
Instructions for the use of the spin arm

NPC

Please read this instruction carefully before using it

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1、Operational instructions



1.1 Operational panel


1.2 Stop status

After boot, the control system enters the LOGO display interface, and then enters the stop page. Press the Stop button in other states to enter this page as follows:

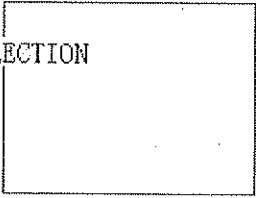

RUN STATE	STOP STATU	RUN TIME
STOP		000:01:12





MOP	DOOR	EMC	EBF
-----	------	-----	-----

1.3 Manual operation

Press  Key, Display manual screen, can carry on manual operation, operate manipulator each single action, and adjust each part of machinery (manipulator in the rotation side to do the drop action must have the opening mold to complete the signal to operate, and ensure that the mold will not collide). The manual screen is shown below. If there is no finished opening signal, it will prompt "before entering the manual, there is no finished opening signal !".

RUN STATE	MANU STATUS	RUN TIME
MANU		000:02:14

MANU ACT:	
EXTOUT SELECTION	
	

MOP		DOOR		EMC		EEF	
-----	---	------	---	-----	---	-----	--



The main arm rises / falls, press again, then reverse phase action.



The main arm moves forward / backward, press again, then reverse phase action.



Main arm clip / release action, press again, reverse phase action.



Spin out / spin in action, press again, reverse phase action.



Suction / release action, press again, reverse phase action.



Set aside pass / break action, press again, reverse phase action.



Side arm rise / fall action, press again, reverse phase action.



The accessory arm moves forward / backward, press again, then reverse phase

action.




Side arm clip / release action, press again, reverse phase action.



Single and double arms.

1.4 Automatic operation

Press  Key, Display automatic screen, manipulator into automatic

RUN STATE		AUTO STATUS		RUN TIME	
PREAUTO				000:02:34	
MOLD:	20	IMM TM:	000.0	SEC	
PRODUCT:	000000	INMOLD TM	000.0	SEC	
MOLDS:	000000	ACT TM:	000.0	SEC	
ACT:	NULL				
MOP	DOOR	EMC	EEF		

preparation state, the page is as follows:

In the state of automatic preparation, press the start button to run the automatic action, the page is as follows:

Current module number: the currently selected module number, automatically run according to this module number program.

Cycle time: record the time used for the current automatic loop.

Set output: plan the number of products, when the actual output reached the set output, will alarm.

Mold time: when running automatically, each automatic cycle forbids the injection molding machine to allow the injection molding machine to switch the mold time. Actual


finished product: the quantity of actual production.

Action time: the actual time used in the current action.

Current action: the action currently performed.


RUN STATE	AUTO STATUS		RUN TIME
AUTO			000:02:44
MOLD:	20	IMM TM:	000.0 SEC
PRODUCT:	000000	INMOLD TM	000.0 SEC
MOLDS:	000000	ACT TM:	002.3 SEC
ACT:	MOP		










MOP	DOOR	EMC	EEF ;
-----	------	-----	-------

When running  automatically, Available Key
 Enter the time page to modify the time parameters, Can also go to the monitoring, information page to view I/O signals and signal records, press the automatic key to return to the automatic page. When the manipulator fails to take an alarm, the operator confirms that it should continue to be automatic, press the start key (or open the safety door) to close the alarm, and the manipulator will continue to act. If the alarm occurs, press the stop key, take out the molding machine back to the origin state, and exit the automatic state.

1.5 Function setting

1.5.1 General functions

Under the stop page, Press  key Go to the function selection page and move the cursor key to each function setting item. At this time press the function key to enter the function page to operate the functions. Leave the function page and press stop to return to the stop page.

RUN STATE	FUN SET	S	RUN TIME
STOP			000:02:55
LANGUAGE			
EEF CTL			
PGRIP			
RGRIP			
VACUUM			
MOP 	DOOR 	EMC 	EEF 

1、Language: select Chinese or English to display.

2、Thimble control:

No use: the manipulator allows thimble signal long-term output, do not control the injection molding machine thimble action.

Use: when the manipulator starts, disconnect the allowed thimble signal and start timing, wait for the delay thimble time to output the allowed thimble signal.

3、Main clip detection:

4、Positive phase: fixture switch positive phase detection, automatic operation of the clamp successful fixture switch signal is ON.

Reverse phase: fixture switch reverse phase detection, automatic operation of the clamp to remove the successful fixture switch signal is OFF.

Do not use: fixture switch does not detect, automatic operation of the clip whether successful or not, do not confirm the switch signal detection.

5、Secondary clip detection: same as main clip detection.

6. Suction detection:

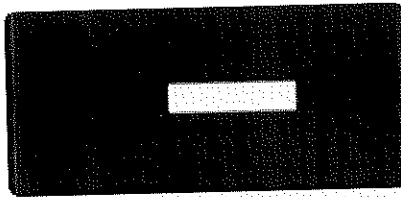
Do not use: automatic operation, suction switch signal is not detected.

Directions: When an item is absorbed during automatic operation, make sure the switch signal is ON.


1.5.2 Special functions

Under stop page, Press  key Enter the password page twice as follows:

RUN STATE	FUN SET	RUN TIME
STOP		000:03:04



MOP	DOOR	EMC	EEF
-----	------	-----	-----

Enter in the password entry bar2011Press again  key, Go to the special feature page, You can press the up / down cursor key to each function setting item, the page is.as follows:

RUN STATE	SPEC FUN1		RUN TIME
STOP			000:03:32
PROD SET	000000	EXT1 INTE	0000
PID TIME	0600.0	EXT2 INTE	0000
ALARM TM	060.0	EXT3 INTE	0000
SCREEN TM	600	EXT1 TIME	000.0
		EXT2 TIME	000.0
		EXT3 TIME	000.0

MOP	DOOR	EMC	EEF
-----	------	-----	-----

RUN STATE	SPEC FUN1		RUN TIME
STOP			000:03:15
DOOR	USE	KEYTONE	OPEN
FET FAIL	CONTINUE	STOP STS	FORBID_CLO
OPENDOOR	CONTINUE	OUT WAIT	NOUSE
MID USE	NOUSE	RESERVE1	NOUSE
CLE PARA	CLSOE	RESERVE2	NOUSE
CLE_PROD	CLSQE	RESERVE3	NOUSE
PRESSURE	NOUSE		
MOP	DOOR	EMC	EEF

On the special function 1 page, press the up / down cursor again to move to each function setting item, the page is as follows:

1、 Safety Door:

No use: safety door signal is not detected.

Use: when the manipulator drops the object, it will detect the safety door signal of the ejector, if no signal, alarm.

2、 Failure to collect:

Door opening continues: when automatic, failure alarm, switch safety door manipulator continues to complete the current cycle.

Door open and return: in the automatic, when the failure alarm, the switch safety door manipulator release fixture, sucker, return to the automatic standby state, waiting for the next mold after the signal drop.

3、 Door opening alarm:

Shutdown stop: automatic operation, when the safety door opens alarm, close the safety door, alarm stop alarm, but the manipulator can not continue to run automatically, must press stop key reset and restart automatically.

Close the door to continue: automatic operation, when the safety door opens alarm, close the safety door, manipulator continues to run the current automatic action.

4、 Medium die use:

No use: medium mode signal is not detected.

Use: the arm will detect the mid-mode signal before downlink, if no signal alarm.

5. Zero product:

Choose whether to clear the existing output, "open" the actual output to zero; "close" the actual output accumulation.

6. Air pressure detection:

No use: air pressure signal is not detected.

Use: as long as the mechanical hand will detect the air pressure signal, if no signal alarm.

7. Key tone:

Close: no keystroke sound when pressing the button.

Open: there is a keystroke sound when pressing the button.

8. Stop status:

Do not use: in the stop state, the manipulator on and off mode signal output.

Use: in the stop state, the manipulator receives the mold opening termination signal will prohibit the injection machine to open and close the mold, open and close the safety door after the manipulator allows the injection machine to open and close the mold.

9. Off-mode standby:

Do not use: automatic timing manipulator in the rotary side standby, according to the module program action.

Use: when running automatically, the manipulator waits for the machine in the side of the spin-out, the forming machine is finished, and the machine is rotated in before performing the module program action.

10. Output set:

Number of products planned for production. When the current output reaches the set output, it will be alerted.

11. Cycle time:

After the manipulator completes an automatic cycle, it waits for the injection molding machine to complete the signal output again. If the actual time exceeds

this set value, the alarm is alerted.

12、Alarm time: set alarm time, time to stop alarm, but alarm screen retained.

13、Turn off time: set screen sleep time.

14、Reserved 01 interval: this parameter is the interval mode of the reserved action output when the program teaches the reserved action. If the parameter is set to "3", the reserved action is output every 3 modes at automatic run time.

15、Reserved 02 interval: reserved.


16、Reserved 03 interval: reserved.

17、Reserved 01 time: the action time after the output of the reserved valve, and the output of the reserved valve is closed after the output, often used to control the conveyor belt and other auxiliary equipment.

18、Reserved 02 time: reserved.

19、Reserved 03 time: reserved.

1.5.3 Single arms option

Enter 2012 in the password entry bar, Press again  key, That is to enter the single-arm selection page.

RUN STATE	SPEC FUNZ	RUN TIME	
STOP		000:03:50	
SECELECT ARM <input type="text" value="2012"/>			
PROD MODEL: SIN-SWING			
VER DATE: 2020.01.09 IOV2			
VERSION: V 1.09			
MOP	DOOR	EMC	EEF

Single-arm option:


Single arm program: set standard action program as single arm program.

Double arm program: set standard action program as double arm program.

Product model, version date, version: all manufacturer system information.

1.6 Action Program

1.6.1 Procedure selection

Under the stop  page, Press key, That is to enter the action program module selection page. The page reads as follows:

RUN STATE	MOLD ACCE	RUN TIME
STOP		000:03:58

READ (0-99)

WRITE (20-99)

MOP	DOOR	EMC	EEF
-----	------	-----	-----

Look above, After selecting the mode number to run in the text box, press the input key.

1.6.2 Procedural teaching

The controller can store 100 sets of mold programs, Of these ,20 fixed programs (0-19) are available to users, If these 20 sets of fixed procedures do not meet production requirements, Users can teach their own programs, Teaching programs can be stored in 20-99 groups. Enter a reference action program in the read-in text box (0-99), Press the input key, Then move the cursor down to write to the text input box, enter the module number to be taught and press the input key to enter the program instruction page. The page reads as follows:

RUN STATE	TECH	RUN TIME
TECH		000:04:16
ACTION TIME (S)		MOLD: 20
MOP	0.50	NUM: 00/13
EEF	0.50	EXTOUT SEEXT1
PRO ADV	9.90	ACTION MOP
PRO DES	0.50	
PRO RET	0.50	
PRO ON	0.50	SET TIME 0.50 SEC
MOP	DOOR	EMC EEF

If there is no mold signal, it will prompt "before entering the teaching, no mold signal!".



Insert a line of no action instructions in the instruction.



Delete a line of action instructions in the instruction.

Action teaching: in the teaching step area, you can press the up and down cursor key to each step to modify the action, after the modification is completed, press the input key, the cursor moves to the time setting box, press the input key again, the manipulator performs the action, and stores the currently modified action, the cursor jumps to the next step.

Setting time: in the teaching step sequence area, you can press the upper and lower cursor keys to move to the step order to modify the time, press the input key cursor shift time setting box, input value and then press the input key, that is, the modification of the completion time.

1.7 Time changes


In standby page or automatic running state, key, that is, enter the time, to modify the page.

RUN STATE	TIME SET S	RUN TIME
STOP		000:04:34
ACTION TIME (S)		MOLD: 20
MOP	0.50	NUM: 00/13
EEF	0.50	
PRO ADV	9.90	
PRO DES	0.50	
PRO RET	0.50	SET TIME
PRO ON	0.50	0.50 S
MOP	DOOR	EMC EEF


On this page, you can press the up and down cursor key to move to the time position to be modified, enter the value and then press the input key, that is, the completion time modification. The time after the step action is the delay time before the action is executed, and the delay time is until the current step action is executed.

If the current step action is confirmed by the switch, the action time is also timed. If the actual action time exceeds the timing, the next step action can only be continued after the time is completed, and the action switch is confirmed.

1.8 I/O signal monitoring


On standby or in auto-running condition, Press  Key, Enter the input monitoring page.

RUN STATE	INPUT		RUN TIME
STOP			000:04:47
X1 PASC ●	X7 RGRIP ●	X13 DOOR ●	
X2 PGRIP ●	X8 LOW ●	X14 MOP ●	
X3 VACUUM ●	X9 EXT1 ●		
X4 SIN ●	X10 EXT2 ●		
X5 SOUT ●	X11 EXT3 ●		
X6 RASC ●	X12 MID ●		
MOP ●	DOOR ●	EMC ●	EEF ●

Twice consecutively  Key, Go to the output monitoring page:

RUN STATE	OUTPUT		RUN TIME
STOP			000:04:54
Y1 PDES	Y7 RDES	Y13 MAF	
Y2 PADV	Y8 RADV	Y14 EMC	
Y3 PGRIP	Y9 RGRIP	Y15 EEF	
Y4 SIN	Y10 EXT1	Y16 ALARM	
Y5 SOUT	Y11 EXT2		
Y6 VACUUM	Y12 EXT3		
MOP	DOOR	EMC	EEF

1.9 Alarm record

On standby or in auto-running condition, Press  Key, That is to enter the alarm record page.

RUN STATE	ALARM	RUN TIME
STOP		000:05:01
NUM	ALARM INFO	
01	[29]NO SWING IN	
02	[12]PDES BUT ASCON	
03	[25]NO PDES	
04	[03]CLOSE DOOR DOT OPEN DOOR.	
05	[10]MOP TIMEOUT	
06	[03]CLOSE DOOR DOT OPEN DOOR	
MOP	DOOR	EMC
		EEF

Record the last 48 alarms, Press   You can view 1-48 alarm information content.

2、 Action Program Description

2.1 Standard Action Program

2.1.1 Single arm action program

Program 0: Clamp Moving side

0000 Output → 0001 Opening Delay → 0002 Thimble delay → 0003 main arm down
→ 0004 main arm forward → 0005 main arm clip → 0006 main arm back → 0007 main arm
up → 0008 machine spin out 0009 main arm down → 0010 main arm down 0011 main arm
up → 0012 machine spin out

Procedure 1: Clamp Fixed side

0100 Output → 0101 open die delay → 0102 thimble delay → 0103 main arm forward
→ 0104 main arm down → 0105 main arm back → 0106 main arm clip 0107 main arm
forward → 0108 main arm up → 0109 main arm down → 0111 main arm down 0112 main
arm up → 0113 machine

Procedure 2: Clamp fixed side

0200 Output → 0201 open die delay → 0202 thimble delay → 0203 main arm drop
→ 0204 main arm clip → 0205 main arm advance → 0206 main arm rise , 0207 main arm
back → 0208 machine spin out → 0209 main arm fall , 0210 main arm fall → 0211 main
arm rise , 0212 machine spin in

Procedure 3: Clamp moving side

0300 Output → 0301 open die delay → 0302 thimble delay → 0303 main arm forward
→ 0304 main arm down → 0305 main arm clip 0306 main arm back → 0307 main arm up
→ 0308 main arm forward , 0309 machine spin out → 0310 main arm down → 0311 main
arm down , 0312 main arm up → 0313 machine spin in

Procedure 4: suction shift side

0400 Output → 0401 open die delay → 0402 thimble delay → 0403 main arm drop
→ 0404 main arm forward → 0405 vacuum suction 0406 main arm back → 0407 main arm
rise → 0408 machine spin out → 0409 main arm fall , 0410 vacuum release → 0411
main arm rise , 0412 machine spin in

Procedure 5: gripper suction shift side

0500 Output →0501 open die delay →0502 thimble delay →0503 main arm drop
→0504 main arm forward →0505 vacuum suction →0506 main arm clip →0507 main arm
back →0508 main arm rise 0509 machine spin out →0510 main arm fall 0511 vacuum
release →0512 main arm rise 0513 main arm drop →0514 main arm drop < unk1>0515
main arm rising →0516 machine spinning

Procedure 6: In-Mode Release Moving side

0600 Output →0601 open die delay →0602 thimble delay →0603 main arm drop
→0604 main arm forward →0605 main arm clip →0606 main arm back →0607 main arm
position 0608 main arm rise

Procedure 7:: In-mold Fixed side

0700 Output →0701 open die delay →0702 thimble delay →0703 main arm forward
→0704 main arm down →0705 main arm back →0706 main arm clip 0707 main arm
forward →0708 main arm position 0709 main arm rise

Procedure 8: Extensions

0800 Output →0801 open die delay →0802 thimble delay →0803 main arm drop
→0804 main arm forward →0805 absorption 0806 main arm back →0807 main arm rise
0808 extension 1 open →0809 machine spin out →0810 extension 1 close 0811 suction
→0812 machine spin in

2.1.2 Arms Action Program

Main arm:

Program 0: Main arm suction Auxiliary arm clamp Moving side

0000 Output →0001 open die delay →0002 thimble delay →0003 arms drop →0004
arms forward ,0005 vacuum suction →0006 Auxiliary arm clamp →0007 arms back
→0008 arms up →0009 arms forward →0010 machine spin →0011 main arm drop →0012
vacuum release 0013 main arm rise →0014 auxiliary arm decline →0015 auxiliary
arm place →0016 auxiliary arm up →0017 machine spin →0018 arms back

Procedure 1: Main arm clamp Auxiliary arm Clamp Moving side

01000 Output →0101 open die delay →0102 thimble delay →0103 double arms drop
→0104 double arms forward →0105 double arms clip 0106 double arms back →0107

double arms forward →0108 double arms forward 0109 machine rotation →0110 main arm drop 0111 main arm →0012 main arm rise 0113 auxiliary arm down→0114 auxiliary arm place→0115 auxiliary arm up→0116 machine spin→0117 arms back

Procedure 2: Main arm clamp Moving side

Output →0201 open die delay →0202 thimble delay →0203 main arm drop →0204 main arm forward →0205 main arm clip 0206 main arm back →0207 main arm rise 0208 machine spin out →0209 main arm drop →0210 main arm release →0211 main arm rise 0212 machine spin

Procedure 3: Main arm clamp Fixed side

0300 Output →0301 open die delay →0302 thimble delay →0303 main arm forward →0304 main arm down →0305 main arm back →0306 main arm clip 0307 main arm forward →0308 main arm up →0309 machine spin out →0310 main arm down , 0311 main arm 0312 main arm rise →0313 machine spin in

Procedure 4: Main arm clamp Fixed side

Output →0401 open die delay →0402 thimble delay →0403 main arm drop →0404 main arm clip →0405 main forward →0406 main arm rise , 0407 main arm back →0408 machine spin out →0409 main arm fall , 0410 main arm fall →0411 main arm rise , 0412 machine spin

Procedure 5: Main arm clamp Moving side

0500 Output →0501 open die delay →0502 thimble delay →0503 main arm advance →0504 main arm fall →0505 main arm clip 0506 main arm back →0507 main arm rise →0508 main arm advance 0509 machine spin out →0510 main arm drop →0511 main arm release 0512 main arm rise →0513 machine spin in

Procedure 6: Main arm suction Moving side

0600 Output →0601 open die delay →0602 thimble delay →0603 main arm drop →0604 main arm forward →0605 vacuum suction →0606 main arm back , 0607 main arm rise →0608 machine spin out →0609 main arm drop , 0610 vacuum release →0611 main arm rise , 0612 machine spin in

Procedure 7: Main arm clamp suction Moving side

Output →0701 open die delay →0702 thimble delay →0703 main arm drop →0704

main arm forward →0705 vacuum suction →0706 main arm clip 0707 main arm back
→0758 main arm rise 0709 machine spin out →0710 main arm fall 0711 vacuum release
→0712 main arm rise 0713 main arm fall →0714 main arm fall →0715 main arm
rising →0716 machine spinning→0715 arm up →0716 machine spinning

Procedures8: Main arm clamp In-Mode Release Moving side

0800Output →0801 open die delay →0802 thimble delay →0803 main arm drop
→0804 main arm forward →0805 main arm clip 0806 main arm back →0807 main arm
position 0808 main arm rise

Procedures9: Main arm clamp In-Mode Release Fixed side

0900Output →0901 open die delay →0902 thimble delay →0903 main arm forward
→0904 main arm down →0905 main arm back →0906 main arm clip 0907 main arm
forward →0908 main arm position 0909 main arm rise

Auxiliary arm:

Procedure 10: Auxiliary arm Clamp Fixed side ;

1000 Output →1001 open die delay →1002 thimble delay→1003 auxiliary arm
forward→1004 auxiliary arm down→1005 auxiliary arm back→1006 auxiliary arm
clamp→1007 auxiliary arm forward→1008 auxiliary arm up→1009 machine
spinning→1010 auxiliary arm down→1011 auxiliary arm place→1012 auxiliary arm
up→1013 machine spin in

Procedure 11: auxiliary arm clamp Moving side

1100 Output →1101 open die delay →1102 thimble delay →1103 auxiliary arm
down→1104 auxiliary arm forward→1105 auxiliary arm clamp→1106 auxiliary arm
back→1107 auxiliary arm up→1108 machine spin→1109 auxiliary arm down→1110
auxiliary arm place→1111 auxiliary arm up→1112 machine spin in

Procedure 12: auxiliary arm clamp Moving side

1200 Output →1201 open die delay →1202 thimble delay→1203 auxiliary arm
forward→1204 auxiliary arm down→1205 auxiliary arm clamp→1206 auxiliary arm
back→1207 auxiliary arm up→1208 auxiliary arm forward→1209 machine spin→1210
auxiliary arm down→1211 auxiliary arm place→1212 auxiliary arm up→1213 machine
spin in

Procedure 13: auxiliary arm clamp Fixed side

1300 Output →1301 open die delay →1302 thimble delay→1303 auxiliary arm down→1304 auxiliary arm clamp→1305 auxiliary arm forward→1306 auxiliary arm up→1307 auxiliary arm back→1308 machine spin→1309auxiliary arm down→1310 auxiliary arm place→1311 auxiliary arm up→1312 machine spin in

Procedure 14: auxiliary arm clamp In-Mode Release Fixed side

1400 Production →1402 thimble delay →1403 auxiliary arm forward→1404 auxiliary arm down→1405 auxiliary arm back→1406 auxiliary arm clamp→1407 auxiliary arm forward→1408 auxiliary arm place→1409 auxiliary arm up

Procedure 15: auxiliary arm clamp In-Mode Release Moving side

1500 Output →1501 open die delay →1502 thimble delay →1503 auxiliary arm down→1504auxiliary arm forward→1505 auxiliary arm clamp→1506 auxiliary arm back→1507 auxiliary arm place→1508 auxiliary arm up

Procedure 16:Main arm suction auxiliary arm clamp Moving side

1600 Production →1601 open die delay →1602 thimble delay →1603 double arms drop →1604 double arms forward →1605 vacuum suction 1606 auxiliary arm clamp→1607 arms back →1608 arms up →1609 arms forward →1610 machine spinning →1611 arms down ,1612 vacuum→1613auxiliary arm place→1614 arms up →1615 machine spin →1616 arms back

Procedure17: Main arm clamp auxiliary arm clamp Moving side

1700 Production →1701 open die delay →1702 thimble delay →1703 arms drop →1704 arms forward →1705 arms clip 1706 arms back →1707 arms up →1708 arms forward ,1709 machines →1710 arms down ,1711 arms →1712 arms up 1713→1714 arms Step back

3. Alarm Information and Solutions

Automatic alarm occurs, press "STOP" key to cancel the alarm, while the manipulator return.

Alarm Number and Information	Cause of alarm	Solution
[01] The pressure is too low	The pressure of the air pump is too low.	<ol style="list-style-type: none"> 1. Check that the air pump is open. 2. Check for air leakage. 3. Whether there is a fault in the circuit board.
[02]Planned completion	The current total production output reaches the set output.	<ol style="list-style-type: none"> 1. Increase the value of the set output. 2. Zero the current output.
[03] Do not open a safety door when the door is closed	Safety door signal no input.	<ol style="list-style-type: none"> 1. Whether the safety door of the injection molding machine is closed. 2. Check the safety door for signal output. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[04] Operator emergency stop	Manipulator emergency stop.	<ol style="list-style-type: none"> 1. Release the electronic control emergency stop button. 2. Check the connection of the emergency stop signal.
[05]Injection molding machine emergency stop	The injection molding machine stopped urgently.	<ol style="list-style-type: none"> 1. Release the emergency stop button of the injection molding machine. 2. Check the connection of the emergency stop signal.
[06] When the arm die is down, the signal disappears	Before the manipulator drops the object, the signal disappears after opening the mold.	<ol style="list-style-type: none"> 1. Whether the injection molding machine outputs the finished signal. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[07] The mid-mode signal disappears when the arm is down	Before the manipulator drops the object, the medium-mode signal disappears.	<ol style="list-style-type: none"> 1. Whether the die is open. 2. Whether the proximity switch of the middle plate die has a signal output. 3. Check that the connection of the I/O board is correct.

		4. Whether there is a fault in the circuit board.
[08] No finished opening signal	No input to the finished signal.	<ol style="list-style-type: none"> 1. Whether the injection molding machine outputs the finished signal. 2. Injection molding machine after the completion of the signal abnormal. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[09] No open-module finish signal	The middle mode signal has no input.	<ol style="list-style-type: none"> 1. Check that the plate mode signal is input. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[10] Mold opening time out	Waiting for a number of time, has not finished the mold signal.	<ol style="list-style-type: none"> 1. Check if the timeout is set too short. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[11] Main arm uplink but no uplink signal detected	After performing the main arm rise action, the main arm rise limit has no signal input.	<ol style="list-style-type: none"> 1. Check the main arm upper switch for failure. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[12] Main arm down but detected uplink in place	After the main arm drops, the upper limit of the main arm has signal input.	<ol style="list-style-type: none"> 1. Check that the connection of the I/O board is correct. 2. Whether there is a fault in the circuit board.
[13] Simultaneous detection of incoming and outgoing signals	When the arm rotates in or out, both lights are on.	<ol style="list-style-type: none"> 1. Check that the connection of the I/O board is correct. 2. Whether there is a fault in the circuit board.

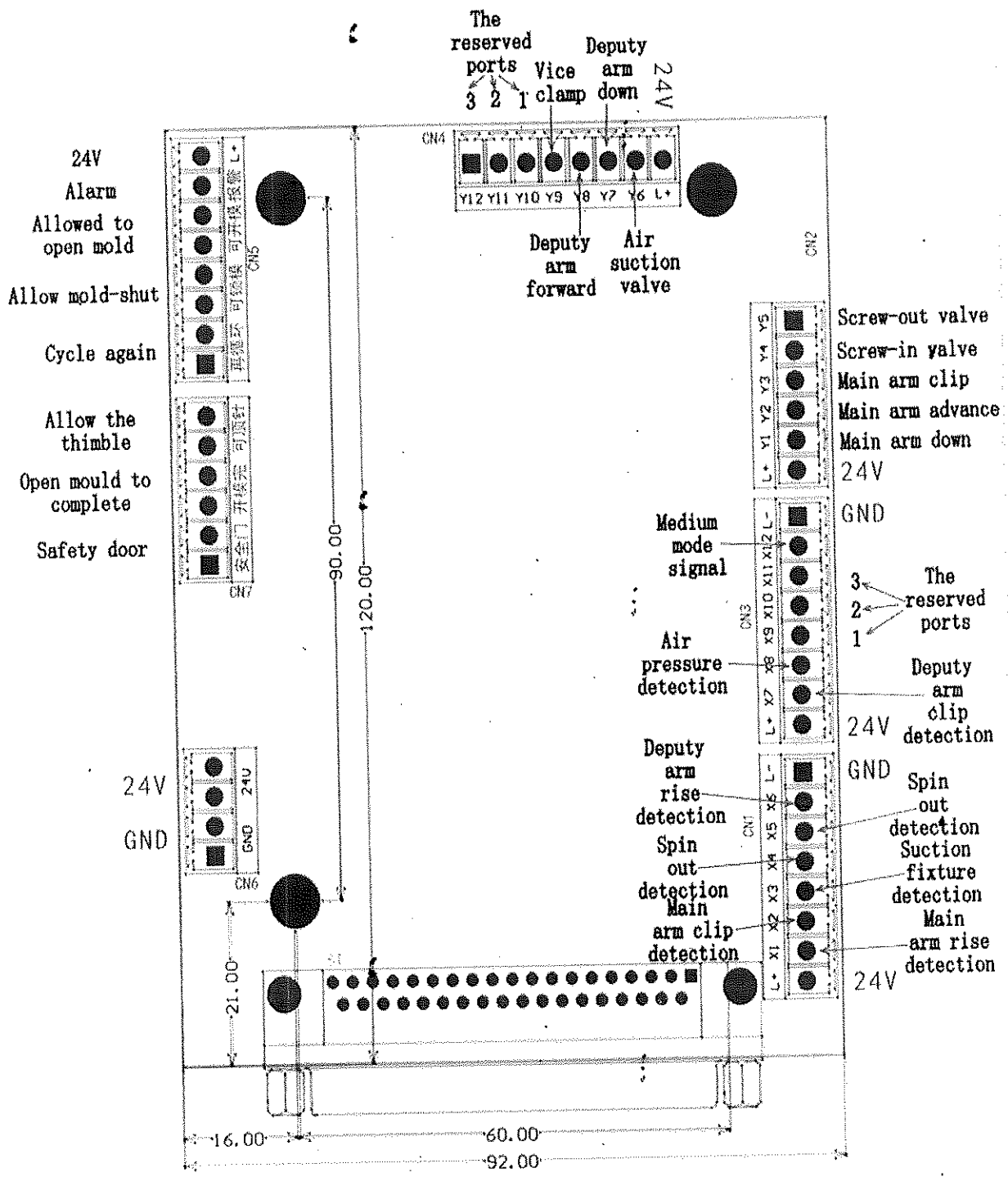
[14] Arm swirling but no signal detected	After the arm is rotated in, the signal in place has no input.	<ol style="list-style-type: none"> 1. Check the rotary switch for malfunction. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[15] The arm spins out but no signal in place	After the arm is rotated out, the signal in place has no input.	<ol style="list-style-type: none"> 1. Check that the spin-out switch is faulty. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[16] Main arm clip but no clamp confirmation signal detected	After the main arm performs the clip action, the main clip confirms that the signal has no input.	<ol style="list-style-type: none"> 1. Check the main clamp limit switch for failure. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[17] The main arm sucks but does not detect suction confirmation	After the main arm performs the suction action, the suction confirmation signal has no input.	<ol style="list-style-type: none"> 1. Check the suction switch for malfunction. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[18] Auxiliary arm Up but no up signal detected	Auxiliary arm implementation action after, Auxiliary arm rising limit no signal input.	<ol style="list-style-type: none"> 1. Inspection Auxiliary arm Whether the upper switch has a fault. 2. Check that the connection of the I/O board is correct. 3. Whether there is a fault in the circuit board.
[19] Back arm down but up signal in place	After performing the auxiliary arm drop action, the upper limit of the auxiliary arm has signal input.	<ol style="list-style-type: none"> 1. Check that the connection of the I/O board is correct. 2. Whether there is a fault in the circuit board.
[20] back arm clip but no clamp confirmation	After the accessory arm performs the clip action, the accessory clip confirms that the	<ol style="list-style-type: none"> 1. Check that the secondary clamping switch is out of order. 2. Check that the connection of the I/O board is correct.

	signal has no input.	3. Whether there is a fault in the circuit board.
[25] No main ceiling	Main arm upper signal no input, manipulator not standby position	<ol style="list-style-type: none"> 1. Whether the pressure is too low. 2. Whether the main arm upper switch has a signal. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[26] No secondary ceiling	The upper signal of the arm has no input and the manipulator is not in standby position	<ol style="list-style-type: none"> 1. Whether the pressure is too low. 2. Whether the upper switch of the accessory arm has a signal. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[27] Spin entry	The input limit signal is input and the manipulator is not in standby position.	<ol style="list-style-type: none"> 1. Whether the pressure is too low. 2. Whether the switch has a signal. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[28] No swirling signal	The output signal has no input and the manipulator is not in standby position.	<ol style="list-style-type: none"> 1. Whether the pressure is too low. 2. Whether the switch has a signal. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[29] No swirling signal	The rotary signal has no input and the manipulator is not in standby position.	<ol style="list-style-type: none"> 1. Whether the pressure is too low. 2. Whether the switch has a signal. 3. Check that the connection of the I/O board is correct. 4. Whether there is a fault in the circuit board.
[30] There's a spin signal	The output signal has input and the manipulator is not in standby position.	<ol style="list-style-type: none"> 1. Whether the pressure is too low. 2. Whether the switch has a signal. 3. Check that the connection of the I/O board is correct.

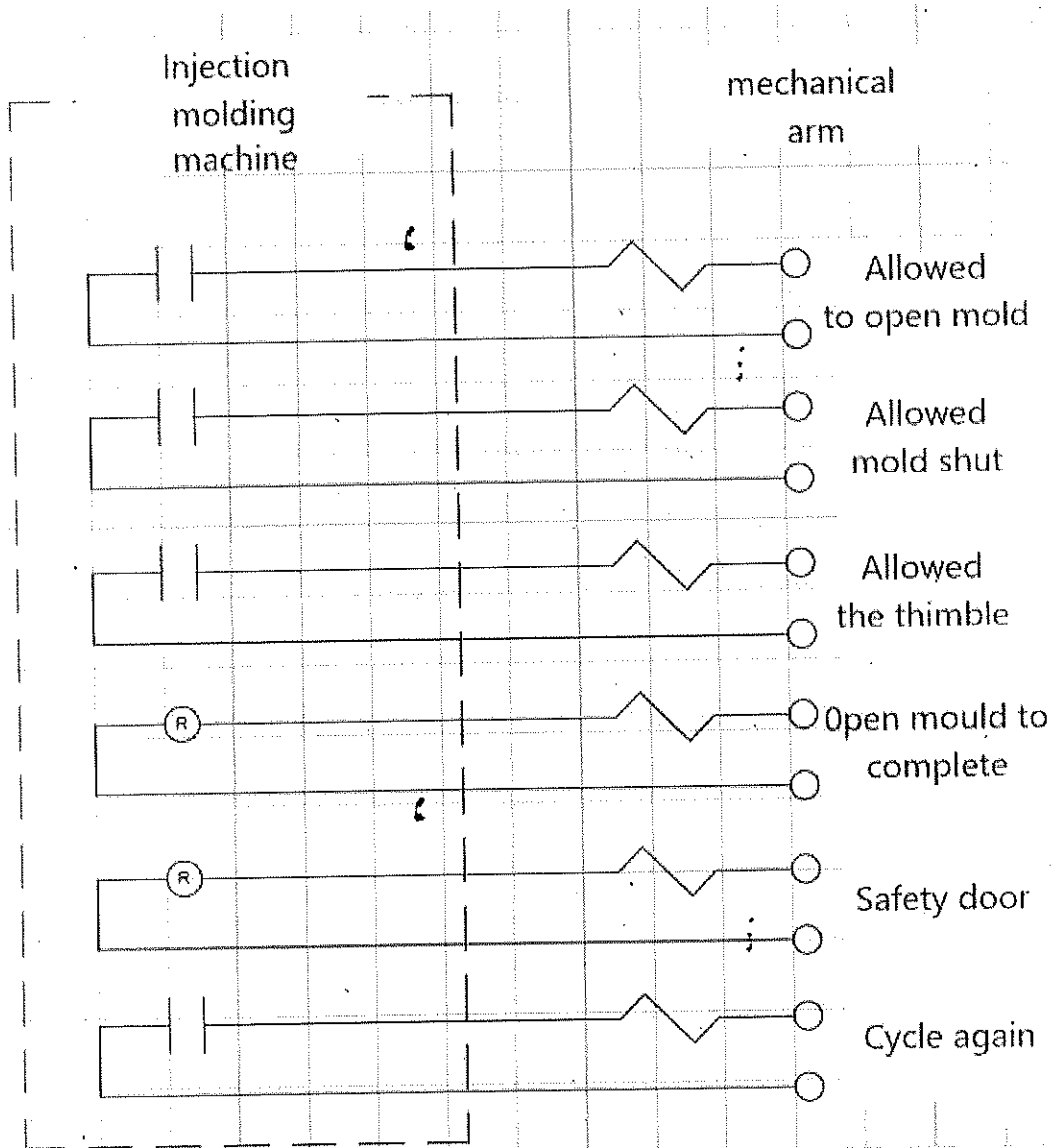
		4. Whether there is a fault in the circuit board.
[31] Incomplete teaching process	The teaching procedure is incomplete.	1. Re-teaching the program, the final action of the instruction must return to the origin.

4. Wiring and Installation Dimensions

4.1 Relay board input and output wiring diagram and mounting dimensions



4.2 Connection diagram of injection molding machine and manipulator



(This wiring diagram is for reference only, the actual wiring is based on the machine manufacturer's line number)