1 BL6-B SERIES INTEGRATED CONTROLLER MODEL & SPECIFICATIONS 1
1.1 MODEL DESCRIPTION 1
1.2 SPECIFICATIONS 2
2 BL6-B SERIES INTEGRATED CONTROLLER MAIN BOARD TERMINALS 5
3 PG CARD TERMINALS & ASSEMBLAGE 10
3.1 PG_V6 10
3.2 PG_V6X 11
3.3 SPG_V6 12
3.4 BL-U SERIES INTEGRATED CONTROLLER PG CARD ASSEMBLAGE 14
4 PARAMETER NEED TO SET BEFORE INSPECA98 0 0 7.98 2674..... 1T7ED 14

1 BL6-B Series Integrated Controller Model & Specifications

1.1 Model description

Model description of BL6-B Series Integrated Controller is shown as figure 1(take 22KW closed type controller as example).

Specifications list in chart 1.

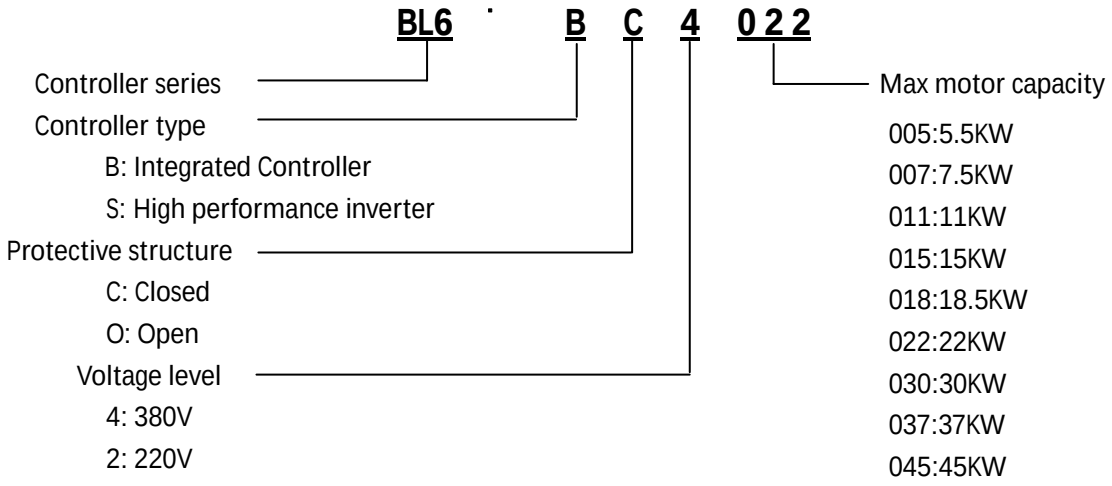


FIGURE 1 MODEL DESCRIPTION DIAGRAM

1.2 Specifications

Specifications of BL6-B Series Integrated Controller in chart 1.

CHART 1 SPECIFICATIONS

MODEL BL6¨ BǴ40ǴǴ

DRIVE CONTROL FEATURES	**TORQUE ACCURACY**	±5%
	FREQUENCY CONTROL RANGE	0~120Hz
	FREQUENCY ACCURACY	Digital Ref: ±0.01% (-10 ℃~+40 ℃)
	F	

2 BL6-B Series Integrated Controller Main Board Terminals



				Usage	Interface Tech Spec			
					Interface Type	Rated Capacity	On/off Time	Max Speed
			y input					
			Collective ll input 1					
			Collective ll input 2	Input Output	Input: Optical-couple Output: OC	Input: DC 24V 7mA Output: 300mA	Input: 10mS	Input: 100Hz
			Collective ll input 3					
			Collective ll input 4					
			Collective ll input 5					
			Collective ll input 6					
			Collective ll input 7					
			Collective l input 8					
			Collective l input 9					
			Collective nput 1					
			Collective Call up input 4/ Call input 2					
		I12	J6-3	Full Collective/Simplex Collective Call up input 5/ Call input 3				
		I13	J6-4	Full Collective/Simplex Collective Call input 4				
	J6	I14	J6-5	Full Collective/Simplex Collective Call down input 2/ Call input 5	Input Output	Input: Optical-couple Output: OC	Input: DC 24V 7mA Output: 300mA	Input: 10mS	Input: 100Hz
		I15	J6-6	Full Collective/Simplex Collective				

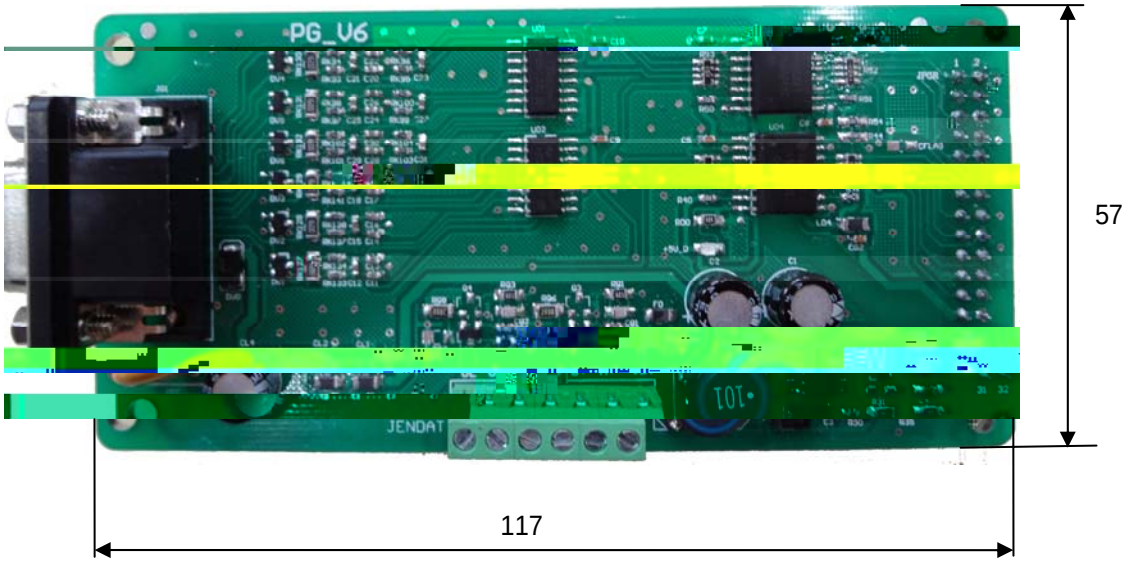
3 PG Card Terminals & Assemblage

Note: With the hardware version upgrade, the corresponding pictures may be changed. Reference to prevail in kind.

3.1 PG_V6

PG_V6 interface card is sync/async machine universal pulse encoder speed feedback and frequency dividing output card.

PG_V6 is in supporting use of 5V line driver output type encoder. Encoder for async machine: A/B and encoder for sync machine: A/B/Z/U/V/W.



PG-V6 Card Port definition and Function

Port No.	Terminal Symbol	Location	Definition	Usage	Interface Tech Spec			
					Interface Type	Rated Capacity	On/off Time	Max Speed
JENDATA short for JEN	+12V	JEN-1	OC/Push-pull type power	12V power	Power output	+150Ma/12V±5%		
	A+	JEN-2	Freq dividing signal OC output A	Sync freq dividing	OC/Push pull output	±50Ma		500KHz
	B+	JEN-3	Freq dividing signal OC output B	Sync freq dividing	OC/Push pull output	±50Ma		500KHz
	0V	JEN-4	Power ground	Power ground	Power ground	—		
	GE	JEN-5	Shield ground	Shield ground		—		
	GE	JEN-6	Shield ground	Shield ground		—		
JG1	+5V	JG1-1	+5V	5V Power	Power output	+400Ma/5V±5%		
	U+	JG1-2	U+	differential signal U+	differential input	±20Ma/3.1-5V		500KHz
	Z+	JG1-3	Z+	differential signal Z+	differential input	±20Ma/3.1-5V		500KHz

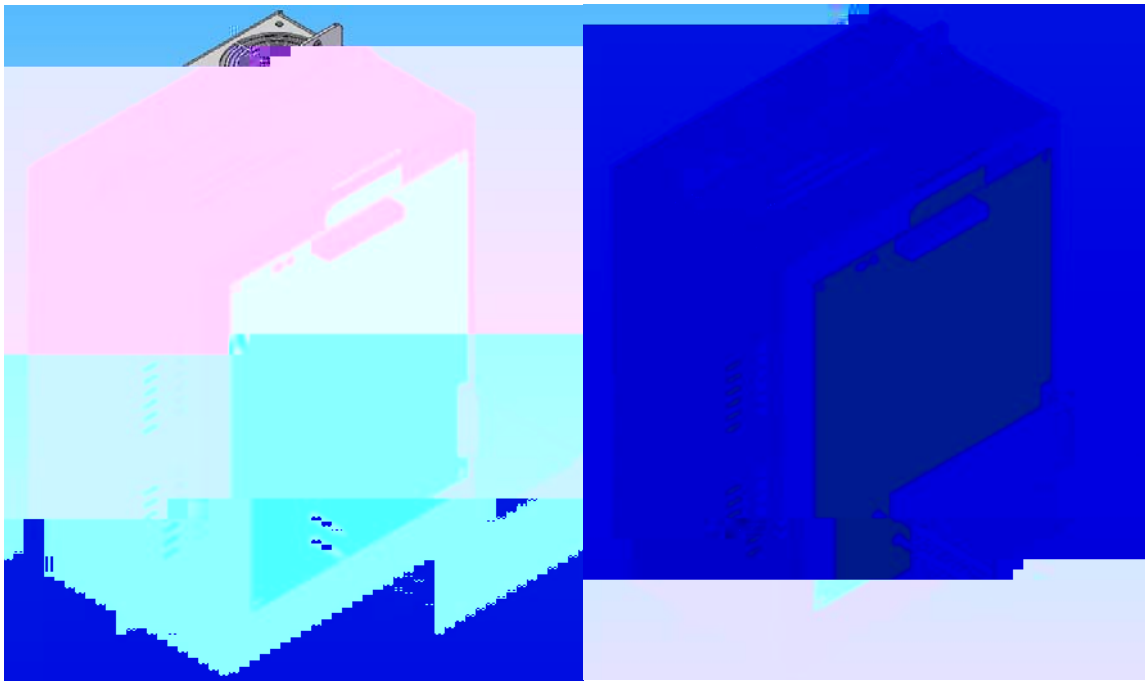
	+12V	

3.4 BL-U Series Integrated Controller PG Card Assemblage

Take out the chassis and PG card from Packing;



Align PG card and sustain pillar and right socket, as the graphic.



4 Parameter Need to set before Inspection Run

Note' Parameters must be saved after setting operation, otherwise the original value will be saved after power off.

Parameter List			Setup Method	
	Parameter No.	**Name**	**Use BL Sync-machine**	**Use Non-BL Sync-machine**
Automatic Generate	**F5-00**	Motor Type	In blue-light machine input, these parameters can generate automatically, see instructions below for detail.	0:Sync machine˘ 1: async machine. Fill in according to actual situation.
	F5-01	Poles		Follow motor nameplate
	F5-02	Sync Frequency		Follow motor nameplate
	F5-03	Rated Power		Follow motor nameplate
	F5-04	Rated Speed		Follow motor nameplate
	F5-08	Motor rated current		Follow motor nameplate
	F8-00	Encoder PPR		Base on site condition
	F8-02	PG card Type		PG card type (0: Incremental encoder, 1: Sine/Cosine encoder)
Manual Input based on Site Condition	**F1-00**	Car Speed	Base on site condition	
	F1-01	Motor Speed	Motor speed at elevator rated speed (calculated)	
	F5-09	No-Load Current	Only for asynchronous machine; no need to set synchronous machine. Normally set for 25%-40% of rated current.	
	F5-10	Rated Slip	Only for asynchronous machine; No need to set synchronous	

Motor parameters automatically generated:

5 Motor Initial Angle Tuning (Only for Synchronous Machine)

For machines without attached steel rope and no load, please follow section 1 " **Motor Initial Angle Tuning with no load**". For machines attached with steel rope and have load, please follow section 2 "**Motor Initial Angle Tuning with loa**d".

(The two angle tuning modes can achieve the same effort. Please choose one of them according to the actual situation.)

5.1 Motor Initial Angle Tuning with no load

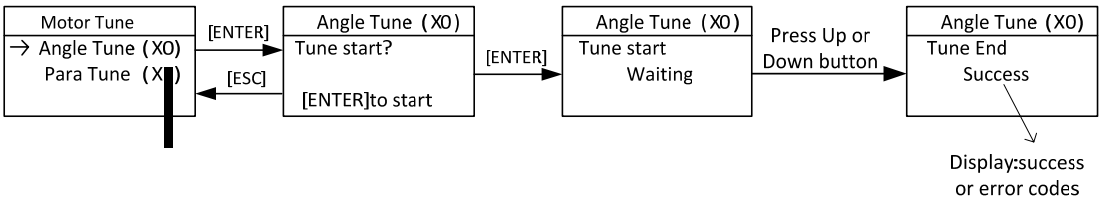
Please set PG type F8-02 correctly, set AutoTuneModeSel FC-13 to 0 before perform Motor initial tuning with no load (Do not attach steel ropes).Procedures required before tuning:

1) Ensure synchronous motor (traction machine) has no load (DO NOT attach steel ropes);

2) Connect running contactor output Y1 (J1-4) and COM1 (J1-5) to make it close;

3) Connect brake contactor output Y0(J1-3) and COM3 (J1-5) to release the brake;

Perform motor initial angle tuning with digital operator based on following procedures shown below:



Motor initial tuning with no load (Do not attach steel ropes) sketch

Note: Rotation angle tuning no longer distinguish encoder type.

After pressing "Enter", tuning starts. First, motor rotates to a firm position, then it rotates forward˙ facing to driving shaft, anticlockwise rotation is forward direction˜ in a constant speed, rotation speed and time depends on the pole number and initial position, it stops after maximum one round rotation, then it rotates to one position and remains for 2 seconds again, motor stops and indicates success. The whole tuning procedure lasts less than 20 seconds.

Motor Initial Angle Rotation Tuning Fault List (without load)

Error Code	Definition	Possible Causes	Possible Solution
RF228	ESC input	ESC input valid at tuning	Try tuning again.
RF229	Zero speed waiting timeout	1. Motor with load; 2. Encoder interference.	1. Make sure motor has no load; 2. Eliminate encoder interference;
RF230	Current detection error	1. Load side open/phase lost; 2. Motor three-phase unbalanced; 3. Incorrect rated current.	1. Make sure motor three-phase connection correct; 2. Make sure motor parameter input correct.

Motor Initial Angle Rotation Tuning Fault List (without load)(cont'd)

Error Code	Definition	Possible Causes	Possible Solution
RF231	Encoder CD signal error.	1. Encoder CD signal analysis error; 2. Motor/Encoder parameters input error.	1. Check wiring for CD signal; 2. Eliminate encoder signal interference; 3. Check motor/encoder parameter.
RF232	Motor does not rotate at auto tuning	1. Encoder connection fault; 2. Motor has load or brake close.	1. Check encoder A,B signal connection; 2. Eliminate encoder signal interference; 3. Make sure motor has no load & brake open.
RF233	Motor rotates in reverse	Motor phase sequences donot match the encoder.	1.Adjust motor/encoder phase sequence; 2.Exchange A-,A+/B-,B+ signal
RF234	Encoder R pulse signal error.	1. No detection of R pulse signal; 2. Motor/Encoder parameter input error	1. Check wiring for R pulse signal; 2. Eliminate encoder signal interference; 3. Check motor/encoder parameter; 4. Output disconnect/brake close in auto tuning.

Note1: The description above just for Sine/Cosine Encoder;
Note2: For Incremental Encoder, RF231 corresponding to encoder UVW signals, RF234 corresponding to encoder Z signal; solution in the same way; the other faults completely consistent.

5.2 Motor Initial Angle Tuning with load

For this tuning method, tuning can be carried out with steel rope attached, but please make sure the following procedures are finished correctly before tuning:

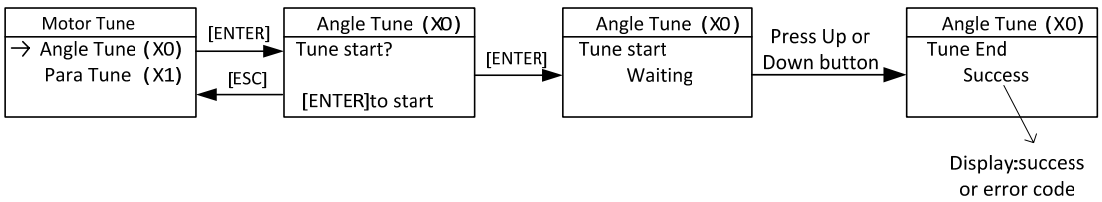
1) Wiring in control cabinet is completely correct, and system under inspection state;

2) Set running parameter(F1),motor parameter(F5),encoder parameter(F8) correctly;

3) All mechanical faults in hoistway are eliminated!

5.2.1 Motor Initial Angle Tuning With Digital Operator

Correctly set PG type F8-02 on digital operator, set tuning method parameter(FC-13) to "1"(default setting is 1 in BL Series Integrated Controller), perform motor initial angle tuning based on following procedures shown below:



Motor initial tuning with load (attach steel ropes) sketch

After pressing "Enter", tuning starts. When digital operator indicates "waiting" , press slow up or down button , contactor KDY closes, motor will vibrate a little and give a noise, the duration depends on motor rated power and rated current, but no longer than 5 seconds, this is static tuning period.(Motor keep still in this procedure.);(Make sure slow up or down button is pressed constantly, DO NOT release the button during this period.)Motor will then start and run in inspection speed, slow up or down, until digital operator indicates success, this is a test running period. Finally, release the slow up or down button and finish the tuning procedure.

5.2.2 Motor Initial Angle Tuning With digital tubes and operation keys on the upper left of main board

Prefer to contents of appendix VII.

5.2.3 Please note the following items at Motor initial Angle tuning with load (attach steel ropes):

1) **To ensure safety, during tuning process, people are not allowed to stay in car/hoistway.**
2) Press slow up or down button can base on the current cabin position;
3) The whole tuning procedures can be divided into two steps: static tuning and motor test run, make sure there is no gap between two steps. If no fault happens, before digital operator indicates success, press the slow up or down button constantly (**Except fault or error exists!**);
4) If car running direction is opposite to inspection run button, correct this through F6-03.0:traction sheaves counterclockwise rotation & car run down;1:traction sheaves clockwise rotation & car run up(facing to traction sheaves).Set according to actual situation.

Motor initial Angle tuning with load (attach steel ropes) error code:

Error Code	Definition	Possible Causes	Possible Solution
RF228	ESC input	ESC input valid/Enable-break in auto tuning	Retry auto tuning
RF229	Waiting of zero speed over time error	1. Motor brake is not close; 2. Encoder interference.	1. Make sure motor brake is close; 2. Eliminate encoder interference.
RF230	Current detection error	1.Open circuit/phase lost in load side 2. Motor three-phase unbalance / rated current setting error	1. Make sure motor three-phase wiring correct; 2. Make sure motor parameter filled correct.

6 Asynchronous Motor Adjustment

Asynchronous motor do not need angle tuning. But compared with synchronous motor, NO-Load Current (F5-9) and Rated Slip (F5-10) should be adjusted. The parameters and information below should be confirmed as well (parameters below are different with synchronous motor).

6.1 Motor Parameters Confirmation

Para No.	Display (In Chinese) Display (In English)	Content	Range	Parameter setting requirements
F5-00	صر Motor Type	Set motor type 0:sync- outer rotor, 1:async machine, 2:sync-inner rotor	0~2	1
F5-01	 Poles	Motor poles (Nameplate)	1~99	Fill in according to actual motor parameters
F5-02	لہ	Motor synchronous frequency (Nameplate)	0.001~50	Fill in according to actual motor parameters

F5-10

6.4 Elevator System Confirmation

6.4.1 Time Setup Parameters

Para No.	Display (In Chinese) / Display (In English)	Content	Range	Factory Setting	Unit	Live Chang	Ref Page
F2-00	n/ı Brake ON Time	After system output open brake (Y7), brake contactor and brake arm feedback (if set F1-31 to 1), wait brake ON time (F2-00), then give running speed. Brake ON Time (F2-00) has two functions: 1. Brake open fully in this waiting time to avoid running speed exists when brake open. 2. Tractor may turn under the action of load after open brake. Let tractor sheave stable at zero speed and then start speed to get a better start comfort. According to brake situation, Brake ON Time should be set to 0.8~1.5s /0.3~0.5 in sync control/async control.	0.00 ~ 9.99	0.50	s	Y	6-4
F2-01	Brake OFF Time	When start closing brake, brake cannot hold traction sheave immediately due to free wheeling and demagnetization. Keep output torque in this period of time. Remove internal direction enable and cancel torque output after this time. This parameter can prevent car slip caused by brake lag when car stopping. According to brake situation, Brake OFF Time should be set to 0.8~1.5s /0.3~0.5 in sync control/async control.	0.00 ~ 9.99	0.50	s	Y	6-4

F2-02	g	Brake is not close at zero speed when stops at inspection running .Brake close immediately with running speed exists after canceling jog up/down input. Keeping torque output time is too long in an asynchronous traction machine control situation will cause drive output overcurrent protection. Appropriately reduce this parameter value can avoid it. Insp Brake Time should be set to 0.8~1.5s /0.1~03 in sync control/async control.	0.00 ~ 9.99	0.05	s	Y	6-4

8 Hoistway Parameter Learning

Parameters need to set before hoistway parameter learning'

Para No.	Name	Setup Method
F0-00	Total Floor	Set floor number based on actual site condition.
F9-03	Speed Deviation Set	Normally set 5 for synchronous machine, set 20 for asynchronous machine.

8.1

LER=9	Bottom terminal 1 switch signal lost	Top terminal 1 switch enable before bottom terminal 1 switch or bottom terminal 1 switch signal lost.
LER=10	Top terminal 1 switch signal repeat	Top terminal 1 switch installation error, causing multiple terminal switch input or top terminal 1 switch signal shake. Check related switches.
LER=11	Top terminal 1 switch signal lost	Top limit switch enable before top terminal 1 switch or top terminal 1 switch signal lost.
LER=12	Total floor setting error	Check total floor number match actual floor number. Check leveling inductor plates on every floor.
LER=14	Two leveling inductors cannot trigger together	Leveling inductor plate on this floor cannot cover both inductors or misses one leveling inductors.
LER=15	Press "ESC" in the middle of hoistway parameter learning process.	Cancel the learning by pressing "ESC".
LER=17	Up/Down leveling switch enable at same time	Wiring of two switches is parallel connection by mistake, or bottom limit switch is installed close to 1st floor leveling position.
LER=18	Hoistway data saving error	▲Please contact supplier at once.
LER=19	Both leveling switch signal enable together when arrive at top limit switch.	Move up top limit switch.
LER=20	Bottom limit switch too high	Lower the bottom limit switch.
LER=21	When elevator reaches top limit switch,	

9 Start-up comfort level adjustment

9.1 Comfort level adjustment with weighing device

There are 3 weighing devices available for BL series integrated controller: 1. Blue-light CAN BUS weighing device; 2. -10V to 10V simulated signal output weighing device; 3. 0-10V simulated signal output weighing device.

Parameter F9-13 can be used to choose the weighing device.

Before adjust elevator start-up comfort level with weighing device, **make sure the weighing device is tuned and it can respond the correct cabin load situation.**

Adjustment method:

1) With cabin no-load, adjust F9-00 till car does not slip at empty load condition: When car has no load and brake open, if counter-weight goes down, then increase F9-00. Otherwise if car goes down then decrease F9-00. Normally F9-00 is set between 45% and 70%.

2) Adjust F9-19 & F9-20: When elevator balance coordinator is 45%, if F6-03=0, then set F9-19 & F9-20 to -(50-45)=-5. If F6-03=1, then set F9-19 & F9-20 to (50-45) = 5.

3) After empty load adjustment, if full load conditi

2) Adjustment method for elevator starting without load compensation:

a) Principles: As can be seen in figure below, when brake open, based on the position feedback from Sine/Cosine PG card, system can calculates the necessary torque required for motor to remain the steady position under current load, and it gives corresponded

value of F2-00 (brake opening time before running) must be 100ms longer than the value of FA-09, so that this action can finish before speed curve start.

FA-08 and FA-11: Two gain parameters for the starting without load compensation action, these two parameters can be adjusted according to the elevator slipping condition and comfort level, if the slipping is too much please increase the value of FA-08; if the traction machine gets vibration, please reduce this value; during the period of torque keeping, if there is slight slipping or small back-and-forth movement on traction sheave, please increase the value of FA-11, if there is vibration, please reduce this value.

(The period of torque keeping means keep zero-speed period before speed curve start, after release brake.)

Note:

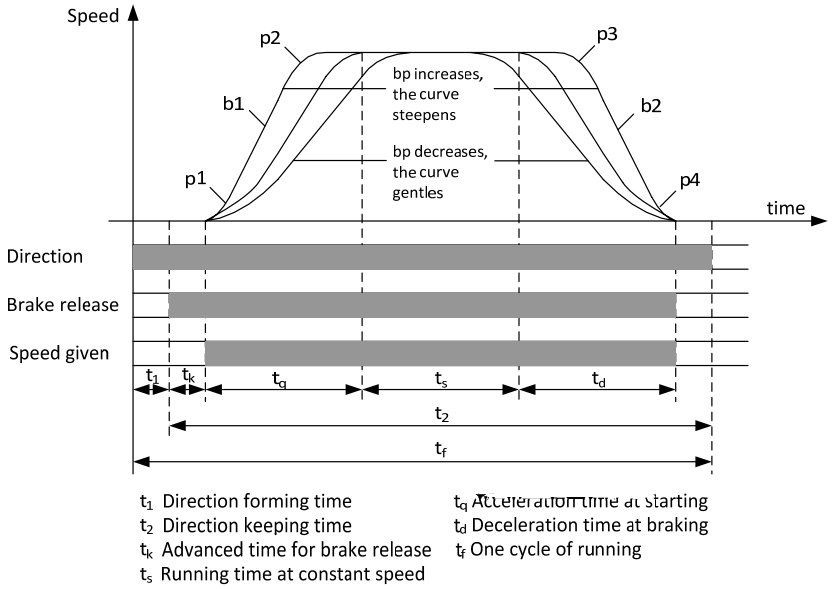
1) During commissioning, besides the mentioned 3 parameters, other parameters in FA group can be kept with factory setting.

2) The setting value of above parameters is just for reference, as the PG.4(the h)47db.0006 T11.4de isnboe i d iffnesid;, please adjust abve 4(t p)11.2(a)-0.9(r)23(a)-0.9(me)6.2(t)9.3(e)0.5(r)17.3(s)2.6(b(a)10.5(se)11

10 Elevator normal speed comfort level adjustment

Adjustments for Start/Brake Speed curve.

Elevator running speed curve is shown below.



Elevator running speed curve graphic

Note: In the guarantee of elevator operation efficiency, adjust the 6 parameters of curve slope appropriately to obtain best elevator operation curve when debugging in the actual situation.

To achieve the maximum level of comfort, integrated controller must control the motor and make feedback speed strictly following the change of running curve.

Proportional gain on the speed circle **F6-04** and integral gain **F6-05 or F7-05~F7-12** for PI section parameters also influence the motor tracking ability to speed curve. Generally, increasing the proportion gain will improve the reaction of the system and promote the tracking speed. However, if proportion gain is set too big, it will cause system vibration with high frequency and large motor noise. Increasing integral gain can improve the system anti-interference/tracking ability and improve the leveling precision, but set integral gain too big will make system vibration, speed over adjustment and wave vibration. em

11 Leveling Precision Adjustment

Leveling precision adjustment should be performed after comfort level adjustment is satisfied.

11.1 Basic Conditions for Elevator Leveling

1) Make sure the leveling switches and leveling inductor plates are installed in the right position.

2) Leveling inductor plates' length on every floor must be same.

3) Leveling inductor plates must be installed vertically.

4) The position of leveling inductor plates should be precise. When elevator is at the leveling position, the center of the plate and center of two inductors should match together (refer to appendix III), otherwise elevator leveling will have deflection, which means in up or down running, elevator stops higher or lower than leveling position.

5) If magnetic inductors are adopted, please make sure the inductor plates inserting to the inductor sufficiently, otherwise it will influence the reaction time of inductor, in that way elevator will overruns the leveling position.

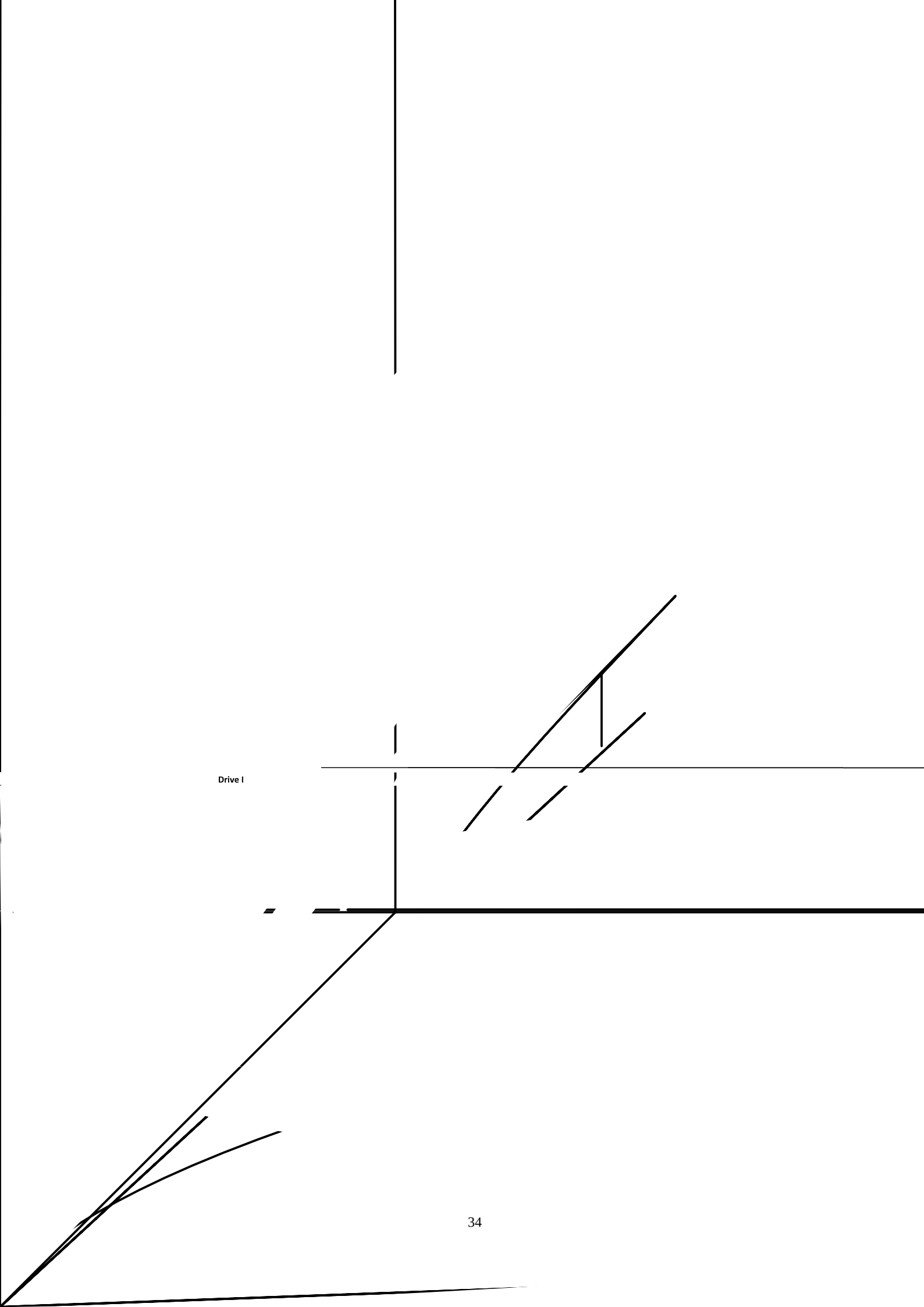
6) To ensure precise leveling, system require elevator to crawl for a certain distance before stop.

7) In practice, first make adjustment for a middle floor, until leveling is precise. Then, adjust the other floors on the base of these parameters.

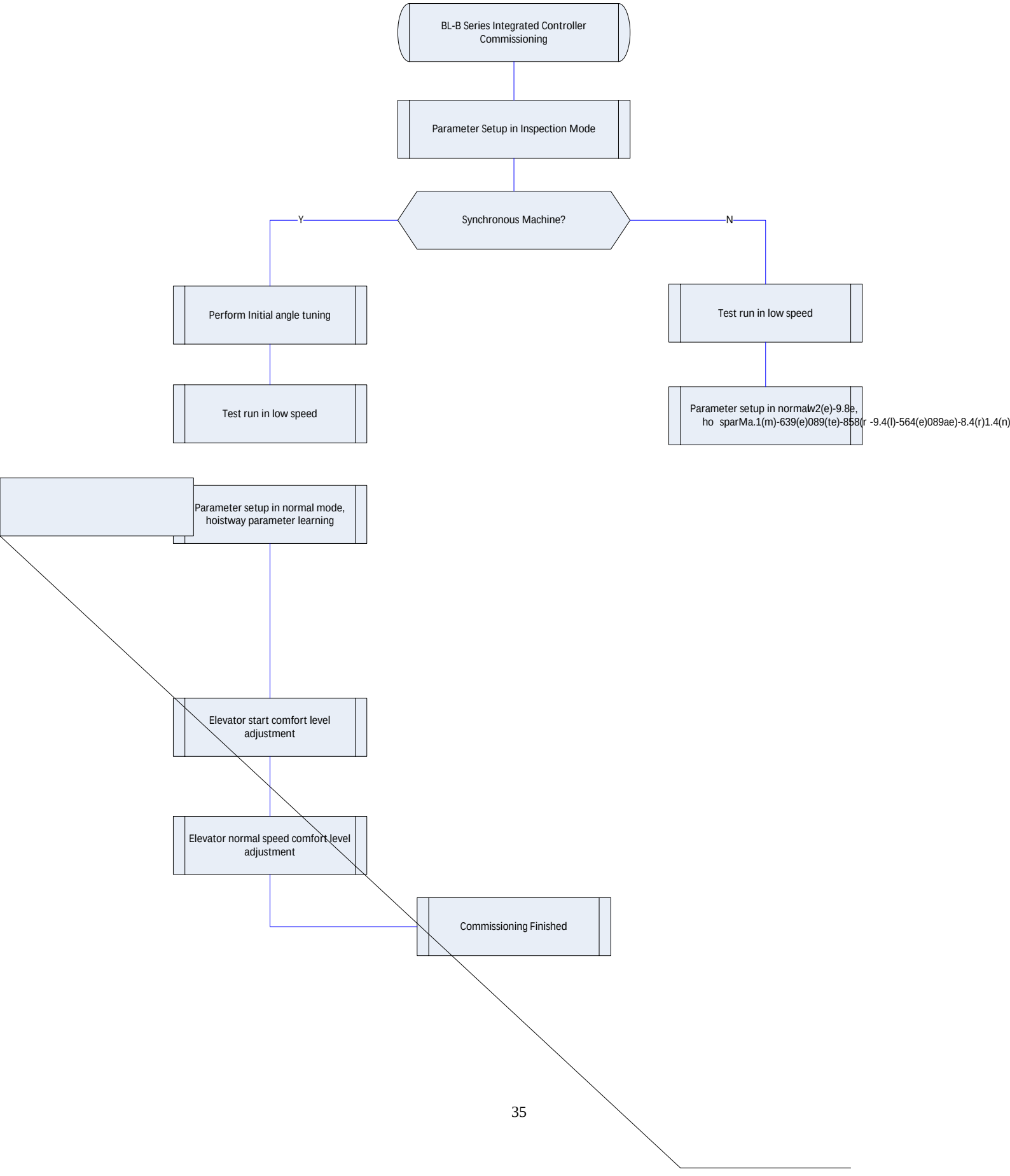
After adjusting curve selection, ratio and integral gain in the above context, please make sure every time elevator runs up or down, when stop at middle floor, its leveling positions are the same(or deflection ≤±2~3mm every time).

11.2 Leveling Parameter Adjustment

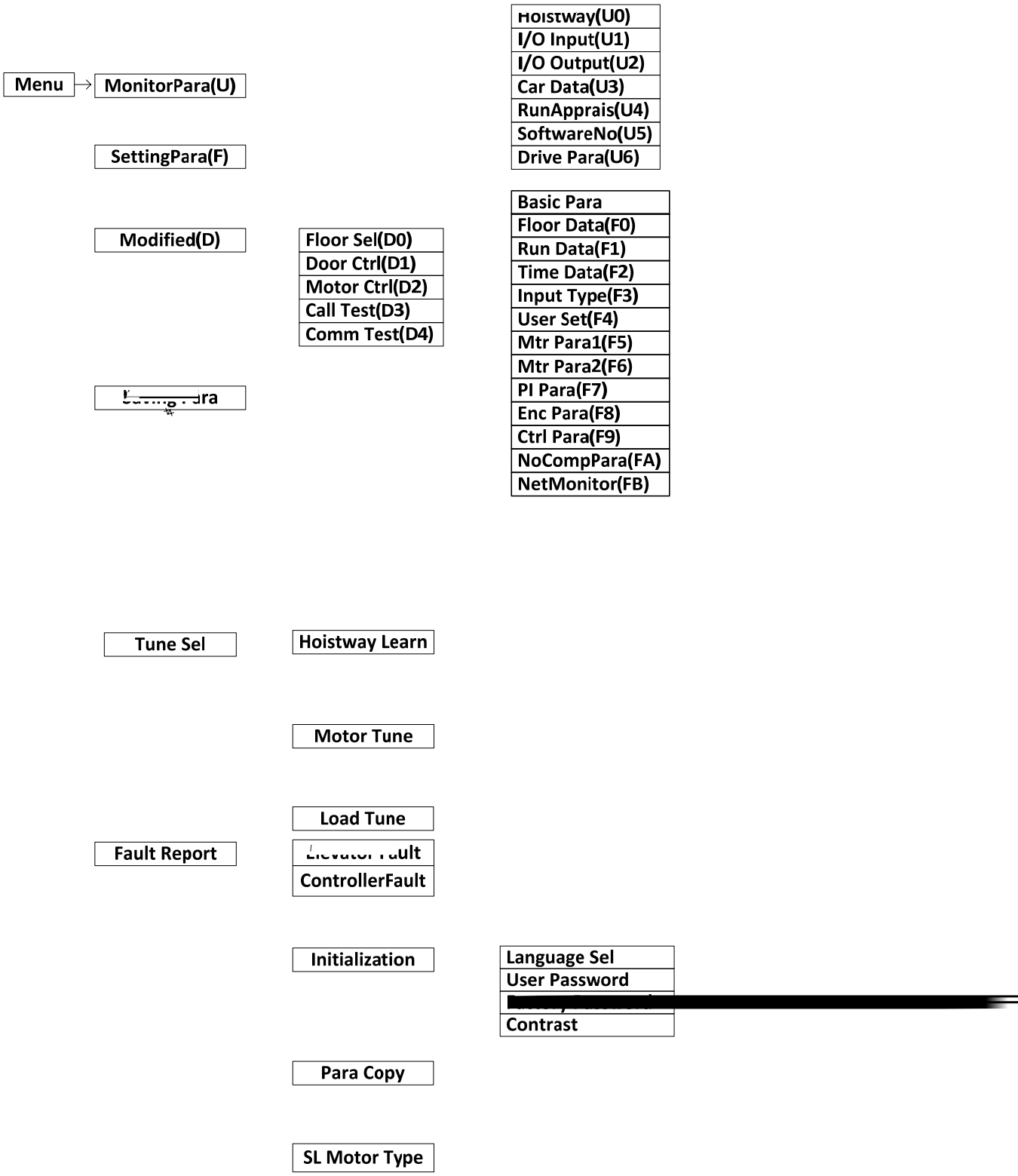
If elevator still cannot achieve desired leveling condition with adjustment based on instructions in section 1 of this chapter, further adjustments can be done by parameters. After elevator stops in normal running, if running speed curve has no problem (for example, no sudden stop or overrun beyond leveling zone), if elevator overruns the leveling position (it stops higher in up-running, lower


Drive I

Appendix I BL-B Series Integrated Controller Test Commissioning

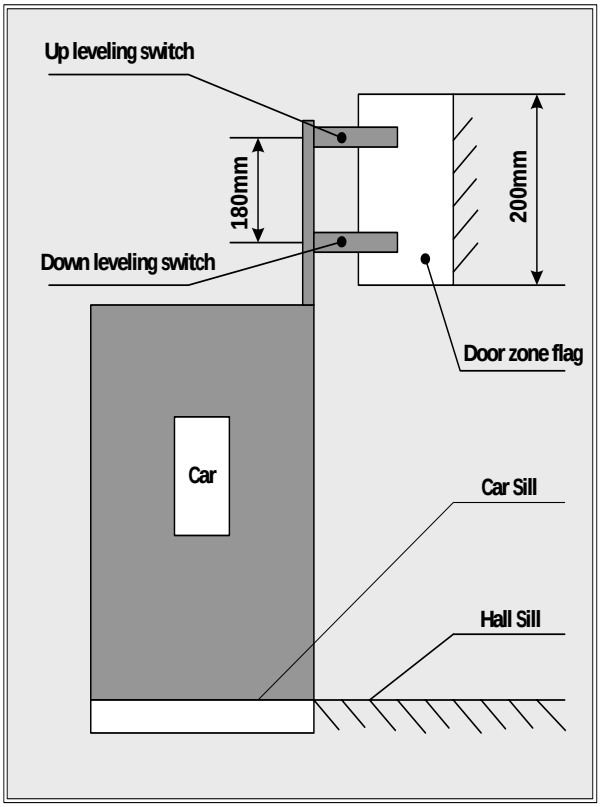


Appendix II BL-U Series Integrated Controller Operator Menu



Appendix III Leveling Switches & Flag Installation

For elevator leveling control, two leveling switches (up/down leveling switches) and some door zone flags (one in each floor) are required. Two leveling switches are installed on top of car, door zone flag is installed in hoistway, their dimensions and positions are illustrated in figure below. Leveling switches can be optical or magnetic.



Door zone flag & Leveling Switch Position

Door zone flag adjustment:

1. Elevator stop at each floor, measure car and hall sills difference ËS on each level at elevator park (car sills higher is position, lower is negative).
2. Adjust door zone flag on each floor, if ËS>0, flag on this floor should move down ËS; move flag up ËS ,if ËS<0.
3. Elevator need to redo the hoistway parameter learning after door zone flag adjustment.
4. Check elevator leveling on each floor, and redo part 1-3 if necessary.

Appendix IV Parameters

U0 Monitoring Parameters

Para No.	Display (In Chinese) / Display (In English)	Content	Unit	Ref Page
U0-00	ÞO Æ 2 / Lower Limit	The location of bottom limit in hoistway. Data will be recorded after finishing hoistway learning	m	--
U0-01	Э Æ 2	The location of top limit in hoistway. Data will be	m	--

U1~U5 Monitoring Parameters (Cont'd)

Para No.	Display (In Chinese) / Display (In English)	Content	Unit	Ref Page
U4-01		Show the elevator accumulated running hour. Adopts 10 digital decimal figures as indication.	Hour	--

U6 Drive Monitoring Parameters List

Para No.	Display (In Chinese) / Display (In English)	Content	Unit
U6-00	刁 / Power	Rated power class	kW
U6-01	/ Ref Speed	Reference Speed	RPM
U6-02	丬 / Feedback Speed	Feedback Speed	RPM
U6-03	ḣ / Load	The current load in % of full load	%
U6-04	丬 / DC Voltage	DC BUS voltage	V
U6-05		Output Current	A

Building Setup Parameters List

Para No.	Display (In Chinese) / Display (In English)	Content	Range	Factory Setting	Unit	Live Change
F0-00	/ Total Floor	Total floor number (same as door zone plate number)	2~64	6	--	N
F0-01	₀₀ / Homing Floor	Without landing/car call elevator will return this floor.	1~ Total Floor	1	--	N
F0-02	/ Fire Floor	At fire-linkage circuit close, elevator enter fire mode and return to this floor automatically.	1~ Total Floor	1	--	N
F0-03	/ Parking Floor	When close electric lock in the process of running, elevator return to this floor and stop.	1~ Total Floor	1	--	N
F0-04	/ Show Select	Set the output display style: 1: 7-segment Code 2:BCD Code 3: Gray Code 4:Point-to-point 5: Binary	1~5	1	--	N
F0-05 ... F0-68	1~64 / Set Indication 1~64	Set indication 1-64, customized character/ figure display available	---	1 ... 64	--	N

Running Setup Parameters List (Cont'd)

Para No.	Display (In Chinese) / Display (In English)	Content	Range	Factory Setting	Unit	Live Change
F1-16	ḣ / Zero Speed	Motor speed less than set value, system considers elevator speed as zero and generates brake signal.	0~10	1	RPM	Y
F1-17	/ Leveling Adj	Adjust differences of up/ down leveling	0~100	50	mm	N
F1-18	/ Load Adj	Normally used in synchronous machine system, compensate elevator load based on steel rope weight difference on each floor.	0~20	0	--	Y
F1-21	╟ / Drive Mode	Selection of driving mode ,when setting "1", attendant/VIP mode close door manually; when setting "3", elevator automatically do test run ,other value is invalid.	0~9	0	--	N
F1-22	/ Two Door Mode	Setup rear door mode, based on customer requirements, set from mode"0" to"5".	0~5	0	--	N
F1-23	/ Fire Mode	Three Fire modes: 1.Mode"0": Elevator run fire-mode after returning to fire floor; 2.Mode "1": Elevator stop running after returning to fire floor; 3. Mode "2": After elevator return to fire floor, depend on fire switch to run/stop in fire mode.	0~2	0	--	N
F1-24	/ſ / Parallel No.	Set "YES" in duplex enable. Set elevator number 0-1 in duplex; 0-7 in group control.	0~7	0	--	N
F1-25	G / Twins Control	Elevator duplex control: 1: On 0:OFF	0/1	0	--	Y
F1-26	G / Group Control	Elevator group control: 1:ON 0:OFF	0/1	0	--	Y
F1-27	G / Far Monitor	Remote Monitoring System: 1' On 0' Off	0/1	0	--	Y
F1-28	╟ ˜Ω G / Auto Parking	Auto parking: 1:ON 0:OFF	0/1	0	--	Y
F1-29	G / Load Enable	Load Weighing: 1:ON 0: OFF	0/1	0	--	Y
F1-30	G / Open Delay Able	Door open/close delay: 1:ON 0:OFF	0/1	0	--	Y
F1-31	√ G / Brake Feedback	Test brake feedback signal: 1: open 2: close	0/1	0	--	Y
F1-32	/ Rerun Password	Password to release elevator stop.	0~9999	0	--	N

Time Setup Parameters List (Cont'd)

Para No.	Display (In Chinese)	Content	Range	Factory Setting	Unit	Live Change

Service Setup Parameters List

Para No.	Display (In Chinese) Display (In English)	Content	Range	Factory Setting	Live Change
F4-00	a m 1 Set Stop Floor1	Set elevator stop/bypass at floor corresponds to each bit. (1-32 floors)	0~ 4294967295	4294967295	Y
F4-01	a m 2 Set Stop Floor2	Set elevator stop/bypass at floor corresponds to each bit. (33-64floors)	0~ 4294967295	4294967295	Y
F4-02	a m 1 TIM Stop Floor1	Set elevator stop/bypass at floor corresponds to each bit at the set time. (1-32 floors)	0~ 4294967295	0	Y
F4-03	a m 2 TIM Stop Floor2	Set elevator stop/bypass at floor corresponds to each bit at the set time. (33-64 floor)	0~ 4294967295	0	Y
F4-04	1 Door Select A1	Set elevator front door enable /disable at floor corresponds to each bit (ON/OFF: Front door enable /disable at this floor)	0~ 4294967295	4294967295 (1~32 levels)	Y
F4-05	1 Door Select B1	Set elevator rear door enable /disable at floor corresponds to each bit (ON/OFF: Rear door enable /disable at this floor)	0~ 4294967295	4294967295 (1~32 levels)	Y
F4-06	 Funtion Select	Set elevator functions enable /disable at floor corresponds to each bit. (ON: Enable, OFF: Disable)	0~ 4294967295	4	Y
F4-07	2 Function Select 2	Set elevator functions enable /disable at floor corresponds to each bit. (ON: Enable, OFF: Disable)	0~ 4294967295	0	Y

Special Function List

Number	Instruction
F4-06-00	After elevator stops, based on current floor, if there is no landing/car call ahead of the current floor in previous running direction, system will cancel all the car calls.
F4-06-01	Only for internal test.
F4-06-02	ON: In Fire mode when elevator leaves fire floor then disable fire linkage output, when elevator return to fire floor then restore fire linkage output.
F4-06-03	
F4-06-04	

Special Function List (Cont'd)

Number	Instruction
F4-06-11	

Special Function List (Cont'd)

Number	Instruction

Special Function List (Cont'd)

Number	Instruction
F4-07-21	ON: There is only one door zone signal, the elevator will still level while it turns from inspection to auto or from error to normal, or runs in ARD mode. It will avoid that the car door vane cannot drive the hall door when it is too short.(gnxz54)
F4-07-22	ON: Hall door circuit is separate from car door circuit. X36: hall door detect; X35: car door detect (non -high voltage circuit).
F4-07-23	Spare
F4-07-24	ON: Elevator return to homing floor to proofreading level number when power on for the first time.(gnxz57)
F4-07-25	Spare
F4-07-26	Spare
F4-07-27	Spare
F4-07-28	Spare
F4-07-29	ON: Leveling adjustment can be set separately. The default Leveling adjustment of each floor (1~64 floor) in setting parameters is 50mm.
F4-07-30	Spare
F4-07-31	z64)

Motor Setup Parameters List

Para No.	Display (In Chinese) Display (In English)	Content	Range	Factory Setting	Unit	Live Chang
F5-00	صر Motor Type	Set motor type (0:sync- outer rotor, 1:async machine, 2:sync-inner rotor)	0˙ 2	0	--	N
F5-01	 Poles	Moto poles (Nameplate)	1~99	20	--	N
F5-02	ل	Motor synchronous frequency (Nameplate)	0.001 ~99.999	16	Hz	N

Multiple PI Setup Parameters List

Para No.	Display (In Chinese)	Content	Range	Factory

Encoder Setup Parameters List

Control Setup Parameters List

Para No.	Display (In Chinese) / Display (In English)	Content	Range	Factory Setting	Unit	Live Chang
F9-00						

Special Parameters List

Para No.	Display (In Chinese) Display (In English)	Content	Range	Factory Setting	Live Chang
FC-00	Z ă Zpulse_Init	Result of motor angle tuning, same as FX-00.	0~3277	--	N
FC -07	R KpIreg	Current ring proportional (FX-07), **MODIFY WITH CAUTION!**	0~65535	10000	N
FC -08	Ĭ KxIreg	Current ring integral (FX-08), **MODIFY WITH CAUTION!**	0~65535	5000	N
FC-13	- AutoTuneModeSel	Sine/Cosine PG card auto- tuning selection (FX-20): 0:Rotation; 1:Stationary;	0/1	0	N
FC-14	G N Temp Alarm Ena	Negative temperature alarm (FX-21) 1: Alarm enable at -15C; 0: Alarm disable at -15C.	0/1	1	N
FC-15	] Æ G InitTuneEnable	When using Sine/Cosine PG card, whether need CD signal for position at power up 0:Yes.1:No (Can only set to 0 for SPG-V33 and above) Set to 0 can avoid electric noise at first power up.	0/1	0	N
FC-16	CD ą /I J CD DirSel	FC15 is available if set to 1. Set to 0 if AB & CD signal in same phase, otherwise set to 1. (Auto selected at motor angle tuning.)	0~3	0	N

nvironment Setup Parameters List

Para No.	Display (In Chinese)	Content	Range	Factory Setting	Live Chan g

Appendix V Elevator System Faults

Error Code	Definition	Possible Solution
Er2	Door inter-lock faults: Door inter-lock circuit open at elevator running	Check the work condition of door vane and door interlock circuit. Roller should have enough space at both side of the vane.
Er3	Driver faults	Check drive-error code. Determine the possible cause of the fault and solve in corresponding solution.
Er4	Elevator running in opposite direction with command	1. Exchange phase “V” and “W” on motor 2. Exchange phase “A” and “B”, on encoder solution(so8th side)1.3(7333-se

Elevator System Fault List (Cont'd)

Er32	Floor number counting error.	A sudden power break may affect terminal/limit switches and cause floor number error. Elevator will then return to bottom floor for recalibration.
Er34	External switching power supply 24V sag fault	1. Check External switching power supply 24V connection; 2. Fault prompt given if detect the external voltage is lower than 16V.
Er35	Master clock error	Main board hardware circuit working abnormal. Please contact supplier.
Er36	Internal power supply 5V error	Fault prompt given if detect the 5V voltage is lower than 4.7V.
Er37	Running contactor shakes in brake open action.	Check running contactor action and X5 running contactor feedback.

DF13	MC	Controller main contactor MC dose not close after given close command for set time.	1. Wrong wiring for MC contactor; 2. MC contactor damaged.	Try to reset the power, if this error occurs again, contact supplier for replacement.
DF14	BR	Brake unit fault	1. Brake cable/elements issue; 2. External brake resistor disconnected.	1. Check brake resistor; 2. Replace the controller.
DF15	OF	Output phase lost	1. Output cable break or loose terminal. 2. Disconnect motor stator cable.	1. Check output cable/terminal; 2. Check motor stator cable.
DF16	SCF	Current remains at elevator stop.	Controller damaged.	Change the controller.
DF17	SRF	Elevator slip after stop.	1. Brake/encoder loose; 2. Encoder interference.	1. Fasten brake/encoder; 2. Remove interference source.
DF18	UF	Signal U of encoder wire lost.	Encoder damaged or wiring incorrect.	Check encoder and wirings
DF19	VF	Signal V of encoder wire lost.	Encoder damaged or wiring incorrect.	Check encoder and wirings
DF20	WF	Signal W of encoder wire lost.	Encoder damaged or wiring incorrect.	Check encoder and wirings
DF21	DF	Parameter setting error	Parameter setting error	Check parameter setting
DF22	SDF	Internal programmer check error	Internal data setting error	Please contact supplier

Appendix VII Menu operation processes with Digital tubes & operation keys

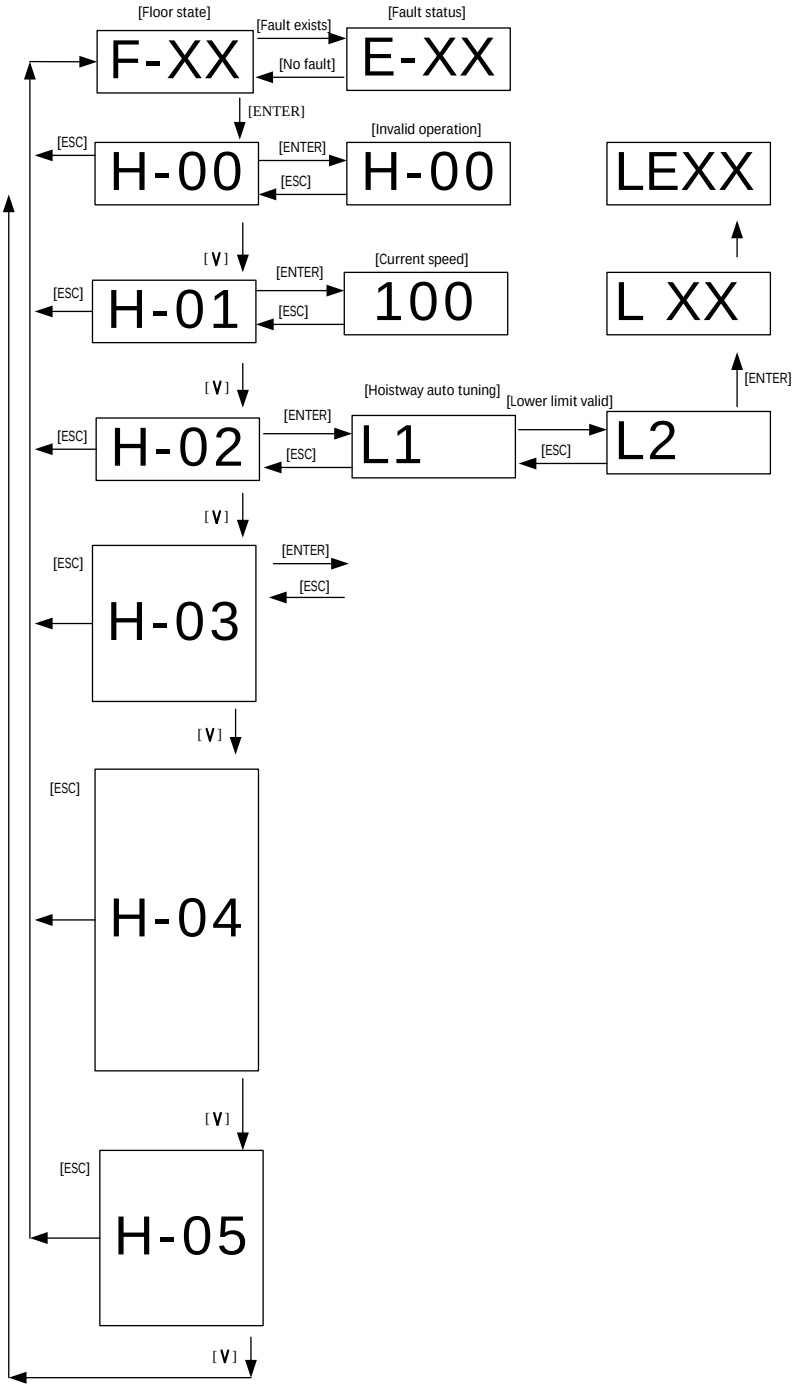
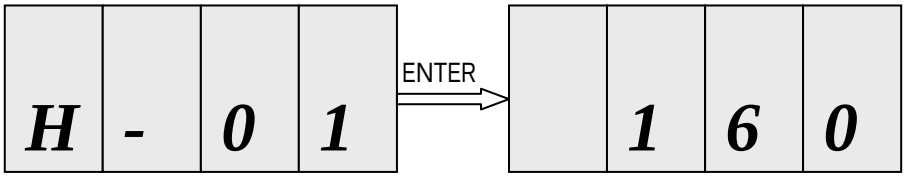


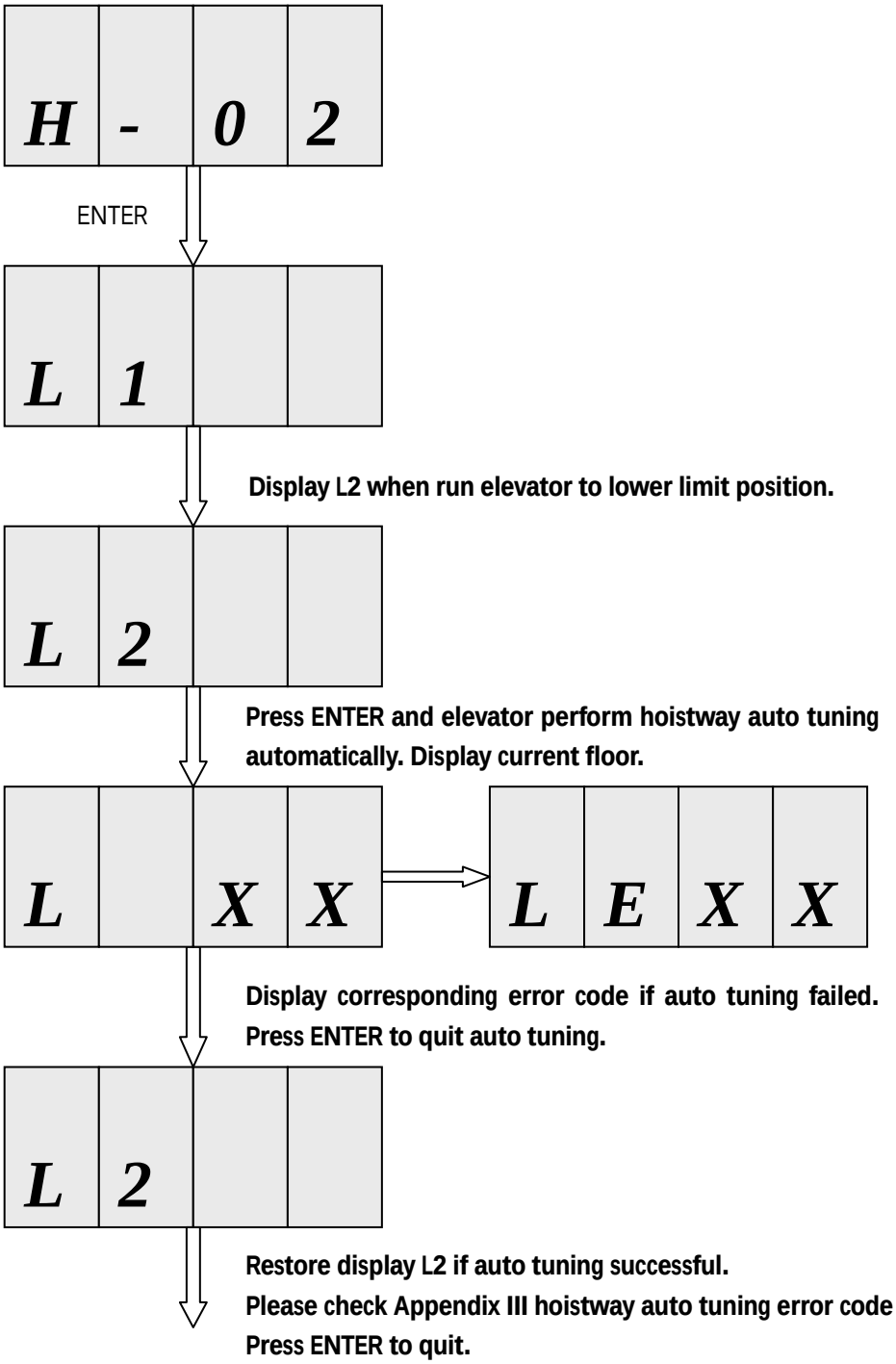
Figure Display and key layout

ESC: Cancel/return key;

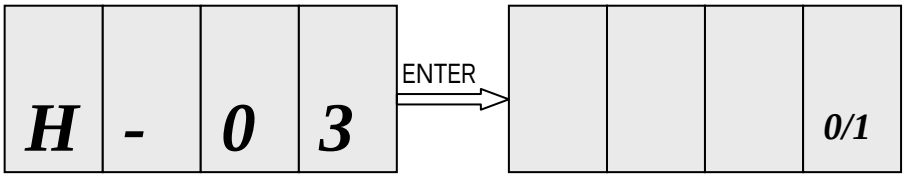
5. H-01: Display current running speed (Unit: cm/s):



6. H-02: Hoistway parameter self-learning:



7. **H-03: Parameters setting with hand operator. Set once the parameter when connecting digital operator. (Set this parameter again to support hand operator after main board reset).**



8. **H-04: View 30 fault recodes.**

