Controller ARM

ASANOR
LIFT CONTROLLER

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Operating Manual M3

Foreword

M3 ARM Control Systems for Lifts is winning more and more market share after its launch. With beyond-measure security, friendly human-computer interface, M3 ARM becomes the first-choice for lift alternation and lift reconstruction. It is the mainstream of lift technology development.

Features

M3ARM employs local CAN bus control and 32-bit industrial ARM processor. Main processor can handle 32 digits data directly so as to improve the operation ability and handle signals within 64 floors directly. Board-making techniques and surface-paste technology to maximize system's anti-interference ability. The top and bottom board are overlay without wiring. With friendly human-computer interface, the users do not need any programming; only need to input several parameters according to the real instance. It has the following characteristics.

- Hoist way parameters self-learning
- Adopting high-speed counting technology and nicety orientation technology to maximize leveling precision.
- Four-thread system minimizes wiring. The system uses serial communication technology, and thus all the calling signals are connected by two communication wires and reliable insert unit, therefore local wiring progress can be significantly speed up and errors reduced.
- Making controller standardized manufacture possible.
- Calling lifts directly from the system. All the hall call signals and car call signals can be operated and displayed on the system.
- Timing automatic closing-door, opening-door and closing-door protection.
- Choosing not to answer signals from a certain floor.
- Choosing single-door, double-door or not opening-door in a certain floor.
- Setting floor display according to personal preference. For example, setting floor display as –9, -1, or letters.
- Setting base station, and fire-control returning station.
- Displaying the pulses-number of every floor after system self-learning, and the location of on-line car.
- Setting single-floor and multi-floor running curve (set run curve directly while controlled by simulated value), with over-floor decelerating point.
- Supporting remote monitoring and debugging.
- Controlling several lifts at the same time.
- Three display method: seven-segment code, BCD code, and rolling dot matrix.
- Fifty error history records.

Lift Control Functions

Item	Function	Remark
1	Inspection	
2	Universal set control system	
3	Self-security run with slow speed	
4	Automatic opening-door on arrival	
5	Door security protection	
6	Orderly hall call press-button operation for opening doors at the current floor	
7	Press-button operation for opening and closing doors	
8	Automatic closing-door time-delay	
9	Automatic set and change direction	
10	Opening doors and orienting through hall call signal	
11	Car call signal record wrong and re-press to cancel	
12	Automatic cancel command while direction reverse	
13	Automatic divide speed while single / multi-floor run (over 1.5m/s)	
14	Full load bypass	
15	Arrival clock	
16	Automatic cut off car light and fan while waiting lift	
17	Automatic return to base station	
18	Humanity LED operative unit	
19	Communicated with upper position computer	
20	Error history	
21	Hoistway floor self-learning	
22	Set the sever floor	
23	Set display symbol for floor	
24	Driver operate	
25	Flashed lights corresponding to hall call signal when running with a driver	
26	Automatic answering of car call and cancel decelerating signal	
27	Orderly answering of hall call and cancel decelerating signal	
28	Independent running	
29	Floor displayer of dots matrix	
30	Rolling display of run direction	
31	Automatic correct for floor position signal	
32	Lock lift	
33	Emergency return while fire	
34	Fire man operate	
35	Voice report station	
36	Protection of door safe touch board	
37	Over-loaded alarm and protection	
38	Proof disturb of light load	
39	Protection for run with reverse direction	
40	Protection of proof slip	
41	Stop car by hall call answer of the farthest reverse direction	
42	Constrained speed-changing at the terminal floor	
43	Automatic re-opening-door due to closing-door error	
44	Error protection of inverter	
45	Main control CPU WDT protection	
46	Monitor for village (or mansion)	
47	Remote monitor	
48	Parallel run	
49	Group control run	
50	Service for rush time while on duty	
51	Waiting machine dispersedly	
52	Direct landing	

Connecting Serial Unit

M3ARM employs local CAN BUS control, and all the lift-calling signals are serially output to be recorded and be displayed. Floor information, Inspection light and Over-loaded light are also serially output to be displayed. Therefore, communication wires must use the good-quality four-line shielded wires, with two power lines and two signal lines. Power lines need not to be shielded and must be over 1 m^2, while communication lines must be over 0.75 m^2. All the communication wires use reliable sockets to connect, thus it is very convenient to install.

Shielded-layer must be connected to "GND" on every connection point, namely +24V power's "0V". All the wiring must be done in the case of power-off. Diagram2 shows the system construction.

Description for M3 debugger

M3ARM debugger is used for monitoring and adjusting the parameters. Before adjust the parameters, you should enter password. If it is correct, you can enter adjust interface and the debugger will close the adjust interface if no any key pressed over 15 minutes. You must enter password again if exit the adjust interface. It will turn back to the main interface over 20 minutes and to the homepage over 30 minutes and screen or light behind will be closed over 40 minutes.

Menu Description :

M3ARM debugger has ten main menu options altogether. Press ↑ and ↓ key to select among them, and press ENTER to enter submenu. The operation is same as the main menu. Under edit mode, press ↑ and ↓ to change parameters and press enter key to save; press esc key to quit. All parameters are set according to default value of factory but some parameters must be reset according to real conditions.

Main Menu:

【10】CONFIG, 【20】TIME, 【30】STATION, 【40】CALL, 【50】IO MENU, 【60】DOOR, 【70】ERROR HISTORY, 【80】PASSWORD, 【90】PULSE MONITOR, 【A0】INPUT SELECT, 【B0】Leveling , 【D0】Direct to floor .

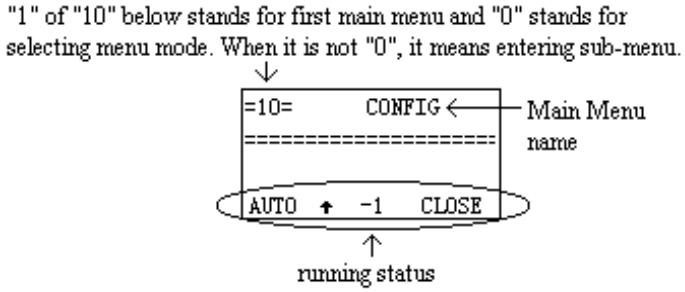
Description of the submenus and adjust procedures:

Remark: 【 】The number in this symbol stands for the number of main menu.

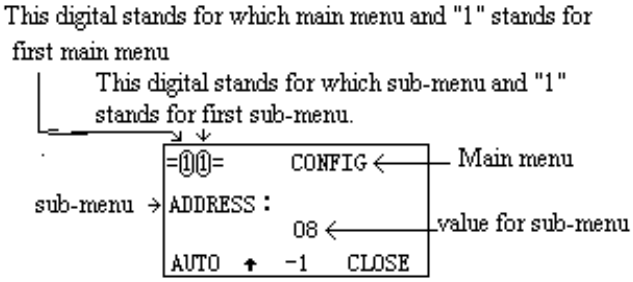
《 》The number in this symbol stands for the number of sub menu.

CONFIG Menu [10]

Under first main menu—CONFIG:

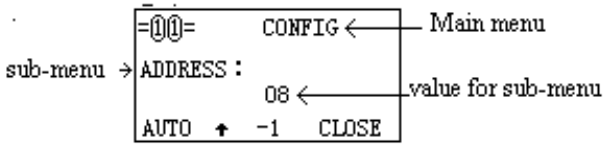


Press enter key to enter first sub-menu (Address) of CONFIG menu.

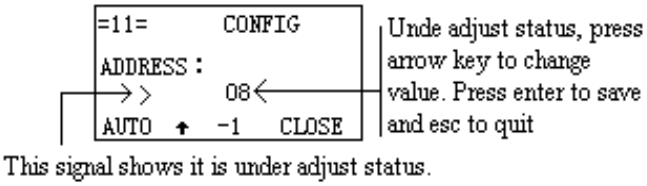


Description for sub menu:

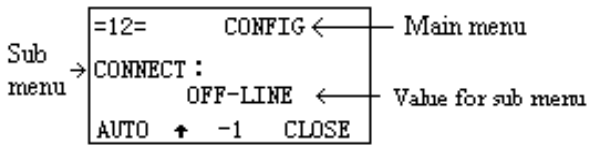
《11》 ADDRESS: range from 0 to 15, setting address of the system in the case of group-controlling or remote monitoring. While two lifts parallel connecting, set one to 1 and the other to 2. It'd better to shut off the power again after setting address.



Press enter key to adjust the value for address and it will display ">" on the left of the parameter.

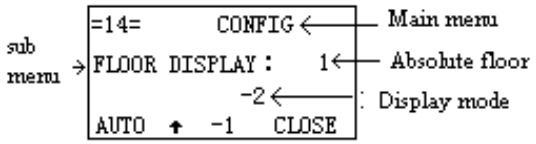


《12》 CONNECT: choosing the OFF-LINE mode, for spare use. (adjust the parameters same as above)

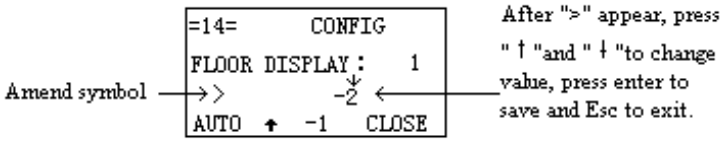


《13》 SPEED: input the lift's rating speed. If V<1.5m/s, the system outputs a high-speed signal; if V>=1.6m/s, the system outputs running curve depending on signal-floor or multi-floor and it runs fast by two speeds. If V>2.0m/s, it runs fast with three speed (signal-floor or multi-floor running curve output with simulative value) and it can over-floor through decelerating point.

《14》 FLOOR DISPLAY: set up the floor display manner. Press ENTER to enter the submenu.



The numerical value of the absolute floor is displayed on the top right corner, such as "1, 2, 3……64". The number in the middle is which needed to show. If the absolute floor is the first floor, and "-2" floor will be displayed. To adjust the display mode, press ENTER, then amendment mouse ">" is highlighted. Press ARROW key to adjust the value and press ENTER to save; ESC to exit.



Letter-display is also provided; if some letters are not with the system, please contact with us.

《17》 LEARNING: Set self-learning function. It will turn to automatic run status after lift return to lower position station and enter into door zone (i.e. position station lower forced switch off and door zone connected). It will begin to self learn after closing door under ON mode. The self learning will finish and lift stop automatically while lift run to upper position station when reaching door zone.
Note: The self learning is successful while the floor value increased sequential. The floor value can be 3 maximum if connecting direction wrong for phase A-B or without pulse input.

《18》 MAUNAL DOOR: Under manual status, it need to press pushbutton to close door for long if set to ON. If set to OFF, the lift will stop by hall call signal.

《19》 MANUAL DIRECTION: While landing call under manual status, it cannot stop lift while set to "ON". If set to "OFF", the lift can be stopped under landing call conditions by manual status.

《1A》 CONVERTER SELECT: Select frequency inverter.

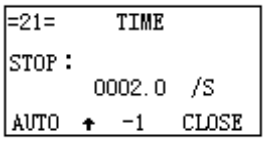
《1B》 DIFERFLOOR: Difference between the floor absolute value of two lifts while two lifts parallel connection. While the floor of two lifts is same, this value is "0"; and while one lift has base floor and the other doesn't, the value will be "1". MicoM3 micro controller is defined that address of lift without base floor (《11》 address menu) is "2" and the other is "1".

《1C》 Software version.

《1D》 Pulse number for encoder. If the pulse divided, it need to enter the pulse number after frequency divided.

TIME Menu ([20]Time)

《21》 STOP: Set the delay time for main contactor off when all speed signals deleted. If using YASKAWA inverter, it is set for brake off.

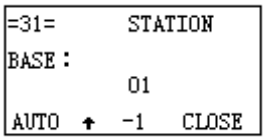


Press enter key to enter in amend status and press arrow key to change the value. Then press enter key to save and ESC to quit.

《22》 START: set the time to open increasing curve. It is used for YASKAWA / FUJI inverter.
《23》 BRAKE: set the time to open the brake. It is used for YASKAWA / FUJI inverter.
《24》 DOOR OPEN: set the time to open door in advance.
《25》 DOOR CLOSE: set the time to close door, showing in seconds.
《26》 OPEN PROTECT: set the time of door-open protect. When door-open limit switch cannot be shut off, this setting can stop opening to avoid the danger of electrifying the door too long.
《27》 CLOSE PROTECT: set the time of door-close protect. When door-close limit switch or door lock error happens, this setting can stop closing and re-open the door.
《28》 RINGING: set the alarm ringing times when receiving hall call signal. This setting is used in the MANUAL mode.
《29》 GONG: set the lasting time of arrival ring.
《2A》 SPEED STOP: Set the delay time to cut off all speed signals while entering into door zone. It will cut off all speed signals when the pulse value reach to set value after decelerating to door zone. In case of pulse calculate invalidate, this time is set to protect so it will later than the time normally cut off. But make sure this time doesn't too long otherwise it cannot stop to nearest station while self secure.
《2B》 FLOOR PROTECT: Floor protect time. The micro controller must get decelerate point signal of each floor in this time; otherwise the micro controller will display E4 error and the lift will decelerate and stop at the nearest.
《2C》 TIME1: While adjusting the inspection speed, delay the time for brake direction after the brake off. When the value is of "0", it won't delay.
《2D》 TIME2: This is for setting time for protecting steel wire rope slip while the car standstill. If the leveling inductor without change within this limited time, it will display E11 of running over time error. If this error occurs, it must shut off the power or open the inspection switch to reset.
《2E》 TIME3: Spare.
《2F》 RUN TIME: The running times of the lift. It just calculates the running times while the lift run fast.

STATION Menu ([30] Station)

《31》 BASE: set the base station and locked-floor station of the parallel connected lift. Setting value of the base station accords to the absolute floor value.



Press enter key to enter in amend status and press arrow key to change the value. Then press enter key to save and ESC to quit.

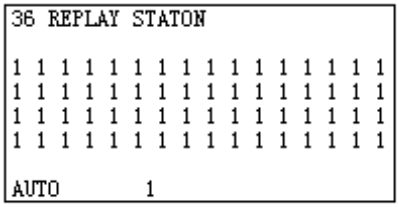
《32》 FIRE HOUSE: set the returning floor value when the lift under the condition of fire-protect. This value must be set according to the absolute floor value.

《33》 HIGHEST: set the highest floor of the lift, according to the result of the system automatic test. For dual-speed lift, it just needs to input the highest floor.

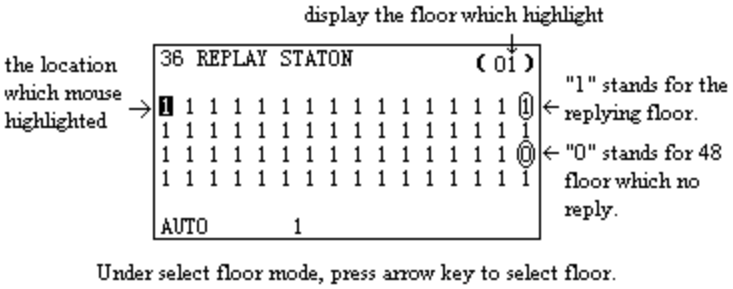
《34》 WAIT(1): set the waiting floor value when the lift under the condition of group-control or parallel-connected.

《35》 WAIT(2): set the waiting floor when the lift under the condition of group-control or parallel-connected.

《36》 REPLY STATION: set the replying floor value.

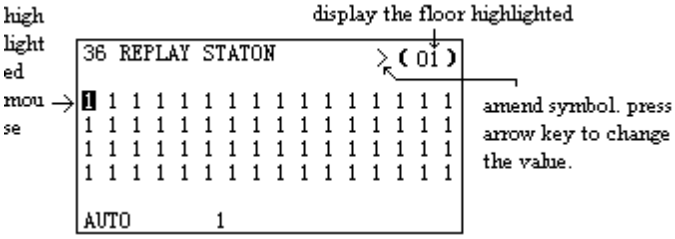


It is displayed with binary digits, "1" representing replying and "0" for no reply. From left to right is the floor value of "1, 2……, 64".



Under select floor mode, press arrow key to select floor.

After pressing ENTER, one of the floor value is highlighted with the mouse in the right top of the screen to amendment. Press arrow key to change the location of mouse and press enter key to amend the replay status of corresponding floor (the amend symbol will show on the left). Press ↑key to set "0" then press↓key to set "1".

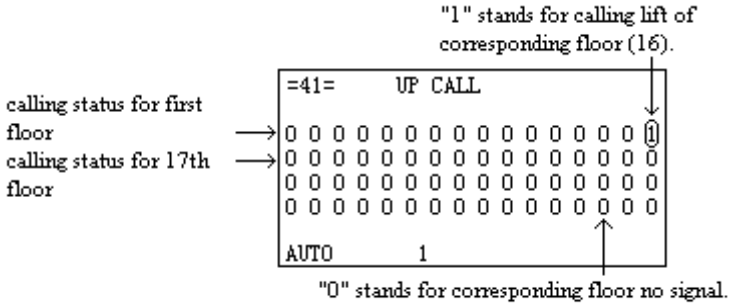


With this function, the reply station can be set without wiring.

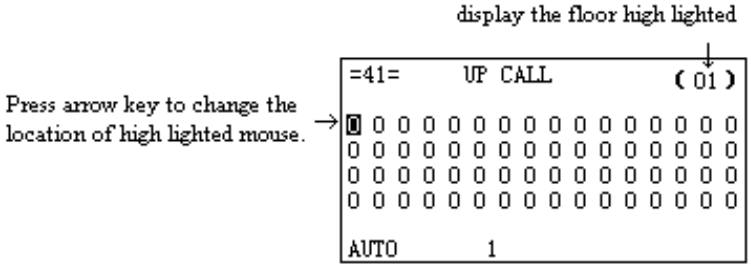
CALL Menu ([40] Call)

This menu can observe or login calling lift signals of every floor and monitor and amend the hall call signals.

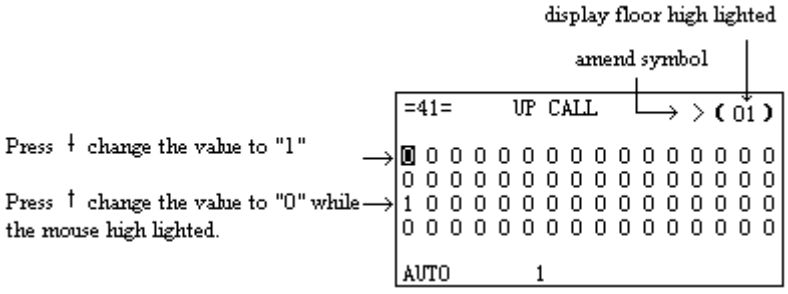
《41》 UP CALL: It can observe or login the calling lift signals below 64 floors and show with the binary digits. “1” representing calling-lift signal and “0” for no signal.



Press enter key, the floor value will appear reverse video on the right top on LCD screen.



Press ENTER again, then appears amendment symbol “>”. Press ARROW key to amend the value located on highlighted mouse.



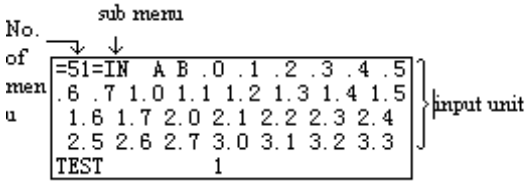
After registering calling lift signals, the calling-lift signal will be deleted when the lift arrives the destination.

《42》 DOWN CALL: used as UP CALL.
《43》 CAR CALL: used as UP CALL.

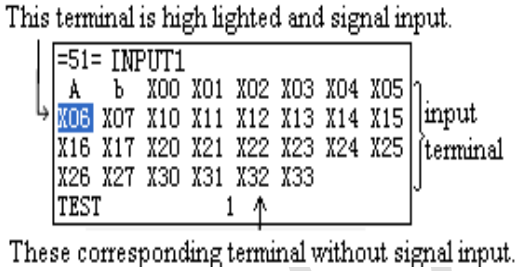
IO Menu ([50] IO)

This menu is just for monitor and cannot be amended.

《51》 INPUT: display the status of system's parallel input units.

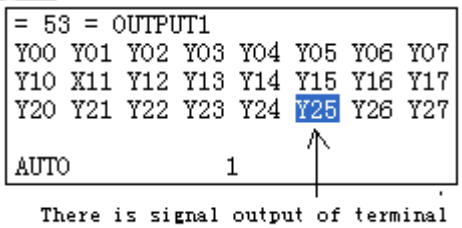


If there is signal input, the name of terminal will be reverse reverse video; if no, there is no signal input.



The code accords to the code of input signal. For example, "A-B" stands pulse input A-B, "0" for 0.0 terminal, "1" representing 0.1 terminal, "1.1" for 1.1 terminal and so on.

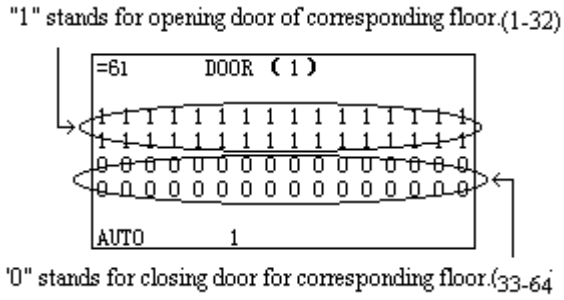
- 《52》 OUTPUT: display the status of system's parallel output units, the code accords to the code of output signal.
- 《53》 OUTPUT 1: Display the status of system's parallel output units, used as INPUT.



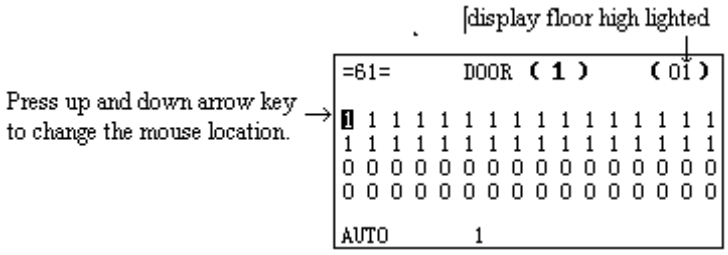
The code accords to the code of output signal. For example, "Y00" stands for Y00 terminal, "Y01" representing Y01 terminal, "Y11" for Y11 terminal and so on.

DOOR Menu ([60] Door)

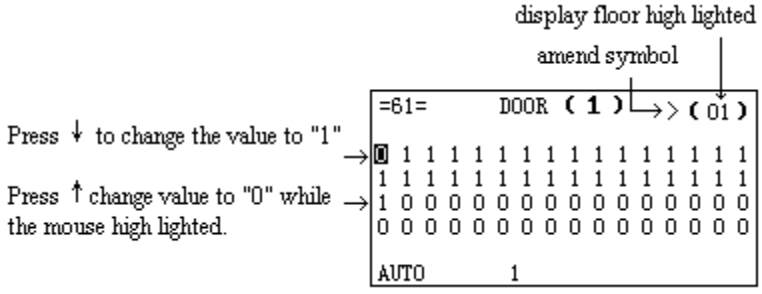
《61》 DOOR 1: set the floor value of opening the lift door of door machine 1# represented by binary digits, with "1" representing open and "0" for close.



Press ENTER, then the highlighted floor value is displayed in the right top of the screen for amendment.



Press enter key again, the amend symbol will appear and press ↑and ↓to change the location of high lighter mouse.

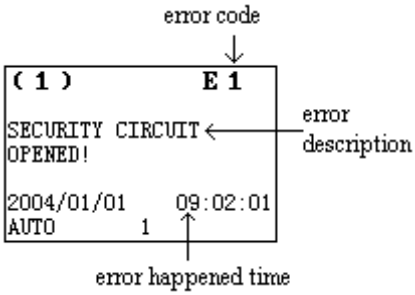


《62》 DOOR 2: set floor value for opening door of door machine 2#. Used as DOOR 1.
Note: If setting one floor no reply (set in station menu), door 1 and door2 must be set to close door.

ERROR HISTORY Menu ([70] Error History)

When error occurs, the code and cause of the error are displayed in the bottom of screen.

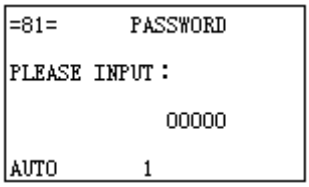
M3 system records maximum 50 history errors. Through this menu, user can check which floor occurs error, the running speed of that time and the running times of lift.



Checking error history, press enter key to enter dele mode and you can dele all error histories after two times dele confirmation.

PASSWORD Menu ([80] Password)

The password is represented by five digits.

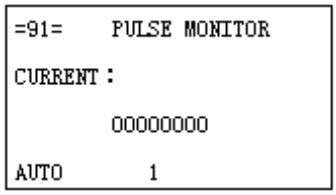


All the operations are validated by the correct password. The default password is 00000. After inputting the password, if the power is reset or no any key be pressed within 15 minutes, the password must be re-enter to activate the operations. If enter correct password again, it will enter to the status to amend password. The new password will be saved after confirm the amendment.

Note: If the password is lost, all the amendment operations can not be used. The system must be decrypted by us.

PULSE MONITOR Menu ([90] Pulse monitor)

《91》 CURRENT: display the current position of the lift-car with pulse number. This parameter is just can be checked and not to be amended.



Remark: Under this menu, you can enter into running curve interface by pressing "enter" key.

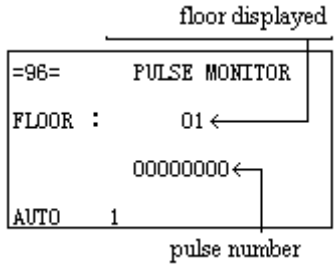
《92》 RUN IN: length of door zone. 1/4 length of magnetism proof board. Amend this value to change the length of door zone corresponding pulse number.

《93》 DEL. 1 DISTANCE: First deceleration distance 1, change the value to adjust the length of deceleration distance.

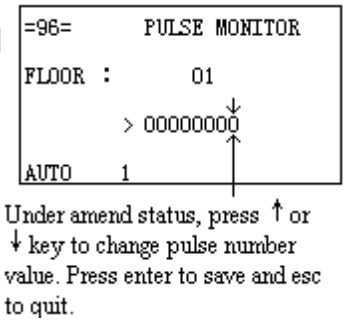
《94》 DEL. 2 DISTANCE: Second deceleration distance 2, change the value to adjust the length of deceleration distance.

《95》 DEL. 3 DISTANCE: Third deceleration distance 3, change the value to adjust the length of deceleration distance.

《96》 FLOOR: display the pulse number of each floor. Press enter key to check the pulse number.



Press ↑or ↓key to check pulse number of 1-64 floors. Press enter key to change the pulse number.



《97》 V2 DEL PERMIT (XDL): Set the distance from start to accelerate to medium speed while selecting the single multi-floor run curve according to the distance. This value is multiple of length of magnetism proof board. Select the single multi-floors run curve depends on floor and this menu is spare.

《98》 V3 DEL PERMIT (XDL): Set the distance from start to accelerate to high speed while selecting the single multi-floor run curve according to the distance. This value is multiple of length of magnetism proof board. Select the single multi-floors run curve depends on floor and this menu is spare.

《99》 RUN V2 DEL PERMIT (XDL): Set the distance for running medium speed while selecting the single multi-floor run curve according to the distance. This value is multiple of length of

magnetism proof board. Select the single multi-floors run curve depends on floor and this menu is spare.

《9A》 RUN V3 DEL PERMIT (XDL): Set the distance for running high speed while selecting the single multi-floor run curve according to the distance. This value is multiple of length of magnetism proof board. Select the single multi-floors run curve depends on floor and this menu is spare.

《9B》 DOOR LENGTH: length of door zone.

With this monitor function, the data of lift self-learning can be examined. Also the precision of leveling can be adjusted. For example, when the lift runs up or down to the second floor, the lift-car is lower than the leveling point. This problem can be solved by increasing the pulse number of the second floor until the lift levels precisely.

INPUT SELECT MENU ([A0] Input select)

《A1》 TOUCH: Select NO or NC for safe touch board signal. (ON for NO, OFF for NC.)
《A2》 BRAKE: Select NO or NC for brake feedback signal. (ON for NO, OFF for NC.)
《A3》 FIRE: Select NO or NC for first signal. (ON for NO, OFF for NC.)
《A4》 CONTACT: Select NO or NC for contactor feedback signal. (ON for NO, OFF for NC.)
《A5》 OVERLOAD: Select NO or NC for over load signal. (ON for NO, OFF for NC.)
《A6》 GOING BACK: Auto back to base floor: 00: Not come back to base floor; xx: Time of come back to base floor (Minutes)
《A7》 DISTURB PRO: Anti-disturbance, forbid to press few buttons at the one time, this function cannot be shielded when light load.
《A8》 DISTURB NUM: Times of Anti-disturbance, 1-8 press few buttons at one time.
《A9》 FIRE MODE.
《AA》 SAFEEDGE
《AB》 CONTROL MODE
《AC》 RE-LEVELING
《AD》 PRE-OPEN
《AE》 PMCARD
《AF》 OPEN-METHOD
《AG》 REPAIR OPEN
《AH》 GROUP
《AI》 MONITOR
《AJ》 ARRIVE LAMP
《AK》 ERROR OPEN TIMES
《AL》 TIME4
《AM》 FORCE CLOSE
《AN》 TEST TIME
《AO》 CLOSE LAMP
《AP》 RUN MODE

Remark: The edit for selecting for NC or NO function of input points is effected only when the lifts under inspect mode.

TIME MENU 2 ([B0] Leveling)

- ✧ 《B6》 CLOSE LAMP: Set the time for close light and calculated by minutes.
- ✧ 《B7》 CLOSE DOOR DELAY: Set the delay time for close door and calculated by minutes.

Self-learning of the lift-hoist way data

Make sure all the lift-hoist way switches are in order, such as limit switch, forced decelerating switch, and leveling switch.
Adjust ascending and descending forced deceleration distance.
While inspection, it runs to the lower station. I.e. the lower forced switch of terminal station is off and the leveling switch connecting.

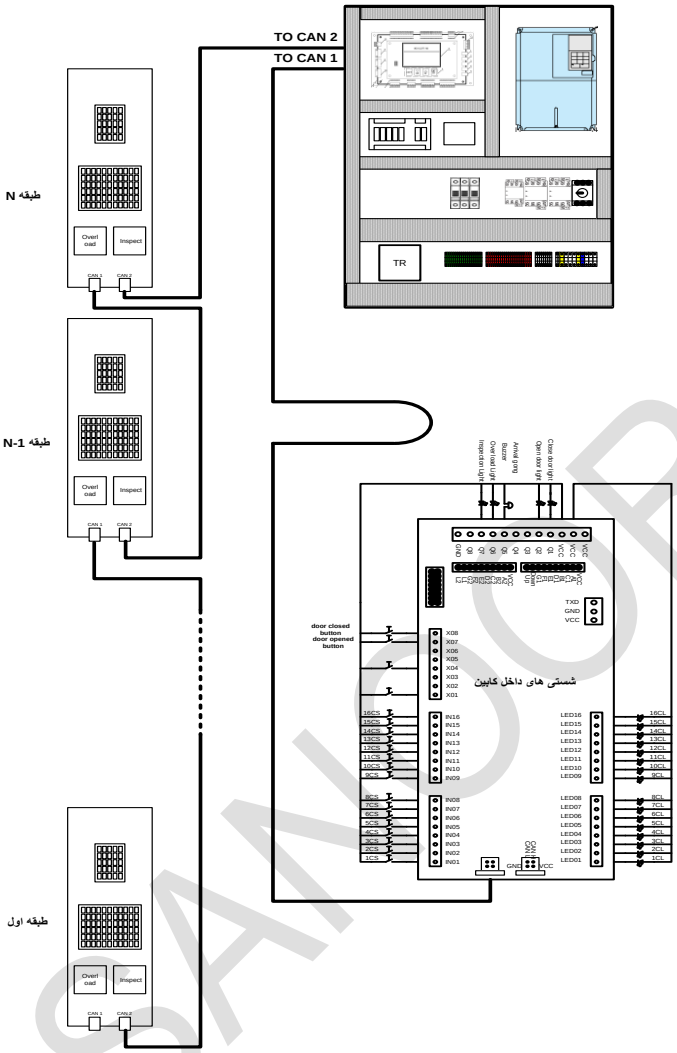
Lift is automatic running after return back to station.
Enter into the sub menu learning of config menu to select ON mode after automatically close door. The lift starts running in the inspect speed automatically. It automatically stops when arrives the top floor level. After following the above five steps to finish self-learning of the lift-hoist way data, the lift can run in high speed.

Note: to optimize the use of the lift, self-learn the lift-hoist way data after re-adjusting the forced deceleration distance or re-adjusting the position signal of door zone.

Some notices during self learning:

1. To be sure self learning successful, the leveling sensor and forced switch must be correct.
2. Make sure the input of pulse encoder must be correct and adopting two phase counting. The connection for pulse input and phase must be accurate in order that pulse will be increased while running up and decreased while running down. Otherwise, please change the A-B phase of input. (Note: the A-B phase of encoder input cannot be changed.)
3. Self learning is successful if the floor display changes and stops until increasing to the highest floor. Otherwise, you should check whether the leveling inductor, forced switch and input and phase of encoder pulse is correct.

Wiring diagram:



Controller Parameter:

10 - CONFIG			
No.	**Name**	**Content**	**Default**
11	ADDRESS	Set the lift address to be even number when there are differ floors or basement under duplex and group control.	
12	CONNECT	OFF-LINE: Normal mode ON-LINE: Automatic Running mode	
13	SPEED	<1.5m/s Single Speed >1.6m/s Dual Speed >2.0m/s Three-Speed	
14	FLOOR DIS	0~64, A~Z, -1~-9, 1A, 2A, 1B, 2B, 1S, 2S, A1, A2, A3, B1, B2, B3,E1, E2, F1, G1, G2, UB, DB, PB, LG, L1, L2, M1, M2, P1, P2, P3, S1, S2, S3, SS,RC, 5A, 8A, 3A, RG, PH, JP, NJ, GH, MP, GF, π, TZ, NF, SB, 3B, P4, P5, B4, B5, UG	
15	DATE	Date setting: YY/MM/DD	
16	TIME	Time setting: HH/MM/SS	
17	LEARNING	ON: Set when doing the self-learning OFF: Auto changed after self-learning	
18	MANUALL DOOR	ON: Press to make door close OFF: Click to make door close	
1A	CONVERT	Select inverter brand: FUJI YASKAWA SESI	
1B	DIFFER FL	0: No differ floors 1: have one differ floor at Ground 2: have two differ floors at ground	
1C	SOFTWARE	Non-setting Item	
1D	PULSEE PR	Running curve display resolution	
20 - TIME			
21	STOP	Direction STOP	3.00S
22	START	Time of opening the increase curve	0.50S
23	BRAKE	Time of Brake open	0.5S
24	DOOR OPEN	Time of door open	2S
25	DOOR CLOSE	Time of door close	5S
26	OPEN PROTECT	Time of door open protection	8S
27	CLOSE PROTECT	Time of door close protection	8S
28	RINGING	Frequency of Buzzer	8S
29	GONG	Arriving gong output period	1S
2A	SPEED STOP	Leveling delay time	0.9S
2B	FLOOR PROTECTION	Single floor time protection	13S
2C	TIME 1	Time of buzzer sound when the safety edge was blocking out	10S
2D	TIME 2	Running Time Protection	60S
2E	TIME 3	Time for keeping the direction after speed signal stop	00S
2F	RUN TIMES	Running time. Only for check	
30 - STATION			
31	BASE	Duplex lift's basic floor or locked floor	1
32	FIRE HOUSE	Firemen floor	1
33	HIGHEST	Showing the highest floor by self-learning	8
34	WAIT 1	Witting floor of duplex lift	3

35	WAIT 2	Default=0 +1: Adjust current floor when leveling switch connected, short floor force change in switch OFF state. According to encoder accounting when the lift in terminal state. +2: when semi door, manual hall door. +4: when tolerance too big, not adjust floor leveling pulse, elevator will adjust floor by floor; +8: For Manual door. +16: When in error state and floor display don't show error code. +32: No Cancel calls.	
36	REPLAY STATION	Set the respond floor	
40 - CALL			
41	UP CALL		
42	DOWN CALL		
43	CAR CALL		
50 – I / O			
51	INPUT	MAIN CONTACTOR INPUT STATE	
52	OUTPUT	MAIN CONTACTOR OUTPUT STATE	
53	X01 – X06	CAR CALL MODULE STATE	
54	A00 – A13	PM709 INPUT SIGNAL STATE	
55	B00 – b06	PM709 OUTPUT SIGNAL STATE	
60 - DOOR			
61	DOOR 1		
62	DOOR 2		
70 - HISTORY			
71	ERROR HISTORY	**Ex:** ERROR CODE **F:** ERROR FLOOR **S:** SPEED WHEN ERROR HAPPENED T: M-D-H-MIN Example: 09 07 02 10	
80 - PASSWORD			
81	PASSWORD	Default Value: 00000	
90 – PULS MONITOR			
91	CURRENT	Current pulses, by self-learning, non-set item.	
92	RUN_IN	1/4 Door Area, by self-learning, normally no need to set.	
93	DEL.1 DIS	V1 deceleration distances, by self-learning, normally no need to set.	
94	DEL.2 DIS	V2 deceleration distances, by self-learning, normally no need to set.	
95	DEL.3 DIS	V3 deceleration distances, by self-learning, normally no need to set.	
96	FLOOR	Floor pulses, by self-learning, normally no need to set.	
97	DEL.V2 PER	V2 Allowed deceleration distance, by self-learning, set accordingly.	
98	DEL.V3 PER	V3 Allowed deceleration distance, by self-learning, set accordingly.	
99	RUN V2 DIS	Start V2 Distance, by self-learning, set accordingly	
9A	RUN V3 DIS	Start V3 Distance, by self-learning, set accordingly.	
9B	DOOR LENGTH	Non-set Item, share use	
A0– INPUT SELECT			

A01	TOUCH	Safety Edge . "ON=Normal Open" or "OFF=Normal Closed"	ON
A02	BRAKE	Brake feedback , "ON=Normal Open" or "OFF=Normal Closed"	OFF
A03	FIRE	Firemen, "ON=Normal Open" or "OFF=Normal Closed"	ON
A04	CONTACT	Contactor feedback . "ON=Normal Open" or "OFF=Normal Closed"	ON
A05	OVERLOAD	Overload. "ON=Normal Open" or "OFF=Normal Closed"	ON
A06	GOJNG BACK	Auto back to base floor: 00: Not come back to base floor; xx: Time of come back to base floor (Minutes)	00
A07	DISTRUB PR	Anti-disturbance, forbid to press few buttons at the one time, this function cannot be shielded when light load.	
A08	DISTURB NU	Times of Anti-disturbance, 1-8 press few buttons at one time	
A09	FIRE MODE	Bit0: 1: Show " F " when fire return. Bit1: 0: Running in fire mode after fire returned. 1: Stop running after fire return. Bit2: 0: Spare 1: Russia mode	0
AA	SAFEEDGE		
AB	CONTROL MODE	Bit0: 0: No assist door locks checking function. 1: Russia mode, door lock and exit checking "E17" need power off to reset. Bit1: 0: for spare. 1: can cancel the first digit exit checking function E17 auto reset. Bit2: must set to be 0 Bit3: Spare Bit4: 0: after come back to base floor, lift cannot use again. 1: after come back to base floor lift can use again. Bit5: 0: Spare 1: monitor point is no select FUJI when match with CT-ES inverter.	
AC	RE-LEVELING	OFF ON	
AD	PRE - OPEN	OFF ON	
AE	PMCART	OFF ON	
AF	OPEN METHOD	+0: Single Door machine and Single COP. +1: Dual COP, dual door machines, door open and close at the same +2: Dual COP, dual door machine, separated control. +4: Door open limit is NO. +8: Door at opening position, keep opening output, till door close command. +16: No inspection for door close limit switch when starting. +32: Open Parking.	
AG	REPAIR OPEN	0: Door open by press DO button in inspection mode. 1: Door open in door area in inspection mode. 2: Door cannot open in inspection mode.	
AH	GROUP	OFF ON	
AI	MONITOR	OFF ON	
AJ	ARRIVER	OFF	

	LAMP	ON	
AK	ERROR OPEN TIMES	When door limit switch not close times more then the setting value, the door will stop closing. If press the DC button, continue open again.	
AL	TIME 4	Delay door close time	
AM	FORCE CLOSE	OFF ON	
AN	TEST TIME	SPARE	
AO	CLOSE LAMP	Automatic light	
AP	RUN MODE	Default=0 +1: Motor heat inspection. +2: Direct to stop. +4: Keep door closing output during elevator running; +8: Check mechanical braking feedback point if release when stop, In default situation, only check brake if open; +16: Check pulse tolerance, elevator no need to come back basic floor to re-adjust when Error 14 +32: Clear hall calls and hall call LED timing, not available in Group control mode.	
B0– leveling setting			
B06	Up Direction		
B07	Dn Direction		

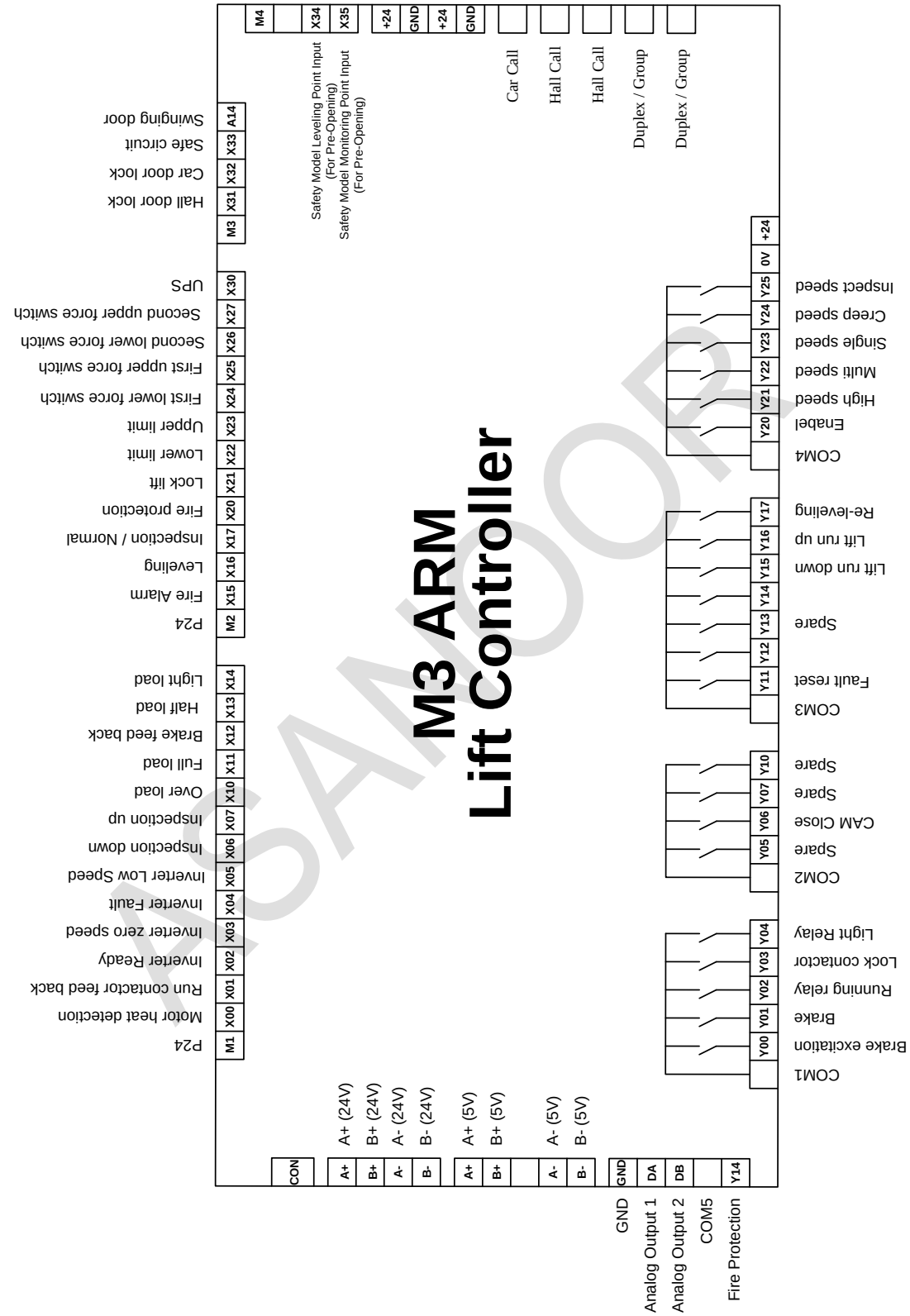
D0– Direct to Stop					
D01	Motor RPM	96			RPM
D02	Encoder pulse	2048			
D03	Rated speed	2000			mm/s
D04	Actual speed	1812			mm/s
D05	Deceleration	600			mm/s^2
D06	Decel jerk	100		200-900	mm/s^2
D07	Acceleration	600		80-120	mm/s^2
D08	Accel jerk	100		200-900	mm/s^2
D09	Creep speed	100		80-120	mm/s
D10	Ins speed	300			mm/s
D11	Leveling speed	200			mm/s
D12	Re-level speed	50			mm/s
D13	Learn speed	300			mm/s
D14	1: Direct stop 0: creep stop	1			
D15	Creep distance	0			
D16	Brake close time	25			0.02 s
D17	Zero speed	1			
D18	Start time	25			
D19	Flag length	240			
D20	Flag pulse	325			
D21	Protect speed for high switch			1800	
D22	Protect speed for low switch			1500	
D23	Show the actual speed in high switch				
D24	Show the actual speed in low switch				

Error Controller

ERROR	Content	Reason
E1	Security circuit opened	• Check the fuses, Check speed governor • Up/Down Limit Switched, Rope broken • Buffer, Switch of safety gear • Check exit, Hand jigger, Pit, Car Top • Machine room, Motor emergency stop
E2	Door Lock Opened Or Error	• Car/Landing door lock OFF, when door closed. Door closed overtime. • Car/Landing door lock OFF, when lift running • Controller monitors Lift Emergency Stop function faulty
E3	Cannot Find the Leveling Point	• Door area switch damaged • Flag not enough depth
E4	Cannot find the deceleration point	• Changing switched faulty • Changing magnet position wrong • Pulses mistake of Inverter divide-frequency card, or have disturb • Time/Floor protect parameter wrong
E5	Up Limited Switch Opened	• Lift crashed Up limit switch
E6	Down Limited Switch Opened	• Lift crashed Down limit switch
E7	Deceleration Switch Error	• Force change switch faulty, speed-changing switch in wrong position
E8	Contact Not Release	• Controller Menu item<A4> NO/NC wrong set • Main contactor or brake contactor and assistant point no release
E9	Taco Direction Error	• Encoder A, B direction wrong • Plugs damaged, missed one • Divide-frequency card faulty
E10	Brake Error	• Brake checking switch damaged. • Check the wiring if OK • Parameter wrong (No this function, but parameter set)
E11	The lift runs over time. The lift runs over the "TIME 2" menu limit, or the signal of leveling sensor does not change	• Time/floor protect or “Time 2” floor protection with short time • Time/speed stop, time set too long • Door zone not found or door zone signal lost • Leveling flag insert into door zone not deep enough • Leveling switch action not in place • Speed-down point with abnormal action
E12	Inverter Error	• Frequency has failure warning; please refer to the frequency error specifications. • Frequency is damaged or with wrong parameter
E13	Door Contact not Release	• Door machine power is absent or manual connection in wrong way • Open/close door control relay in error, check PM709 door machine control signal.
E14	With counting error, the error of the floor where lift is with counting pulse is over shortstop speed-changing distance	• Counting error, be disturbed. Lift not stop at leveling position, sometimes E2, E4, and E9 also may Reasons this warning. • Door area sensors have disturbed Car skidding • When E14 happened, it may also have E20, • E15, E22, caused by wrong calculation, Must solve the calculation problem ahead.
E15	Pulse counting floor is inconsistent with sensor counting	• Door zone switch error or wrong installation • Door zone switch in wrong connection • Pulses signal in abnormal condition, please check the appearance of E9 and E14.
E16	When occur E22 error, the signal for station is wrong and the lift is at limit position. This request the deceleration switch of station must be off when limit position signal is off.	• The deceleration switch of station is damaged or wrong installation

E17	No Function	
E18	It cannot detect the running signal after output direction signal be given 4 seconds	• Parameters setting wrong • Wire connection or terminal fix loose • The main contactor if off during the lift running
E19	No Function	
E20	The floor record is different from the deceleration switch and the switch is off when the lift is not at the station.	• Deceleration switch damaged • Deceleration switch install wrongly • Wrong operation of door zone switch • Counting bias
E21	When test the connection of feed back point of mechanical brake, it will occur this error if the feedback point of mechanical brake is be connected.	
E22	The floor record is different from the deceleration switch and the switch is on when the lift is at the station	• Deceleration switch damaged • Counting bias
E23	The error occurs by pushbutton block and blocked over 30 seconds	• Landing call pushbutton is blocked
E24	The micro controller will record error if the close door limit position switch is not off after the door lock has been connected over 3 seconds. When landing call and car call occur E24 error at the same time and open door reversed; if without 2# door operator, the input point of close door limit position for 2# door operator must be in place.	• Door limit switches damaged • The close door limit switch is not in place • The door operator parameter setting is wrong
E25	When it has the function of open door in advance, it will show E25 while it cannot detect the input point of safe door zone	• Wire connection loose or wrong; safe module damaged
E26	No Function	
E27	No safety touch input when pre-Opening	• Wiring start or wrong connected • Door area signal faulty • Safety module faulty
E28	No Low speed input when pre-opening	• Check inverter parameter setting or components damaged
E29	No Function	•
E30	The Safety Exit opened in Russia mode, lift cannot run, need inspection reset after safe exit closed	• Safety Exit damaged or wiring mistake • Forget to reset
E31	Leveling sensor no release, running signal sent out for 3s, but leveling sensor no action.	• Leveling flag not insert enough depth • Leveling sensor damaged • Wring wrong, have short circuit connection
E32	Motor overheating, door keeps opened	• Motor over heating • Check switch and wiring

I / O CONTROLLER



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