



# Elevator Control Manual Instruction





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# 1. Unit Dimensions

# 1.1. Card reader board



# 1.2. Relay board



1.3. Relay box (If require)





# 2. Parameter

DTM-Z09A				
Working Current	<b>≤750mA</b>			
Working Voltage	DC 12V			
DTW-Z04A				
Working Current	<b>≤750mA</b>			
Working Voltage	DC 12V			
12V DC Adapter				
Input Voltage	AC 220V 50 HZ			
Output Voltage	DC 12V			
Output Current	<b>≤3.0A</b>			
Working Voltage	DC 12V			

# 3. Elevator Functions

### 3.1. Automatic function for one floor

Enable to get to the corresponding floor automatically without pressing button when scan the card if only one floor is programmed.

# 3.2. Pressing floor buttons is necessary when scanning the card if multi floors have been set.

### 3.3. Emergency switch can be used when elevator is broken.

In case elevator would be broken, the elevator will not be under control when you press emergency switch, elevator floor buttons can be used without scanning a card.

# 4. Cable Requirements

300/500V PVC Insulated Shielded Flexible cable, 6 core 0.3mm copper wire for floor buttons

300/500V PVC Insulated Shielded Flexible cable, 2 core 0.3mm copper wire for emergency switch

# NOTE: On long power cable runs, the cable resistance causes a drop in voltage at the end of the cable run. Be sure your power supply provides 12 VDC at the end of the cable run.



# 5. Installation of requirement for elevator control

Check with local authorities when installing Elevator Control panels. Your elevator control application must meet all local and national safety codes. The Main or Lobby Floor cannot have access control applied – all people must be able to exit the elevator at all times on at least one common, ground-level access floor.

It is necessary that the Elevator floor buttons are connected by wires (see the picture as below). Otherwise, you need to contact with the elevator company for more technical support if Be-Tech elevator can be installed.



Be-Tech Elevator controller is especially for hotel elevator with purposes of enhancing safety and saving energy for the hotels. It is operated with BIS lock management software to attain the level management and authorization. Only authorized valid cards can access to the elevator up and down, which prevent irrelevant personnel from entering the elevators, and hence protect the hotel safety and extend the service lifetime of elevators.

The elevator controller does not communicate with central controller of elevator itself, so there is no directly mutual control between them. Its function is to control the elevator floor buttons. Therefore, all the existing security features of the elevator itself are not affected.

### Note:

If there are two key pads in the elevator car, you need to install two Be-Tech elevator controllers. It means that how many elevator controllers need to be installed depends on how many key pads inside the elevator car.

# 6. Installation tools







# 7. Preparations:

1. Set up a computer before testing the devices.

2. Inform Elevator Company to have staff present during installation

3. 10 meters of shielded wire are provided by our company (enough for About 4 floors installation). More wires are needed if there are more floors, the specification of the additional wire should be same with the wires we provided

4. The elevator car must be in a position that staff can climb to the roof of the car.

5. Prepare a universal meter, it is needed to test the elevator control system.

6. Electric drills are required to drill holes for the front reader installation. Required drill bits sizes: 4.5m and 16-20mm.

7. Electrical tape and ribbon

# 8. Card Reader Front Plate Drilling Diagram





# 9. Installation Position of Elevator Controller

### 9.1. Reader installation

Default position of the card reader is next to the floor selection button (Details are based on specific requirements of clients and limitations of the environment)



# 9.2. Relay board or relay box installation

If the environment of the elevator is allowed, you can install the relay attaching to elevator car near to the reader, it will make you easily to maintain when the elevator control stops working.





If there is not enough space to install the relay board, you have to install them with a box on the top of the elevator card.



Note: If there are panels of floor buttons, and you want to control both of them, two elevator controllers are required.



# 10. Caution Before Installing Elevator Control

# 10.1. Power Setting

Preset a 220V power outlet on top of the elevator car.

# 10.2. Check the integrality of system before installation. (wiring and testing methods are shown below)

Before installation, please check if the controller works properly.

Follow the Diagrams, connect card reader to relay board. Following table shows the corresponding connection ports. Do not forget to connect the emergency switch and make it get through. (It is a white cable), which is used when controller is broken, press this emergency switch to cut off the power and make the elevator our of control.

Card Reader	Control Box
POWR	PWR1
GND	GND
T1X	R1X





### **10.3. Check If Elevator Control Working Properly**

#### 10.3.1. Check if Buttons are correctly connected to relays

If wires are connected correctly, relays are connected when the device is off power, and floors selection buttons are working normally. After disconnect the wires between the floor selection buttons and relays on relay box, the buttons should not respond, otherwise, need to recheck if the connections are correct.

# 10.3.2. After setting up the Elevator, whether Relays on Control Box Working Properly (Setting Card Test)

After set up elevator with lift setting card, relays on control box will switch from close to open, and buttons can not be used. After setting up the system, if relays are not working and buttons are still functional, please check whether the circuit board has power, and check whether T1X and GND ports on Reader are connected to R1X and GND ports on control box accordingly.

### 10.3.3. Whether Relays on Control Board are Functional when using Emergency Card

After setting card test success, using emergency card, user can access all floors. If successfully used emergency card, but some of the floor can not be access, which indicates some of relays are broken.

### 10.3.4. Check Whether Relays on relay Board Working Properly, after Using Control Card

Scanning control card onto card reader, yellow indication light shall turn on, and relays on control board shall switch from open to close. Then, buttons on elevator are not under control, and can be operated freely. Scan the control card to the card reader again, green indication light shall turn on with one beep, then elevator is in controlled mode. Under control mode, all buttons are not functional without using lift enable card.

### 10.4. How to Find the Elevator Signal Wires

In most cases, staffs from the elevator company will assist Be-Tech installation staffs to locate the signal wires. However, if the elevator company refuse to assist or for some reasons unable to provide assistance, we will take the following steps:

Most elevators have 4 wires for a button, two for the LED light, the other two for signaling. We only need to find out one of the signaling wire.

If we cut a lighting wire, elevator will operate when we press a button, but button light won't turn on

If we cut a signaling wire, when we press a button, button light won't be on and elevator won't operate.



# 11. Software Setting Manual for Lift Control

### 11.1. Lift Manage Over View

There are 5 function cards in "Lift Manage" item which select from menu.

- Lift Setting Card (MF S50), It is to set the total of controlled floor.
- Lift Record Setting Card (MF S50), It is to set the total of access record.
- Lift Enable Card (MF S50), It is to set the lift is in control or not.
- Lift Time Card (MF S70), It is to set the clock into lift.
- Lift Terminating Card (MF S70), It is to terminate the card which is lost or useless.
- Lift Visitor Card (MF S50), It is an opening card for visitor.

### 11.2. Allow lift function in the software

Dptions	
General Guest Card Public Sector	
<ul> <li>Show language selections on program startup</li> <li>Show database selections on program startup</li> <li>Backup database before exiting</li> </ul>	
Allow Lift Function     Automatically refresh room status     Refresh interval(s)	: 30
✓ Apply guest card expiration warning Warning Time(Min): 60	
Automatically change expired room status into non-clean	vacant
Login Protection Wait Time(Mi	in): 10
Adjust font size of room status	
Font size of room status: 9	
	<u>C</u> ancel





# **11.3. Setting Procedures**

System ID Card → Lift Setting Card → Lift Record Setting Card →Lift Time Card

### 11.3.1. System ID Card

📕 BTLock 🕫. 7A							
<u>S</u> etting <u>O</u> perate <u>V</u> iew <u>M</u> emb	ers H <u>a</u> ndset <u>G</u> uests <u>L</u>	ift Manage	<u>C</u> ards <u>D</u> ata <u>H</u> elp <u>L</u> an	guage			
a 👩 🔊	🙊 📕 🎯		🕐 Check Card	F2			
Reader Check Members	Operators Lifts Print	View	🖉 System ID Card	Ctrl+I			
All Booms 2bed conference	suite		🚻 Lock Setting Card	Ctrl+L			
			🎦 Lock Card	Ctrl+C			
	Door Name	Door ID	🎡 Time Card	Ctrl+T	Total Rec	Guest SN	To
1-FLOOR	0101 🔚 🔚	000101	Authorizing Card	Ctrl+Մ	14	424188484	1
	0102 🔚 🔚	000102	P Terminating Card	C+v1+B	-14	424188534	1
	0103 🔚 🔚	000103	Source Card	Ct140	-14	424188556	1
	0104	000104	go Query Lard	Utri⊤ų	.14	424190101	1
	0105 🔚 🔚	000105	3(Sec.)	50	414	424190125	1
	0106	000106	3(Sec.)	50	414	424190147	1

Press "issue" item, and follow the indication.

🖉 System ID Card	X
Change opening card's se	ector
● No	O Yes
Current sector:	0
New sector:	0
Lift Current Sector:	1
Change system password	
◯ No	⊙ Yes
System password:	*****
Confirm password:	жжжжж
Using for setting the initiali	zed locks
Reset system password (n	eed to restart)
(	<u>I</u> ssue <u>C</u> ancel
Not still change system passw	vord.

#### 11.3.2. Create lift in software





Set the information as like door lock

Lift Setting		
Total number:	1	
Lift name tamplate:	00##	
Start #:	1	
Lift ID tamplate:	000000##	
Start #:	1	
Lift Name	Lift No	
0001	00000001	

📕 Lift Iana	igement				
<u>O</u> perate ⊻iew	<u>C</u> ard <u>D</u> ata				
② Check Print	View Close				
Lift Name	Lift ID	Working Time	Working Days	Blacklist Count	Record
di angla	00000001	00:0024:00	All Days		

# 11.3.3. Lift Setting Card

Click "Lift Setting Card" in the "Card" item to call next window.

📕 Lift Ian	agement			
<u>O</u> perate <u>V</u> iew	<u>Card</u> <u>D</u> ata			
0	🕐 Check	F2		
<u>C</u> heck <u>P</u> rir	🔀 Lift Setting Card	Ctrl+S		
Lift Name	🖼 Lift Record Setting Card 📲 Lift Enable Card	Ctrl+R Ctrl+D	Working Days Blacklist Co	ount Record
	🍓 Lift Time Card	Ctrl+T		
	🕵 Lift Terminating Card	Ctrl+L		
	😰 Lift Visitor Card	Ctrl+V		
1				5



### Total Floors:

It is to set 16 floors for a unit. For example, there are 36 floors in the hotel. It should be selected 48

### Work Standing Time:

It means how long the floor button is allow to work after touching opening card.

According the fact to set and press "Save"

Lift Setting Card	1
Assign Memory	
Totel Floors:	16 🔽
Work standing time(Sec.):	16 32 48
Change Floor Address Begin Address:	64 80 96 112 128
End Address:	061
Save	Issue Cancel

After issue the "Lift Setting Card", select the new created lift and press right click with mouse to call the menu. Then, select "Control Floors" to call setting window.

📕 Lift Hanagement	
<u>O</u> perate <u>V</u> iew <u>C</u> ard <u>D</u> ata	
Image: Check     I	
Lift Name Lift ID Working Time Working Days Blacklist Count	Record
0001       00000001       All Days         Ift Setting       Ctrl+S         Lift Record Setting       Ctrl+R         Set Floor Name       Set Floors         Control Floors       Delete         Delete       Del         Rename	
	>



According the fact to choose the floor and press "OK"

📲 Select the de	fault	f1	
□··· 🔽 🚾 0001			
🔽 拱 Floor.1			
🔽 📻 Floor.2			
🔽 🏭 Floor.3			
🔽 📻 Floor. 4			
🖂 🔽 🔚 Floor.5			
🖂 🔽 📻 Floor.6			
🔽 🏭 Floor. 7			
🖂 🔽 📻 Floor.8			
🔽 🏢 Floor.9			
🔽 🏭 Floor. 10			
- 🔽 🏢 Floor. 11			
- 🔽 🧱 Floor.12			
🖂 🔽 🕞 Floor. 13			
🖂 🔽 🕞 Floor. 14			
🖂 🗹 📰 Floor. 15			
🔽 📆 Floor. 16			
			Court 1

After issue the "Control Floor", select the new created lift and press right click with mouse to call the menu. Then, select "Time Sections" to call setting window.

📲 Lift 🗉	anagene	nt			
<u>O</u> perate <u>V</u> ie	w <u>C</u> ard ,	<u>D</u> ata			
 heck	oo III Print ⊻iew	v <u>C</u> lose			
Lift Name		Lift ID	Wor	king Time	Working Days
20001 2001 2001 2001 2001 2001 2001 200	Lift Set Lift Reco Set Floor Control F. Time Sect	NONNINNI ting rd Setting Name loors ions	OD-OD Ctrl+S Ctrl+R	)24:00	All Days
	Delete Rename		Del		

### **Time Sections**

It indicates working time when the lift is in control. According the fact to set and press "OK"



📕 Lift Control Time	Section
00 - 00 - 4 00 - 00 00:00-24:00	<ul> <li>Sunday</li> <li>Monday</li> <li>Tuesday</li> <li>Wednesday</li> <li>Thursday</li> <li>Friday</li> <li>Saturday</li> </ul>
<u> </u>	<u>C</u> ancel

After the above setting, put a MF S50 card on the reader and Issue it to Lift Setting Card.

📲 Lift 🏼	nagement				
<u>O</u> perate <u>V</u> iev	w <u>C</u> ard <u>D</u> ata				
②	≨ <mark>∭ , [0</mark> rint <u>V</u> iew <u>C</u> lose	,			
Lift Name	Lift ID	Working Time	Working Days	Blacklist Count	Record
2000 201 201 201 201 201 201 201 201 201	ift Setting ift Record Setting et Floor Name ontrol Floors ime Sections elete ename	Del	All Days		
<					>

Lift Setting Car	d 📃 🗖 🔀	
Assign Memory		
Totel Floors:	32 🖌	
Work standing time(Sec.):	5	
Change Floor Address		
Begin Address:	060	
End Address:	063	
Save	Issue <u>C</u> ancel	

Scan the Lift Setting Card, green light blink once, done.



#### 11.3.4. Time Card

Click "Lift Time Card" in the "Card" item to call next window.

🕌 Lift Tanagement					
<u>O</u> perate <u>V</u> iew	Card Data				
0	() Check	F2			
<u>C</u> heck Prin	🚻 Lift Setting Card	Ctrl+S			
Lift Name	🖼 Lift Record Setting Card	Ctrl+R	Working Days		
	扣 Lift Enable Card	Ctrl+D	ul Daus		
12800	🍓 Lift Time Card	Ctrl+T	an D'Gys		
	🕵 Lift Terminating Card	Ctrl+L	-		
	🕵 Lift Visitor Card	Ctrl+V			

There are two parts, to set the time of the lift controller and functional time. Time Card's function is to set a clock into the PCB and the functional time of the device (mean what time the lift is under control, and what time the lift is not under control)

Press "issue" button, it will show "time offset" setting window.

🍓 Time Card	
Time Sections         Time Section1(Programmed)         Working Time         00 ♥ - 00 ♥ ₱         00 ♥ - 15         00 ♥ - 15         00:00-24:0	<ul> <li>✓</li> <li>✓ 星期日</li> <li>✓ 星期一</li> <li>✓ 星期二</li> <li>✓ 星期三</li> <li>✓ 星期五</li> <li>✓ 星期五</li> <li>✓ 星期六</li> </ul>
<u>I</u> ssue	Cancel

It may take some minutes for user to go to scan the card. Therefore, fill 5 in the blank which means the clock of Time Card delays 5 minutes.

Time Offset	
Time Offset(mins):	5
<u>0</u> K	Cancel



Confirm the information and press "OK".

С	ard Informatio	n 🛛
	Card Information	
	Card Type:	Time Card
	Card No:	Not Issued
	Current Time:	2008-12-9上午 10:18:14
	Issuer ID:	Unknown Issuer ID
	Issued Time:	2008-12-09 10:13:14
		<u> </u>

Scan the Time Card, green light blink once, done.

### 11.3.5. Lift Record Setting Card

Click "Lift Record Setting Card" in the "Card" item to call next window.

Lift Management
Deck       Deck       F2         Check       Pin         Check       F2         Check       Pin         Check       Ctrl+S         Check       Pin         Check       Pin         Check       Ctrl+S         Check       Pin         Check       Ctrl+S         Check       Ctrl+S         Check       Pin         Check       Ctrl+S         Check       Ctrl+S         Check       Ctrl+S         Chift Enable Card       Ctrl+D         Chift Time Card       Ctrl+T         Chift Visitor Card       Ctrl+V

The maximum of blacklists is 1600 and the record is 20000. Press "OK" to issue.

Record Setting Card				
Total Blacklists:	1600			
Total Records:	20000			
<u> </u>				

Scan the Record Setting Card, green light blinks once, done



### 11.3.6. Lift Enable Card

Click "Lift Enable Card" in the "Card" item to call next window.

📕 Lift Hanagement					
<u>O</u> perate <u>V</u> iew	<u>C</u> ard <u>D</u> ata				
	🕐 Check	F2			
<u>C</u> heck <u>P</u> rir	🚻 Lift Setting Card	Ctrl+S			
Lift Name	🙀 Lift Record Setting Card	Ctrl+R	Working Days Blac		
	👖 Lift Enable Card	Ctrl+D	ul Daus		
5300 F	🎡 Lift Time Card	Ctrl+T	ni b dyo		
	🕵 Lift Terminating Card	Ctrl+L			
	🕵 Lift Visitor Card	Ctrl+V			
			1		

Put a MFS50 card on the reader and Press "OK" button to issue the Enable Card.

С	ard Information	-	×
	Card Information		
	Card Type:	Enable Card	
	Card No:	282133607	
	Issuer ID:	Unknown Issuer ID	
	Issued Time:	2008-12-09 10:26:47	
		<u> </u>	

Scan the Enable Card; if the yellow light is on, the lift is only controlled by keypad. If the yellow light is off, the lift is controlled by the BE-TECH lift system.

### 11.3.7. Lift Visitor Card

Click "Lift Enable Card" in the "Card" item to call next window.

Lift Tanagement									
<u>O</u> perate <u>V</u> iew	<u>C</u> ard <u>D</u> ata								
	🥑 Check	F2							
<u>C</u> heck <u>P</u> rin	🚮 Lift Setting Card	Ctrl+S							
Lift Name	🐋 Lift Record Setting Card	Ctrl+R Ctrl+D	Working Days						
	🚰 Lift Enable Card								
	🎡 Lift Time Card	Ctrl+T	an Didys						
	🗬 Lift Terminating Card	Ctrl+L							
	🔮 Lift Visitor Card	Ctrl+V							

The card is an operating card for visitor to set which floor he/she is able to reach and how long he/she is able





Comfier the information and press "OK" to issue.

C	ard Information	×
	Card Information	
	Card Type:	Visitor Card
	Card No:	282147080
	Start Time:	2008-12-9下午 01:46:00
	Terminating Time:	2008-12-10下午 01:46:00
	Issuer ID:	Unknown Issuer ID
	Issued Time:	2008-12-09 14:11:20
		<u>OK</u> <u>C</u> ancel



### 11.3.8. Build Up the Relationship Between Lift and Room Door.

### 11.3.8.1. Guest card

You can default the floor to each room, so the lift information will automatically write to the card when the guest check-in.

Select the rooms and default the corresponding floors

📲 BTLock v5.7A							0.3KB/S 🏠	DKB/S 2%
<u>Setting</u> <u>Operate</u> <u>View</u> <u>M</u> embe	rs H <u>a</u> ndset <u>G</u> uests <u>L</u> iftManage <u>C</u> ards	<u>D</u> ata <u>H</u> elp	Language					
Call Check Members	Operators Lifts Print View Relog	jin Exit						
All Rooms 2bed conference	suite							
All Rooms	Door Name Door ID	Open Dur	Total	Total Rec	Guest SN	Total Guests	Room Type	Room Status B
1-FLOOR		200	50	414	424188484	Vacant	2bed	Non Clean
2-FLOOR	01 🚝 Check-in	Ctrl+G	50	414	424188534	1	2bed	Occupied
3-FLUUR	01 Check-out		50	414	424188556	1	2bed	Occupied
	01 BR Look Sotting	C+x1+I	50	414	424190101	1	2bed	Occupied
		Cultil Cultil	50	414	424190125	1	2bed	Occupied
	01 Authorizing members	Ctr1+0	50	414	424190147	1	2bed	Occupied
	Default Floors		50	414	424190169	1	2bed	Occupied
	01 Delete	Del	50	414	424190191	1	2bed	Occupied
	01 Repare	I	50	414	424190217	1	2bed	Occupied
	01		50	414	424190248	1	2bed	Occupied
	01 Room Status		50	414	426159613	1	2bed	Occupied
	01		50	414	424192740	1	2bed	Occupied
	Sa Change Batteries	I	50	414	421515958	Vacant	conference	Clean Vacant
	Uhange Guest Serial No	D	50	414	423251467	1	conference	Occupied
	Default Public Doors		50	414	423642734	Vacant	conference	Clean Vacant





### 11.3.8.2. Staff card with Lift function

😵 Henber Hangagenent							
Operate View Cards				Staff Card 🛛 🔀			
🕘 🗳 🖽 🖡	0			Date Limit			
Check Print View C	lose						
All Emergency Cards	Member Name	Member Code	Member No	From:	2013- 5- 6	✓ 13:00:00	\$
Sew Group	Raid	0000000005	5	To:	2014-10- 1	23:00:00	\$
Staff	Raintenance	000000000000002	4 2				
All relipointy cards	🗣 😫 V-SKV	000000006	6	Public Doors			
					⊞ <b>⊡</b> ∎ Public Door1		
				Card Options			
				Cara Options	Update card No.		
					Passage mode		
					Can open double-lock		
					Can enable Temporary C	Card	
					Lifts Control	Issue	Cancel
Select the of Select the of Select the of Floor.1 Floor.2 Floor.3 Floor.3 Floor.4 Floor.5 Floor.6 Floor.7 Floor.7 Floor.9 Floor.1 Floor.1 Floor.1 Floor.1 Floor.1 Floor.1 Floor.1 Floor.1 Floor.1	0 1 2 3 4 5 6 7						
	<u> </u>	<u>C</u> ance					

After setting up the lift information for staff card, click "Issue" to issue the staff card.