormal	Secondary arm go-down is not over/complete	Please confirm the secondary arm go-down output (Y03) and secondary arm rising/go-upward limit (X03), secondary arm rising/go-upward limit OFF monitoring timer (T80). This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-



14	Medium plate mould unloading abnormal	After mould unloading, when the medium plate limit (X28) gets OFF, the medium plate mould unloading monitoring delay timer's (T67) time is up.	Please confirm the medium plate limit (X28). When the medium plate is not used, please set it as unused in the mode setting. A full stop alarm occurs. After removing the alarm reason, please press the RESET button to release the full stop.	-	0
16	Ejection device go-forward abnormal	After the thimble go-forward output (Y34) gets ON, when the thimble go-forward limit is OFF, the thimble go-forward limit monitoring timer's (T71) time is up.	Please check the thimble go-forward output (Y34) and thimbles go-forward limit (X29).	-	-
17	Pressure abnormal	Pressure abnormal	Please confirm the action status of the air compressor, the pressure of the air unit, as well as the status of the air pressure switch. After removing the alarm reason, please press the RESET button to release the full stop.	-	-
18	Mould abnormal	In the course of take-out side go-down, moud unloading over/complete(X32) signal gets OFF	A full stop alarm occurs. After pressing the RESET button, please make the arm rise in the free operation mode.	-	0
20	X01and X02 get ON simultaneously	The signals of X01 (original point) and X02 (end point) get ON simultaneously.	Please confirm the sensor's status. This is a full stop alarm. After removing the alarm reason, please press and hold the RESET button to release the full stop.	-	0





21	Frequency inverter movement start monitoring abnormal	Motor movement start monitoring time(T66) is up. Line feed axis moving instruction output but without movement	Please confirm the frequency inverter input/output and wiring. This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-
22	Frequency inverter high-speed movement monitoring abnormal	The frequency inverter high-speed movement monintoring time (T67) is up. Line feed axis keeps high-speed movement without switching a low speed movement.	Please confirm the frequency inverter input/output and X01, X02, X14. This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	O	-
23	Frequency inverter low-speed movement monitoring abnormal	The frequency inverter low-speed movement monintoring time (T68) is up. Line feed axis keeps low-speed movement without stop.	Please confirm the frequency inverter input/output and X01, X02, X14. This is an axis stop alarm. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	-
24	Unconfirmed mould unloading over/complete go-down	Mould unloading over/complete" processing has not been performed, Go-down operation has been performed on the take-out side. Please confirm the instruction program.	Please confirm the instruction program. A full stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the full stop.		o
25	Banned go-down zone go-down indication	Other than the take-out side or placement side, under rising/go-upward status,primary arm upper and lower axis cannot be operated	Please confirm the zone sensor's status. Please confirm if the linear movement setting value or instruction program is wrong. An axisl stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	



26	Banned go-down zone go-down indication	Outside the take-out side or placement side, the primary arm cannot be lowered	Please confirm the zone setting value. Please confirm if the linear movement setting value or instruction program is wrong. An axisl stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	
27	Banned go-down zone go-down indication	Other than the take-out side or placement side, the secondary arm cannot be lowered	Please confirm the zone sensor status. Please confirm if the linear movement setting value or instruction program is wrong. An axisl stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	
28	Banned go-down zone go-down indication	Outside the take-out side or placement side, the secondary arm cannot be lowered	Please confirm the zone setting value. Please confirm if the linear movement setting value or instruction program is wrong. An axisl stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	
29	Finished-produ ct releasing abnormal	Although the finished products have been released, but the finished product confirmation (X06) or sorption confirmation (X05) is in a status of ON.	Please confirm the sensor's status. A full stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the full stop.		0
30	Stub bar releasing abnormal	Although the stub bars have been released, but the stub bars confirmation (X07) is in a status of ON.	Please confirm the sensor's (X07) status. A full stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the full stop.		0





31	Lateral posture group status abnormal	When transverse-in and transverse-out, and the lateral posture standby or interan lateral posture is ON, please perform the lateral position operation.	An axis stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	O	
32	Mould outside standby mode action abnormal	When the mould outside standby mode is ON, if the mould unloading over/complete signal (X32) is OFF, it cannot move to the take-out side.	An axis stop alarm occurs. After removing the alarm reason, please press and hold the RESET button to release the axis stop.	0	
33	Machine type and axis number abnormal	Machine type match abnormally with axis number. Please confirm the imported program.	Full stop alarm.		0
34	Alarm releasing waiting	An axis alarm or full stop alarm has happened, some of the operation are locked.	Please press and hold the RESET button to release the axis stop.	special	special
35	Lateral posture go-down take-out	Under the lateral posture, on the take-out side, go-down operation is performed	Please confirm the instruction program. Switch to the free mode and let all axises rise/go upward		





# User alarm

No.User alarm No.	Alarm names	Alarm descriptions	Releasing method
01	Clamp closed	Please make a confirmation and then open all clamps before initiating the automatical mode.	
02	Go-down midway mould unloading OFF	Take-out side go-down midway mould unloading over/complete gets X32) OFF	
03	Gripping finished-product failure	Gripping finished product failure	Please take out the items drop. Continue to operate after opening the safety door and shutting it again. Please be sure to take out the finished products from the mold after before startup again.
04	Gripping stub bar failure	Stub bar gripping failure	Please take out the items drop. Continue to operate after opening the safety door and shutting it again. Please be sure to take out the stub bar from the mold after before startup again.
05	Position setting abnormal	Position setting abnormal	Not the take-out side Please confirm the axis current value and the status of the take-out side sensor.
06	Position setting abnormal	Position setting abnormal	Not the placement side Please confirm the axis current value and the status of the placement side sensor.
09	Gripping failure	Gripping failure occurs	Please open the safety door to take out the products drop, which will continue to operate after shutting the safety door again. Or, press the safety switch and at the same time press the START key to reset and then continue the running.
11	Finished product drop detected	Finished product drop detected	Please take out the item drop. Switch to manual mode, and then again switch to automatic mode before restart. Please be sure to take out the item drop.
12	stub bar drop detected	stub bar drop detected	





13	Primary arm	Primary arm stub	Switch to manual mode, and then again
	clamping	bar confirmation	switch to automatic mode before restart.
	abnormal	signal handling is in	Please be sure to take out the item drop.
		the status of ON	
14	Position setting	Position setting	Not the take-out side.
	abnormal	abnormal	Please confirm the axis current value and the
			take-out side zone setting value.
15		Position setting	Not the placement side.
	Position setting	abnormal	Please confirm the axis current value and the
	abnormal		placement side zone setting value.
16	Take-out	Not the take-out	Please confirm the position of the axis and the
	position	side	status of X01 and X14.
	abnormal		
17	Placement	Not the	Please confirm the position of the axis and the
	position	placement side	status of X02 and X14.
	abnormal	1	
18	X14 detected	During original	Please confirm the status of X14
10	abnormal	point resetting	
	uonormui	failure to sense X14	
		X14 has been	
		ON or had been OFF	
10	Without "Mould	In the automatic	Please check the teaching program for the
17	unloading	operating procedure	mistyped or missing "mould unloading
	over/complete"	no "mould unloading	over/complete" instruction
	instruction	over/complete"	
	msuuction	instruction has been	
		norformed	
20	XX7:414		Discourse in the data is a management for the
20	without	In the automatic	missing "melding program for the
	monung	operating procedure,	instyped or missing molding permission
	permission	no molaing	Instruction
	instruction	permission	
		instruction has been	
		performed.	
21	Original point	Original point	Please perform the original point resetting
	reset not	reset has not been	
ļ	over/complete	completed	
22	Automatic	This action	Please take the same action again after rising.
	running	cannot be performed	
	condition	during going	
	abnormal	down/decline	





23	Abnormal when	When the arm is	Please make sure that after the arm risie to the
	transverse axis is	at the lower position,	upper position, the transverse axis can move.
	moving	the line feed axis	
		cannot move	
24	Rising position	The arm not in a	Please confirm the location of the rising
	limit handling	status of rising	action in the instruction program.
	abnormal	position would be	
		ready to perform an	
		action that can be	
		performed when the	
		arn is at the rising	
		position.	
25	Entering	In automatic	Please confirm whether or not the sensors on
	transverse axis	operation, under a	the take-out side and placement side as well as the
	prohibited zone	go-down/decline	program are correct.
		status, move to the	
		placement side and	
		enter into the	
		transverse running	
		forbidden area.	
26	Primary arm fore	In automatic	Please confirm that after the program
	and back axis	operation, a	executes the lateral posture group reset, the
	retreat/go-back	retreat/go-backward	primary arm fore and back axis retreats/goes back,
	banned	action has been	and whether or not the lateral postue group mode
		performed under a	setting is correct.
		status that the	
		primary arm fore and	
		back axis's	
		reteat/go-backward	
		movement may result	
		in the clamp plate's	
		contact damage.	
27	Primary arm	In automatic	Please confirm that , ini the program, whether
	upper and lower	operation, the	or not the primary arm is in the position of being
	axis	primary arm upper	able to rise. Please confirm that whether or not the
	retreat/go-back	and lower axis has	take-out side primary arm action related mode is
	banned	performed a rising	set correctly.
		movement in the case	
		of unable to rise	





28		In automatic	Please confirm that the program execution
	Primary arm	operation, without	goes down the after mould unloading has been
	upper and lower	mould unloading	confirmed.
	axis	over/complete, the	
	retreat/go-back	primary arm upper	
	banned	and lower axis has	
		performed a go-down	
		movement.	
29		In automatic	Please confirm that, only when the program is
	Primary arm	operation, at the	on the take-out side and placement side, the
	upper and lower	position other than	primary arm upper and lower axis can perform a
	axis	the take-out side and	go-down movements.
	retreat/go-back	placement side, the	-
	banned	primary arm upper	
		and lower axis has	
		performed a go-down	
		action.	
30	Primary arm	In automatic	Please confirm that, in the program, whether
	upper and lower	operation, under a	or not the primary arm fore and back axis is at the
	axis go-down	condition that	position of being able to go down, and whether or
	banned	primary arm upper	not the take-out side and primary arm axis related
		and lower axis can't	mode have been set correctly.
		go downwards, a	
		go-down action has	
		been performed.	
31	Primary arm	In automatic	Please confirm the program execution and
	upper and lower	operation, the	after the take-out side lateral posture group reset,
	axis go-down	take-out side keeps a	the primary arm upper and lower axis is in the
	banned	lateral postue status,	go-down position.
		and the primary arm	
		upper and lower axis	
		has performed a	
		go-down movement.	
32	Primary arm	In automatic	Please confirm whether or not the medium
	upper and lower	operation, when the	plate's sensor and the medium plate unused mode
	axis go-down	medium plate sensor	are correct. Please confirm the program execution
	banned	is not linked, the	and whether or not the primary arm upper and
		primary arm upper	lower axis go-down'stime is correct.
		and lower axis has	
		performed a go-down	
		movements.	





33	Secondary arm	In automatic	Please confirm that after the program execute
	fore and back	operation, a	the lateral posture group reset, the secondary arm
	axis	retreat/go-backward	fore and back axis retreats/goes back, and whether
	retreat/go-back	action has been	or not the lateral postue group mode setting is
	banned	performed under a	correct.
		status that the	
		secondary arm fore	
		and back axis's	
		reteat/go-backward	
		movement may result	
		in the clamp plate's	
		contact damage.	
34	Secondary arm	In automatic	Please confirm that in the program, whether
	upper and lower	operation, the	or not the secondary arm for and back axis is in
	axis	secondary arm upper	the position of being able to rise. Please confirm
	rising/go-upward	and lower axis has	that whether or not the take-out side secondary
	banned	performed a rising	arm action related mode is set correctly.
		movement in the case	
		of unable to rise	
35	Secondary arm	In automatic	Please confirm that the program execution
	upper and lower	operation, without	goes down the after mould unloading has been
	axis go-down	mould unloading, the	confirmed.
	banned	secondary arm upper	
		and lower axis has	
		performed a go-down	
		movement.	
36	Secondary arm	In automatic	Please confirm that, only when the program is
	upper and lower	operation, at the	on the take-out side and placement side, the
	axis go-down	position other than	secondary arm upper and lower axis can perform a
	banned	the take-out side and	go-down movements.
		placement side, the	
		secondary arm upper	
		and lower axis has	
		performed a go-down	
27	a 1	action.	
37	Secondary arm	In automatic	Please confirm that, in the program, whether
	upper and lower	operation, under a	or not the secondary arm fore and back axis is at
	axis go-down	condition that	the position of being able to go down, and whether
	banned	secondary arm upper	or not the take-out side and secondary arm axis
		and lower axis can't	related mode have been set correctly.
		go downwards, a	
		go-down action has	
1		been performed.	




38	Lateral posture	In automatic	Please confirm that, in the program, on the
	group reset	operation(interna	take-out side and placement side, whether or not
	banned	lateral posture mode	the lateral posture reset is allowed, and please
		is ON), at the place	confirm whether or not the lateral posture mode is
		other than the	set correcty.
		take-out side and	
		placement side, a	
		lateral postue reset	
		has been performed	
39	Lateral posture	In automatic	Please confirm zone sensor setting. Please
	group reset	operation, at a place	confirm whether or not the program in the
	banned	other than the	execution allow the lateral postue reset on the
		take-out side and the	take-out side and placement side.
		placement side, a	
		lateral posture reset	
		action has been	
		performed.	
40	Lateral posture	In automatic	Please confirm whether or not the lateral
	action banned	operation, primary	posture action is not allowed to be performed in
		arm upper and lower	the go-down state in the program execution.
		axis, in a state of	
		go-down, has	
		performed a lateral	
		posture action.	
		а 	
41	Lateral posture	In automatic	
	action banned	operation status	
		(when the zone	
		moves, the primary	
		arm go-forward mode	
		is ON), when the	
		primary arm fore and	
		back axis retreat/go	
		back, a lateral posture	
		action is performed.	
42	Lateral posture	In automatic	Please confirm the zone sensor's status.
	action banned	operation, in a place	Please confirm whether or not the lateral posture
		other than the	action is not allowed to be performed on the
		take-out side and the	take-out side and placement side.
		placement side, a	
		lateral posture action	
		has been performed.	





43	primary arm	In automatic	Please confirm whether or not the primary
15	upper and lower	operation at the	arm upper and lower arm is allowed to perform a
	axis go-down	position other than	go-down action only at the position of the start
	hanned	the start point and	point and end point in the program execution
	buinea	and point the	point and end point in the program execution.
		primary arm uppor	
		and lower axis has	
		and lower axis has	
		performed a	
4.4	•	go-dowin action.	
44	primary arm	In automatic	
	upper and lower	operation, when a	Please confirm, in the program execution,
	axis go-down	status of lateral	whether or not the primary arm upper and lower
	banned	posture action is kept	axis is allowed to performed a go-down action
		at the position of the	only when the lateral posture has been reset.
		end point, the	
		primary arm upper	
		and lower axis has	
		performed a go-down	
		acition.	
45	Secondary arm	In automatic	Please confirm whether or not the secondary
	upper and lower	operation, at the	arm upper and lower arm is allowed to perform a
	axis go-down	position other than	go-down action only at the position of the start
	banned	the start point and	point and end point in the program execution.
		end point, the	
		secondary arm upper	
		and lower axis has	
		performed a	
		go-dowm action.	
46	Lateral posture	In automatic	Please confirm whether or not the lateral
	group reset	operation (interna	posture reset action is allowed to perform only at
	banned	lateral posture mode	the position of the start point and end point in the
		is ON), at the place	program execution. Please confirm whether or not
		other than the start	the lateral posture related mode is set correctly
		point and end point, a	1
		lateral posture reset	
		action has been	
		performed	
47	Lateral posture	In the automatic	Please confirm whether or not the zone
-	group reset	operation, a lateral	sensor's status is correct. Please confirm whether
	banned	postue reset action	or not the lateral posture reset action is allowed to
		has been performed at	perform only at the position of the start point and
		the position of start	end point in the program execution.
		point and end point.	1 1 C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1





## 7.2 Operating error

No.	No. Error names Alarm contents		Releasing methods
1	Operating error (01)	Manual operation can only be perormed manual mode.	Please press the MANU button to change to manual mode.
2	Operating error (02)	Take-out side/placement side zone sensor is in the OFF status. In this status, the axis is in an occasion of decline/go-down, and Y axis can't move.	The occasion of manual operation, please let primary arm (secondary arm) rise/go upward and let the Y axis move towards the take-out side in manual mode.
3	Operating error (03)	Take-out side/placement side zone sensor is in the OFF status. In this status, the axis is in an occasion of decline/go-down, and Y axis can't move.	The occasion of manual operation, please let primary arm (secondary arm) rise/go upward and let the Y axis move towards the placement side in manual mode.
4	Operating error (04)	Take-out side/placement side zone sensor is in the OFF status. In this status, the axis is in an occasion of decline/go-down, and Y axis can't move.	Please manually let the declining/going down axis rise, and let Y axis return to take-out side or placement side.
5	Operating error (05)	Take-out side/placement side zone sensor is in the OFF status.	When the lateral posture standby or the internal posture is ON, please perform the lateral posture operation.
6	Operating error (06)	The primary arm use mode and the secondary arm use mode cannot be OFF simultaneously	Please set the mode correctly
7	Operating error (07)	Under the condition of the mould outside standby mode being ON, if the mould unloading over/complete signal (X32) is OFF, with the exception of the placement side, the movement towards the take-out side is impossible.	Please confirm the injection molding machine's status.
(7)	Operating error (07)(Frequency conversion style)	Under the condition of the mould outside standby mode being ON, if the mould unloading over/complete signal (X32) is OFF, the movement towards the take-out side is impossible.	Please confirm the injection molding machine's status.





8	Operating error	Go-forward/go-backward(retreat)/	Please release(remove) the
	(08)	continuousy stepping operation has been	stepping mode on the free
		performed in a mode other than the	operation screen
		stepping mode.	
9	Operating error	Beyond the take-out side/placement	The occasion of manual
	(09)	side, zone setting.	operation, please let primary
		In this status, the axis is in an	arm (secondary arm) rise/go
		occasion of decline/go-down, the Y axis	upward and let the Y axis move
		can't move.	towards the take-out side in
			manual mode.
10	Operating error	Except the take-out side/placement	The occasion of manual
	(10)	side, zone setting,	operation, please let primary
		In this status, the axis is in an	arm (secondary arm) rise/go
		occasion of decline/go-down, the Y axis	upward and let the Y axis move
		can't move.	towards the placement side in
			manual mode.
11	Operating error	Beyond the take-out side/placement	Please manually let the
	(11)	side, zone setting value.	declining/going down axis rise,
		In this status, the axis is in an	and let Y axis return to take-out
		occasion of decline/go-down, the Y axis	side or placement side.
		can't move	
12	Operating error	Beyond the take-out side/placement	When the lateral posture
	(12)	side. Zone setting vaue	standby or internal lateral
			posture standby is ON, please
			perform the lateral posture
			operation
13	Operating error	Take-out side decline/go-down	Please set either mode as
	(13)	standby mode and lateral posture standby	OFF.
		mode get on simultaneously.	
14	Operating error	The primary arm use mode is in a	If want to use the primary
	(14)	status of ON,	arm, please set the sorption use
		The sorption use mode and jig/clamp	mode or jig/clamp use mode as
		use mode are OFF.	ON
15	Operating error	Transverse-out placing-material mode	If want to use the
	(15)	or Transverse-in placing-material mode is	transverse-out placing-material
		in a status of ON, but the jig/clamp use	mode or Transverse-in
		mode is OFF.	placing-material mode, please
			also set the jig/clamp use mode
			as ON





16	16 Operating error Transverse running midway lateral		If want to use the
	(16) posture mode is in a status of ON, but		transverse running midway
		the lateral posture placement mode is	lateral posture mode, please
		OFF.	also set the lateral posture
			placement mode as ON
17	Operating error	The primary arm use mode is in the	If don't want to use the
	(17)	status of OFF, but one or more of the	primary arm, please set the
		following modes is or are in a mode with	primary arm related modes as
		the status of ON: transverse-out	OFF.
		placing-material, transverse-in	
		placing-material, primary arm fixed	
		mould take-out, primary arm U-shaped	
		take-out, primary outside	
		declining/go-down, transverse-out/in	
		declining/go-down placing material,	
		internal lateral posture, internal lateral	
		posture 2, lateral standby, lateral posture	
		placement, transverse running lateral	
		posture, primary arm imported	
		transverse-out, sorption use, clamp, use,	
		sorption confirmation use, clamp	
		confirmation use and other modes.	
18	Operating error	The secondary arm use mode is in the	If don't want to use the
	(18)	status of OFF, but one or more of the	secondary arm, please set the
		following modes is or are in a mode with	secondary arm related modes as
		the status of ON: secondary arm fixed	OFF.
		moveable mold take-out, secondary arm	
		transverse-in placing material, secondary	
		arm U-shaped take-out, secondary arm	
		mould inside placing material, secondary	
		arm outside declining/go-down,	
		secondary arm imported transverse-out,	
		stub bar confirmation use, and other	
10		modes.	
19	Operating error	In the status of declining/go-down,	
•	(19)	the line feed axis is unable to move.	
20	Operating error	When the lateral posture standby or	
	(20)	interanal lateral posture is ON, please	
		perform the lateral posture operation.	
21	Operating error	The stepping mode can only be	Please click the MENU key
	(22) (Reserved	performed in manual mode.	to switch to the manual mode.
	tor expansion)		



# 

22	Operating error	When the posture standby mode is	
22	(102)	ON and the mould unloading is OFF the	
	(102)	on and the mould unroading is of r, the	
		movement towards the take-out side	
		cannot be performed in a posture reset	
		status.	
22	Operating arror	Entering into the restricted zone	Lat the primery arm upper
23	(102)	Unable to move towards the take out	and lower axis (and secondary)
	(105)		and lower axis (and secondary
		side.	arm upper and lower axis ) to
			rise or return to the take-out
			side zone.
24	Operating error	Possible to touch the secondary arm	Please align the primary
	(104)	or the arch.	arm and then retreat (go
			backward)
25	Operating error	The primary arm fore and back axis is	Please move the primary
	(105)	at a position where it cannot rise/go	arm fore and back axis
		upward.	
26	Operating error	Unable to decline/go downward in	Please confirm the
	(106)	the status of mould unloading	injection molding machine's
			status.
27	Operating error	Can decline/go downward only on the	If in need to decline/go
	(107)	take-out side and placement side	downward, please perform the
		L	operation on the take-out side
			or placement side.
28	Operating error	The medium plate has not been	T
	(108)	opened please make a confirmation	
29	Operating error	Retreating/going backward in this	Please reset the primary
2)	(100)	way may touch the clamp plate make it	arm posture and then retreat/go
	(10))	broken/damagad	backward
20	Operating amor	The secondary arm form and healt avia	Diago move the secondary
50	(110)	in the secondary and fore and back axis	Flease move the secondary
	(110)	is at a position where it cannot fise/go	ann fore and back axis.
21			
31	Operating error	Cannot decline/go downward if not in	Please confirm the
	(111)	the mould unloading status	injection molding machine's
			status.
32	Operating error	Can decline/go downward Only on	If in need to decline/go
	(112)	the take-out side and placement side	downward, please perform the
			operation on the take-out side
			or placement side.
33	Operating error	Failure to move towards the position	Please confirm the
	(113)	determined by the medium place.	injection molding machine's
		-	status.





34	Operating error	Postue reset may cause interference	Please move to a position
	(114)	with the injection molding machine and	not interfering with the
	· /	lead to danger, and on the take-out side	injection molding machine.
		when going downward, the aligning	<b>J</b>
		operation can not be performed.	
		Whe the posture standby mode or	
		internal positure mode is ON, if not on the	
		take-out side or placement side, or on	
		the take-out side, but the mould unloading	
		over/complete (X32) signal is OFF,	
		unable to perform the posture	
		aligning/correction operation.	
35	Operating error	In the status of declining/go-down,	
	(115)	the posture connot move.	
36	Operating error	When the posture standby mode is	
	(116)	ON, if the take-out side or placement side	
		is not in a status of ON, the posture	
		connot move.	
37	Operating error	When the line feed posture mode is	
	(117)	ON, if the take-out side or opening side is	
		not in the status of ON, the posture connot	
		move.	
38	Operating error	When the arm is inside the mould, the	Please move the arm to the
	(121)	original point reset action is banned	outside of the mold by free
			operation.
39	Operating error	Rising/going upwards from the	
	(122)	present position may cause interference	
		with the the clamp plate, and thus the	
		original point cannot be reset.	
40	Operating error	The primary arm fore and back axis is	Please move the primary
	(124)	at a position where it cannot decline/go	arm fore and back axis.
		down.	
41	Operating error	The secondary arm fore and back axis	Please move the secondary
	(125)	is at a position where it cannot decline/go	arm fore and back axis.
		down.	
42	Operating a series	In the take, out aide lateral restart	Diagon portores the later-1
42	(126)	status, it cannot decline/go downword	posture aligning/correction
	(120)	status, it cannot decime/go downward	posture angining/correction
			action





43	Operating error	Although moving to the take-out side,	
(128)		but the mould unloading signal (X32) is	
		OFF.	
		Under the condition of mould outside	
		standby mode is ON, if the mould	
		unloading over/complete signal (X32) is	
		OFF, it cannot performed the original	
		point reset action.	
44	Operating error	This action cannot be performed in	Please perform the same
	(129)	the midway of declining/going	action again after rising or
		downward.	going upwards.
45	Operating error	Although the manipulator has been	
	(130)	put into an automatic operation mode, but	
		the automatic signal of the injection	
		molding machine (X10) is OFF.	
		If the injection molding machine's	
		automatic signal (X10) is ON, the action	
		can continue the action.	
		Press the CLEAR button to suspend	
		the automaticoperation.	
46	Operating error	In a compulsory free operating mode,	
	(131)	it cannot decline/go dowmwards.	
47	Operating error	When the imported transverse-out	
	(132)	mode is ON and the primary arm is at the	
		position of retreat/go-backwards, it cannot	
		perform the posture action.	
48	Operating error	Please reset the original point.	
	(133)		
49	Operating error	In an occasion other than take-out	
	(134)	side and placement side, it is possible to	
		operate the posture.	
		Please confirm the zone sensor's	
		status.	
50	Operating error	It is possible to decline/go	
	(135)	downwards only at the start point and end	
		point.	
51	Operating error	It is impossible to perform the lateral	Please confirm the zone
	(136)	posture action at a position other than the	sensor's status.
		start point and the end point.	





52	Operating error	Lateral position reset is in danger of	Please confirm the zone
	(137)	interference to the injection molding. On	sensor's status to not to disturb
		the take-out side zone go-down midway,	the injecting machine.
		it cannot perform the lateral posture reset	
		action. When the lateral posture standby	
		mode or internal lateral posture mode is	
		ON, under a condition of neither at the	
		start point and the end point, or under a	
		condition of even at the start point but	
		the mould unloading over/complete is	
		OFF, it is impossible to perform the	
		lateral posture reset action.	
53	Operating error	Under the condition of internal lateral	
	(138)	posture model being ON, it is possible to	
		perform the lateral posture reset action	
		only at the start point or end point.	
54	Operating error	It is impossible to perform the	Please perform the lateral
	(139)	declining or going downwards action in a	posture reset action firstly.
		status of keeping lateral posture action at	
		the start point.	





## 7.3 System alarm

No.	Error names	Alarm descriptions	<b>Releasing methods</b>
1	Alarm system (04)	System data have been found	Please download the
	operation data error	abnormal	system data.
2	Alarm system (6)	Backup RAM has been found	Please check or exchange
	Backup RAM	abnormal	the action base board.
	abnormal		
3	Alarm system (07)	Program controller system has	Please check or exchange
5	Program controller	been found abnormal	the action base board
	system abnormal	Action base board has been found	the action base board.
	system abnormar	varied.	
4	Alarm system (08)	Lithium battery voltage for data	Please exchange the
	Lithium battery	backup has been found insufficient	lithium batteries as soon as
	voltage insufficient		possible. (as the batteries are
			not standard products,
			please order from the
			Company)
5	Alarm system (12)	Action base board electronic	Please exchange the
	action base board	components (RAM) has been found	action base board.
	RAM abnormal	abnormal	
6	System alarm (13)	Action base board electronic	Please exchange the
	Action base board	components (RAM) have been found	action base board.
	RAM abnormal	abnormal	
7	System Alarm (14)	TS – LINK communication has	Please check the
	TS - LINK	been found abnormal	baseboard's LED expression,
	communication		communication cable and
	error		power supply. If the LED has
			been lit or has been
			extinguished, then the
			baseboard is abnormal
8	System alarm (15)	Action base board electronic	Please exchange the
	Program controller	components (RAM) have been found	action base board.
	backup RAM error	abnormal	
9	System alarm (17)	Flash ROM of the egistration	Please download the
	Directory data flash	directory data have been found	program controller data.
	ROM error	abnormal	
10	System alarm (18)	Too many nested hierarchy of user	
	User program	program, with call instructions at most	
	hierarchy error	6 levels.	





11	System alarm (19)	Contents in backup data have been	Please load the mould
	Backup data error	found abnormal	data or perform the data
			setting. Please press the reset
			button.
12	System alarm (20)	IO communication has been found	Please check or exchange the
	IO communication	abnormal	action base board.
	abnormal		





### 7.4 Axis alarm

No.	Error names	Alarm descriptions	Releasing methods
1	Axis alarm (01) ROM/RAM error	The electronic components of the servo drive have been found abnormal	Please exchange the servo drive.
2	Axis alarm (02) TS-LINK communication error	Communication has been found abnormal.	Please check each baseboard's LED expression, communication wiring and power supply. If the LED keeps light or extinguished, the baseboard is abnormal.
3	Axis alarm (03) Motor power supply voltage insufficient and abnormal	The power supply at the motor drive point is less than 140 w, insufficient	Please check the power supply and power supply wiring, and connection. If no abnormity, exchange the frequency inverter unit.
4	Axis alarm (04) Encoder input abnormal	Encoder input is abnormal	Please check the encoder and encoder cable's wiring and connection. If no abnormity, exchange the motor or the frequency inverter unit.
5	Axis alarm (05) Motor power OFF overload abnormal.	The encoder input pulse is poor, or the transverse motor is in a status of not turning.	Please check t the encoder cable's wiring connection and mechanical overload. If no abnormity, exchange the motors or frequency inverter unit.
6	Axis alarm (6) Motor thermal protection	The transverse motor's thermal protection input is OFF.	Please check the wiring and connection of the thermal protection input.
7	Axis alarm (07) Motor over current	The transverse motor's current is more than 30A.	Please exchange the frequency inverter baseboard.
8	Axis alarm (08) Original point limit is not OFF	When performing the original point retrieval, the original point limit is not OFF.	Please check the action status of the original point limit and the wiring/connection of the encoders and encoder cables. If No abnormity, please exchange the server baseboard or servo driver.
9	Axis alarm (09) Outside original point, origin point limit is ON	After leaving the original point, the original point is not OFF.	Please check the action status of the original point limit and the wiring/connection of the encoders and encoder cables. If No abnormity, please exchange the server baseboard or servo driver.





10	Axis alarm (10)	When the original	Please check the action status of the
	At the original	point's movement is	original point limit and the
	point position,	over/complete, the	wiring/connection of the encoders and
	original point limit	original point limit is	encoder cables.
	is OF	OFF.	If No abnormity, please exchange the
			server baseboard or servo driver.
11	Axis alarm (11)	Offside limit is ON	Please confirm the offside limit's
	Offside limit is		action status, wiring and position's setting
	ON .		value.
			Use the reset button to release the
			alarm and may use the manual operation
			original point reset to conduct avoidance.
12	Axis alarm (12)	A servo drive alarm	Please confirm the servo driver
	Servo driver	has occurred.	expression board's abnormal contents.
	abnormal		After the abnormal contents have been
			confirmed, please shut off the power supply
			and switch on the power supply again after
			more than 30 seconds.
13	Axis alarm (13)	The position data	Please confirm the position setting
	Position data	have not been set, or the	value.
	setting abnormal	setting value exceed the	
		maximum setting value.	
14	Axis alarm (14)	The deviation count	Please check the encoder cable's
	Deviation alarm	accumulated pulse	wiring/connection and the mechanical
		exceeds the specified	overload.
		value.	If no abnormity, please.exchange servo
			baseboard or servo driver.
15	Axis alarm (15)	The retrogradation	Prolong the time or cycle of
	Retrogradation	exceeds the specified	acceleration and deceleration.
	abnormal	value.	
16	Insufficient power	Main circuit power	Please confirm the power supply
	supply voltage	supply voltage is	voltage
		insufficient.	
17	Axis alarm (17)	The encoder input is	Please confirm the encoder's cables
	Encoder abnormal	abnormal.	and connectors.
18	Axis alarm (18)	The overheating	Please perform a machine overload
	Electronic thermal	protection circuit is	inspection.
	protection	triggered.	
	abnormal		
19	Servo driver	The communication	Please exchange the servo drives
	communication	of the axis CPU and	
	abnormal	action CPU has been	
		found abnormal	





20	Axis alarm (20)	The over current	Please confirm the power cables/wiring
	IPM abnormal	protection circuit is	
		triggered	
21	Axis alarm (21)	The motor rotates at	Please confirm the encoder's cables
	Velocity abnormal	a speed not less than the	and connectors.
	-	specified value.	
22	Axis alarm (22)	The type of the servo	Please confirm the type/model of the
	Servo drive	drive is wrong	servo driver model.
	detection abnormal	_	
23	Axis alarm (23)	The drive's power	Please confirm the power supply
	High voltage	supply voltage is too	voltage
	abnormal	high.	
24	Axis alarm (24)	The feedback current	Please check the servo driver, servo
	Over current	is too large.	motor and power cable.
	abnormal		
25	Axis alarm (25)	When the power	Please exchange the servo drive.
	Over current	supply is switched on,	
	abnormal	the feedback current is	
		abnormal.	
26	Axis alarm (26)	The mould pulse	Please check the mould pulse
	Mold pulse input to	input baseboard	baseboard input.
	baseboard	(IlxxxMi) counter reset	
	abnormal	has not been performed	
		normally.	
27	Axis alarm (27)	The gripping	Please confrim the setting value of the
	Correction amount	position's correction	maximum correction value.
	extra large	amount exceeds the	
		maximum correction	
		value.	
28	Axis alarm (28)	When the power	Please check the servo drive's rotary
	Axis continuous	supply is switched on,	switch, the server's DIP switch setting, or
	alarm	the server that should	the initial data's setting, and the
		exist is not found.	communication cable's connection.
29	Axis alarm (29)	No response signal	Please check the servo drive's rotary
	Axis response error	from the servo drives.	switch, the servo baseboard's DIP switch
			setting, or the initial data's setting, and the
			communication cable's connection.
30	Axis alarm (30)	The unused axis has	Please check the servo drive's rotary
	Axis DIP switch	been connected to the	switch, the servo baseboard's DIP switch
	setting error	servo driver, and servo	setting, or check the setting of the changed
		baseboard.	initial data





31	Axis alarm (31)	Absolute encoder's	Please exchange the lithium batteries
	TAbsolute battery	data backup lithium	as soon as possible. (as the batteries are not
	voltage insufficient	battery voltage is	standard products, please place your order
		insufficient.	to our company.)
32	Axis alarm (32)	The original point of	Please perform the setting of the
	Absolute original	absolute encoder has	original point
	point not set	not been set.	6 . I
33	Axis alarm (33)	The communication	Please exchange the servo drives.
	Servo driver	of axis CPU and action	C
	communication	CPU have been found	
	abnormal	abnormal.	
34	Axis alarm (34)	The temperature of	Please lower the speed, or slow the
	IPM temperature	the IPM exceed the	acceleration and deceleration.
	abnormal	specified value.	
35	Axis alarm (35)	The deviation of one	Please check the servo motor.
	Encoder count	rotary position data has	
	abnormal 1	been detected from the	
		encoder (EC1).	
36	Axis alarm (36)	The count anomalies	Please check the servo motor.
	Encoder count	of AB phase has been	
	abnormal 2	detected from the	
		encoder(CE2)	
37	Axis alarm (37)	The Z phase	Please check the servo motor.
	Encoder Z phase	abnormal signals have	
	signal abnormal	been detected from the	
		encoder (ZE)	
38	Axis alarm (38)	The CS phase	Please check the servo motor.
	Encoder CZ phase	abnormal signals have	
	signal abnormal	been detected from the	
		encoder	
39	Axis alarm (39)	Failue to receive the	Please check the servo motor, servo
	Encoder receiving	signals from the encoder	drive, and encoder cables and connectors.
	pause		
40	Axis alarm (40)	Abnormal signals	Please check the servo motor, servo
	Encoder receiving	have been detected from	drive, and encoder cables and connectors.
	data abnormal	the encoder.	
41	Shaft alarm (41)	Abnormal	Please check the servo driver.
	Encoder	communication	
	communication IC	confirmation of the	
	access abnormal	encoder communication	
		IC (access checking) has	
		been detected.	





42	Axis alarm (42)	Counting errors have	Please check the servo motor.
	Encoders count	been detected from the	
	abnormal	encoder (CE)	
43	Axis alarm (43)	When turning on the	Please check the servo motor and the
	Encoder all	power supply, in the	take-out machine.
	absolute status	absence of instructions,t	
	abnormal	he servo motor running	
		has been detected.	
44	Axis alarm (44)	The counting	Please check the servo motor.
	Encoder count	overflow have been	
	overflow	detected from the	
		encoder (OF).	
45	Axis alarm (45)	The ID of the	Please confirm if the type of the servo
	Encoder ID	non-corresponding	motor is wrong.
	abnormal	encoder has been	
		received from the	
		encoder.	
46	Axis alarm (46)	The machine clash	Shut off the power supply.
	Collision detection	has been detected.	Please use the free operation to dodge
			to a safe position and please confirm
			whether the machine is abnormal.
47	Axis alarm (47)	Receiving error has	Please test the communication wiring
	TS - NET	been detected from the	and connectors.
	instruction	TS - NET communication.	
	receiving abnormal		
49	Axis alarm (49)	Alarms have been	Please confirm the generic driver's
	Drive alarm	detected from the generic	alarm contents.
		drives.	





#### ==Error Information==

Display an error message when...

In the following validation errors, please response processing. After that, please confirm whether error message appear again to download.

#### The download assignments may be said in the picture of error

No.	Error information	Error contents	Takeaway tip
E060	Application Sum Error	Application error.	Please contact the service window.
E010	Backup Clear Error!	Backup Clear memory error	Please contact the service window.
E025	File Write Error.	Can not be written in USB.	Please confirm the description of INF file.
E028	Syntax Error.	Command of INF file is error.	Please confirm the connection of the USB storage.
E047	USB Memory Write Timeout	Error occurred in the	Please contact the service
E051	Flash Erase Error (MOT).	Error occurred in the FROM wiping off.	Please contact the service window.
E042	USB Memory Is Disconnected.	Errors occurred in reading USB storage.	Please confirm USB storage's connection.
E022	Inf File SUM Error.	File sum inconsistent.	Please confirm the sum of inf file.
E005	Instantaneous Blackout!!	Instantaneous	Please contact the service window.
E050	Flash Write Error (MOT).	MOT flash Read Error.	Please contact the service window.
E034	Transmit Timeout.	MOT-PEN Data transfer timeout.	Please contact the service window.
E030	Transmit Data Error.	MOT-PEN Data transfer error.	Please confirm the description of INF file.

### information and content"





E032	Transmit Data Error.	MOT-PEN Data transfer error.	Please contact the service window.
E039	Flash Read Timeout (PEN).	No connection with USB storage	Please contact the service window.
E020	No Inf File Error	No inf file.	Please confirm the sum of inf file.
E001	Communication Error!	PEN-MOT communication error	Please contact the service window.
E031	Receive Data Error.	PEN-MOT Data transfer error.	Please confirm the connection of the USB storage.
E033	Receive Data Error.	PEN-MOT Data transfer error.	Please contact the service window.
E035	Receive Timeout.	PEN-MOT Data transfer timeout.	Please contact the service window.
E001	Communication Error!	PEN-MOTcommunication timeout.	Please contact the service window.
E021	Inf File Read Error.	Read error.	Please confirm whether there is a download file under the root directory of the USB storage.
E026	File Sum Error.	The Sum of file inconsistent.	Please confirm whether there is a download file under the root directory of the USB storage.
E037	Flash Read Error.	The flash of PEN read error.	Please contact the service window.
E036	Flash Write Error (PEN).	The flash of PEN write error.	Please contact the service window.
E038	Flash Write Timeout (PEN).	The flash of PEN write timeout.	Please contact the service window.
E024	File Read Error.	The specified file of INF can not be read.	Please confirm whether there is a download file under the root directory of the USB storage.





E023	No File Error.	The specified file does not exist.	Please confirm whether there is a download file under the root directory of the USB storage.
E041	USB Memory Format Error.	USB Memory Format Error.	Please confirm the USB storage's space.
E040	USB Memory Is Not Inserted.	USB Memory Is Not Inserted.	Please confirm the USB storage's space.
E046	USB Memory Read Error.	USB Memory Read Error.	Please try to download again with another USB storage.
E048	USB Memory Read Timeout.	USB Memory Read Timeout.	Please confirm USB storage's connection.
E045	USB Memory Write Error.	USB storage abnormal	Please confirm USB storage's connection.
E049	USB Memory Error	USB storage abnormal	Please confirm USB storage's connection.
E043	USB Memory Is Busy.	USB storage in busy working	Please try to download again with another USB storage.
E044	USB Memory Is No Empty Space.	USB storage reading suspended	Please confirm the connection of the USB storage.
E027	File Address Error.	Wrong address of file.	Please confirm the connection of the USB storage.