EWD-H-KJ3

User's Guide

(V1.0)

XIAN EXCELLENT ELECTROMECHANICAL CO., LTD

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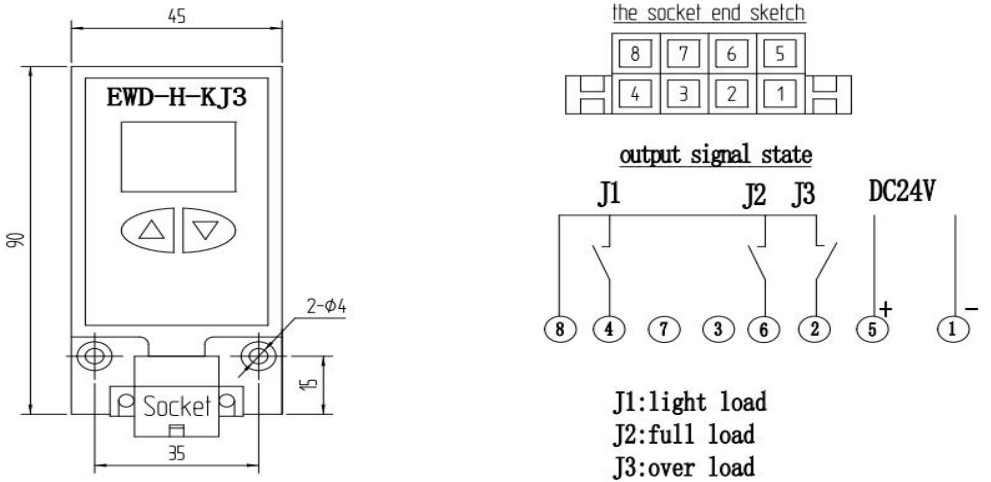
Caution:: This system is applicable to the "Active Car" elevator. Please read the following chapters carefully before use.
The induction magnet is a special rare earth magnet with this product, the magnetic strength is strong, the installation process must be careful; at any time to avoid the magnet close to 100 ℃ above the high temperature, so as to avoid demagnetization;

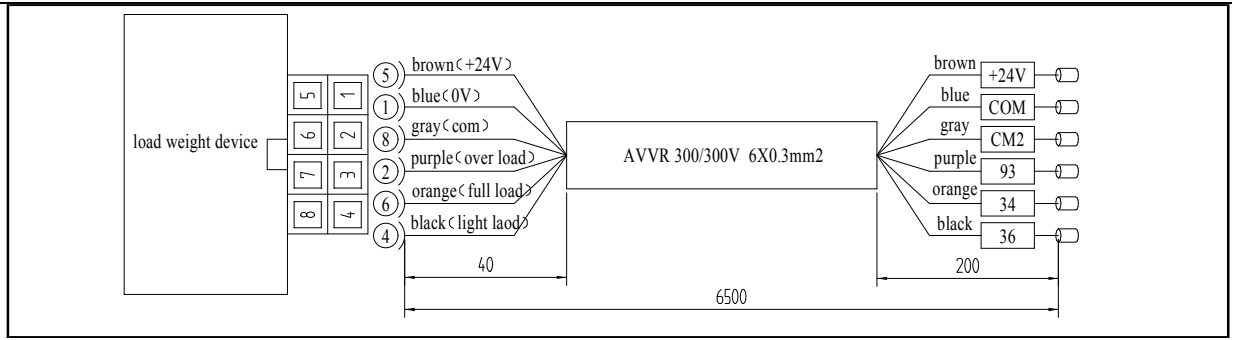
Note: Under any condition, our part is just responsible for the quality of product in the period of guarantee service.

Declaration: For the reason of technology advancement, our company reserves the right of improving product. As for the relevant technical parameters, Please refer to the technical handbook delivered with the product.

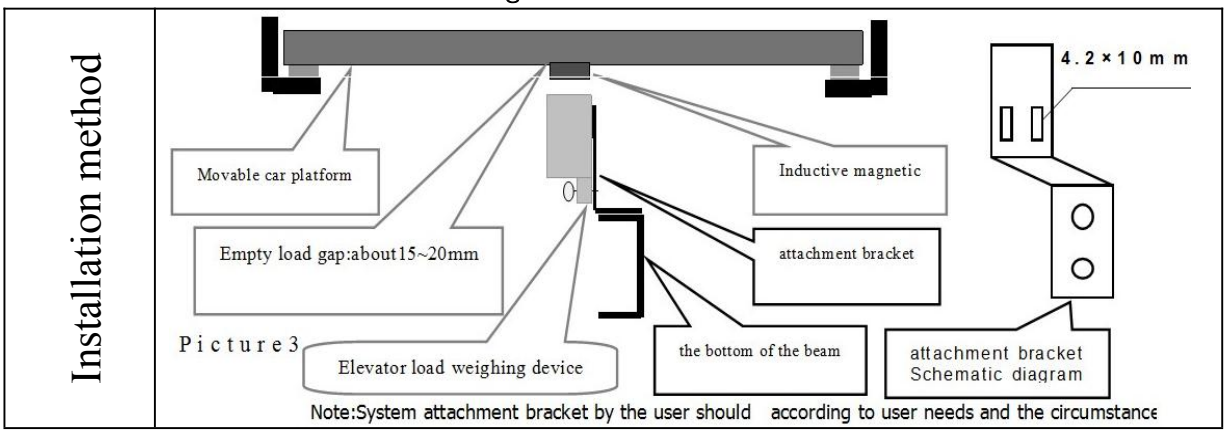
System Overview

一. Product appearance, internal structure and interface description:

	EWD-H-KJ3
appearance	
attention	System power supply：DC/AC24V(±10%) / 150mA Please not put the ①、⑤" of this device output port directly connected to external power supply,which may cause permanent damage shall not responsible for the company.
	1.J1～J3 inner Solid state relays, Max load capacity：DC/AC 32V/50mA. 2.Programmable "no load ~ over load"output signal,to participate in the elevator control logic



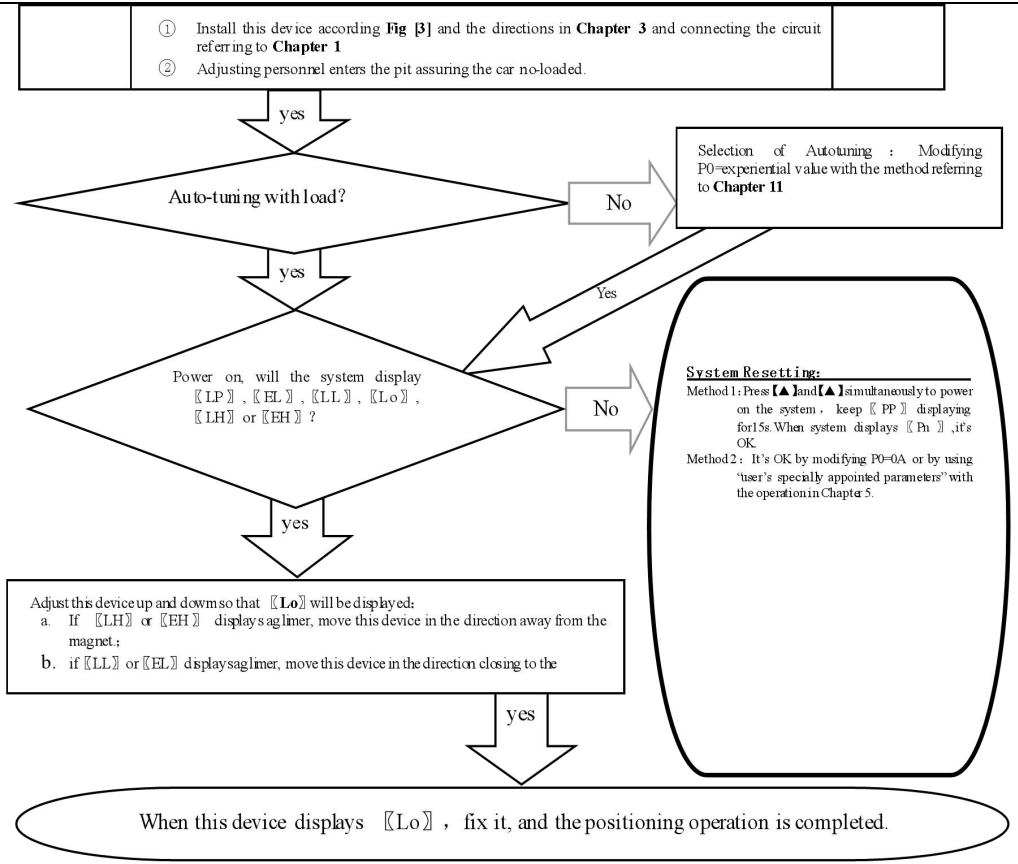
二. Dimension and installation diagram



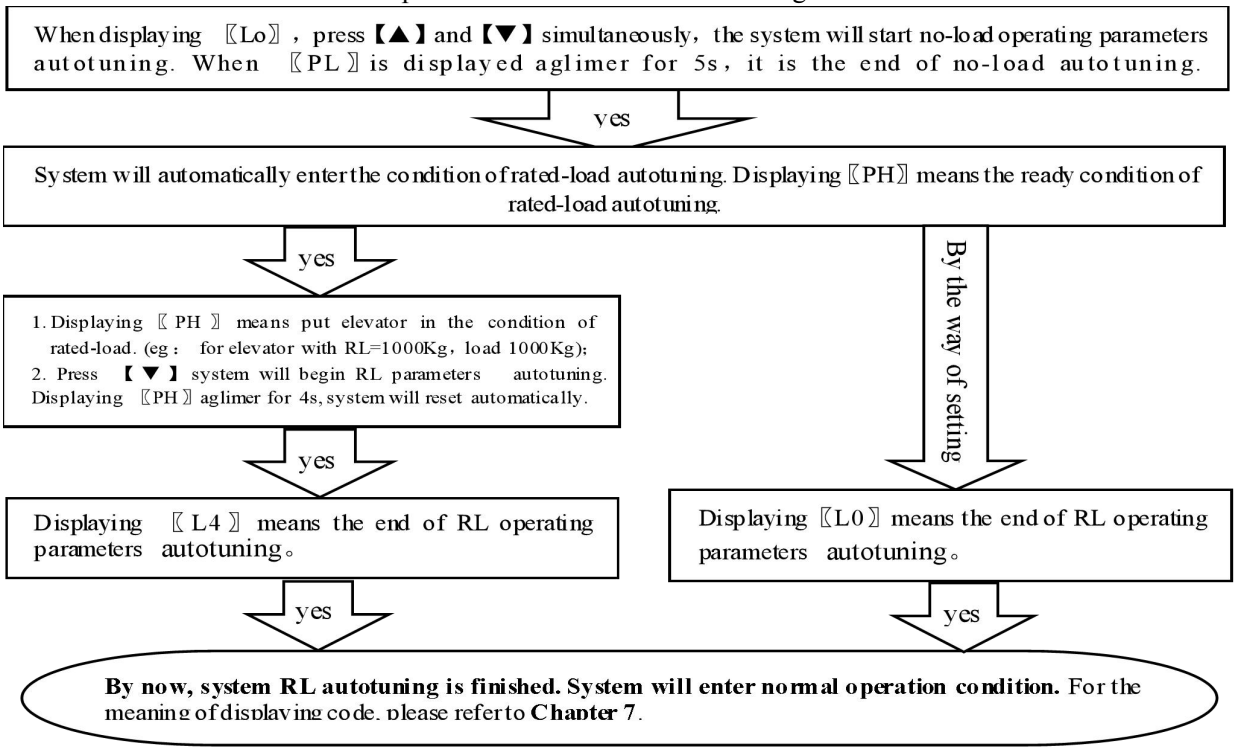
Installation instructions	Installation instructions 1. If possible, install the device near the center of the car or the original overload switch position of the elevator. The system should be installed on the load bearing beam of the elevator car. The induction magnet is adsorbed on the moving platform and the marking surface is facing the weighing point of the weighing device. ; 2. System bracket should be produced according to the specific circumstances of the elevator, but must be made of non-deformation of the material, the thickness of the best in more than 4mm or ribs to prevent swing; 3.The apparatus is adjusted so that the car magnet is aligned with the center point of its upper end face. At the same time must ensure that the device face and the magnet end face parallel to each other .Counterweight after use.as the follows photo show.

三. System debugging methods and instructions

1. System positioning operation：


① Install this device according **Fig [3]** and the directions in **Chapter 3** and connecting the circuit referring to **Chapter 1**
② Adjusting personnel enters the pit assuring the car no-loaded.
yes
Auto-tuning with load?
No
Selection of Autotuning : Modifying P0=experiential value with the method referring to **Chapter 11**
yes
Yes
Power on, will the system display 〖LP〗, 〖EL〗, 〖LL〗, 〖Lo〗, 〖LH〗 or 〖EH〗?
No
System Resetting:
Method 1: Press【▲】and【▲】simultaneously to power on the system, keep 〖PP〗 displaying for15s. When system displays 〖Pn〗,it's OK.
Method 2: It's OK by modifying P0=0A or by using "user's specially appointed parameters" with the operation in Chapter 5.
yes
Adjust this device up and down so that 〖**Lo**〗 will be displayed:
a. If 〖LH〗 or 〖EH〗 displays a glimer, move this device in the direction away from the magnet.;
b. if 〖LL〗 or 〖EL〗 displays a glimer, move this device in the direction closing to the
yes
When this device displays 〖Lo〗, fix it, and the positioning operation is completed.

2.No load and Rated Load Operation Parameters for Auto tuning:



3.System Adjustment under other conditions：

For the following reason，it is necessary to modify the operating parameters of this device.

①For elevator car decoration change，the dead weight of the moveable car platform changes；

②The car platform appears mechanical deformation；

③The temperature difference between winter and summer has an unneglecting effect on the elastic coefficient of car platform damping rubber；

④The car platform appears damping rubber appears aging or deforming；

⑤The elevator overruns at the top or at the bottom；

⑥The weighing device becomes slack at the fixing end.

4.Operation Parameters Adjustment and the Implication

0- System Operation Parameters Adjustment (Annotation：* represents for a hexadecimal value of "0～9,A～F".)

① Simultaneously press 【▲】and【▼】on system control keypad to power on ，this moment 〖PP〗 will be displayed aglimer, that means entering operation parameters modifying status.

② Release【▲】and【▼】buttons，system will display〖P*〗and〖**〗alternately. 〖P*〗is an indication of system operation parameters； 〖**〗is the interior data value of〖P*〗.

③ When displaying〖P*〗，press【▼】，indication of system operation increases；press【▲】，indication decreases.

④ When displaying〖**〗，press【▼】，data value increases；press【▲】，data value decreases.

⑤Release buttons，system displays operation indication and configuring data alternately.

⑤ To modify other configuring datum, repeat the operation in item 3, item 4, item 5.

⑦At the moment when system displays 〖P*〗，Simultaneously press【▲】and【▼】，system will save modified datum for future use. This moment, system displays〖Pn〗 for 1 second. System operation parameters modification of this time is completed.

Example：Modify parameter P2 to 16；

① Simultaneously press【▲】and【▼】on system control keypad to power on ，this moment〖PP〗will be displayed aglimer, that means entering modifying status.

②Release 【▲】and【▼】buttons，system will display〖P0〗and〖**〗aglimer

③When displaying〖P0〗，press【▼】to increasing it to〖P2〗；

④Release button【▼】, system alternately displays〖P2〗and〖**〗;

⑤When displaying〖**〗, press【▲】or【▼】to regulate its value as〖16〗;

⑥Release button, system alternately displays〖P2〗and〖16〗;

⑦At the moment when system displays〖P2〗, Simultaneously press 【 】and【 】, system will save modified datum for future use. This moment, system displays〖Pn〗for 1 second. System operation parameters modification is completed.

5、Implication of parameter P:

Directions of Parameter P0 [System Operation Mode]:

Setting	Explanation	Default Setting	Normal Value
00	Normal Operation	01	00 This value will be modified in the course of autotuning.
01	Sensor installing positioning, system no-load and rated-load autotuning operation.		
02	Specifying system no-load autotuning operation.		
03	Specifying system Rated-load autotuning operation.		
04	Select "20% rated load" autotuning operation, being convenient for users special adjustment.		
25～99 ×0.1mm	For elevator with known "no-load→rated-load" compressing moveable car platform damping rubber pad, it may be set manually. The system may be put into use after system installation positioning. (This adjustment is very convenient for elevator manufacturers. For more detail, refer to Chapter 10.)		

2.P1 Parameter Description: [Lock input signal status setting, relay output status setting]:

Setting	Explanation	Default Setting	User Setting
00、01 10、11	0-Cascade output way	**00** Cascade output way	The user does not need to modified

3..Directions of Parameter P2 [No-load parameter setting]

Setting	Explanation	Default Setting	User Setting
00～30	When car load≤ rated-load×P2%, output no-load signal.	05	

4.Directions of Parameter P3[light-load parameter setting]

Setting	Explanation	Default Setting	User Setting
P2+1～60	When car load≤ rated-load×P3%, output light-load signal.	20	

5.Directions of Parameter P4 [Semi-load parameter setting]

Setting	Explanation	Default Setting	User Setting
P3+1～90	When car load≤ rated-load×P4%，output semi-load signal.	70	

6.Directions of Parameter P5[Heavy-load parameter setting]：

Setting	Explanation	Default Setting	User Setting
P4+1～99	When car load≤ rated-load×P5%，output heavy-load signal.	80	

7.Directions of Parameter P6[over-load parameter setting]：

Setting	Explanation	Default Setting	User Setting
00～20	Overload triggering value> rated-load +(rated-load×P6)%	10	

8.Directions of Parameter P7 [Operation Status setting of Solid state relay "J1"]：

Setting	Explanation		Default Setting	User Setting
00～1F	Higher Bit	Lower Bit	01 (Light-load Dynamic Close)	
	When the status is active： 0—Contact Dyn Close 1—Contact Dyn Open	0- Select no-load operation 1- Select light-load operation 2- Select semi-load operation 3- Select heavy-load operation 4- Select rated-load operation F- Select over-load operation		
eg：「P7=02」represents J1 is the dynamic close output of semi-load signal				

9.Directions of ParameterP8 [Operation Status setting of Solid state relay "J2"]：

Setting	Explanation	Default Setting	User Setting
00～1F	The same as the above	04(Rated load dynamic close)	

10.Directions of Parameter P9 [Operation Status setting of Solid state relay "J3"]：

Setting	Explanation	Default Setting	User Setting
00～1F	The same as the above	1F(Over load dynamic open)	

11.Directions of Parameter D [[Displacement-expanding Setting]：

Setting	Explanation		Default etting	User Setting
	Higher Bit	Lower Bit	01	

01～03 11～13	0-load increasing, displacement closing. 1-loadincreasing, displacement apart.	1.Select sensor 0～9.9mm valid; 2.Select sensor 0～19.9mm valid; 3.Select sensor 0～29.9mm valid;	displacement closing , 10mm valid	

Notice:①Select indicated setting will lead to system abnormal operation.

②Even if auto-zeroing function is in use, auto tuning operation should be done again in the course of periodical maintenance.

Explanation of Displaying Code:

6、System Normal Operation Code: ("W" is the present effective load)

Display Code			Indication	
System displays 〖L*〗	L0	No-load car	Output No-load signal	No-load：00≤W≤Rated-load×P2%
	L1	Light-load car	Output Light-load signal	Light-load：No-load <W≤Rated-load×P3%
	L2	Semi-load car	Output Semi-load signal	Semi-load：Light-load <W≤Rated-load×P4%
	L3	Heavy-load car	OutputHeavy-load signal	Heavy-load：Semi-load <W≤Rated-load×P5%
	L4	Rated-load car	Output Rated-load signal	Rated-load：Heavy-load <W≤Rated-load + Rated-load×P6%
	LF	Over-load car	Output Over-load signal	Over-load：W> Rated-load
Please remember: Part Elevator Number:			Compression variable: mm	

7.Code for Other Operation and Failures

	Display Code	Indication		Solution
1	FY	System Startup		
2	Pc	System Resetting		
3	PP	Get into the status of operation parameters modification		
4	PL	Auto tuning No load parameters (Static Displaying represents preparative status，twinkling displaying for the end of testing)		
5	PH	Auto tuning Rated load parameters (Static Displaying represents preparative status，twinkling displaying for the end of testing)		
6	LL	Installation positioning	Too big Positioning	Move this device closing to the magnet
7	LH		Too small Positioning	Move this device away from the magnet

	Display Code	Indication	Solution
8	Lo		Accurately Position
9	LP		Interior Auto Correction
10	P*	System Configuration Indication	
11	Pn	Saved	
12	EE	Car platform deformation overflowing	Damping rubber is too soft,adjust PD

How to do?

8、Brief Analysis of Other Conditions:

①After installation of this weighing device, weighing signal changes in the course of operation?

The elevator load output value is not held after elevator starts, adjust the relative items of the inverter and controller.

②After long-term of operation, system no load zeroing point appears larger deviation?

May be caused by the reason described in section 3,Chapter 3. Set system Autotuning mode to calibrate again

③After the elevator weighing is changed from heavy load to light load, heavy load signal is still displayed?

The movement of the moveable car platform is blocked, it is not reset after pressing. Solute the relevant mechanic problems.

④System output signal doesn't change linearly along with the change of load?

Check the structure of the moveable car platform， pay more attention that there should only be one pair of damping rubber or spring moving relatively to the moveable car platform.

⑤During the system operation, analog output is abnormal or system resetting or speed-regulator cooperation is abnormal?

It may be caused by system power source series interference. Select another group of power to supply the system, or to provide an exterior power of AC/DC 24V/300mA to supply.

9.How to set an elevator with known "no-load→rated load" compression deformation?

For example：The max "no-load→rated load" compression deformation of this elevator is 5.8mm.

Operation

1.Modify "P0=58" and save it. Refer to chapter 5；

2.After system restarting, 〖LP〗is displayed. Wait until 〖LL〗, 〖Lo〗or 〖LH〗 is displayed；

3.When the car is empty， adjust system installation position to make it display 〖Lo〗， fasten it；

4.When〖Lo〗is displayed，press【▲】and【▼】simultaneously，system begins to autotune no-load operation parameters；

5.After 〖PL〗is display aglimer for 5 second, the whole process of autotuning is finished.

10. How to re-do the system "self-learning" operation?

Method 1: Press and hold the【▲】and【▼】buttons on the system panel at the same time, and the system will display 〖PP〗. After 15 seconds, the system displays 〖Pn〗. Then all working parameters are automatically returned to the factory. The default setting.

Method 2: Modify parameter P0 = 0A or "user-specified work code" to reset the system and return to the factory state; the operation method is described in "Chapter 5".

11. How to modify the output state after the self-learning system?

Respectively, modify the "P parameters" corresponding to the output control parameters; operation methods see "four, five" chapter。

12、How to adopt 20% rated load for rated load auto tune?

Modify P0=04. After〖Lo〗positioning and no-load〖PL〗auto tuning，in the period of system displaying〖PH〗，load 20% of the rated load，press【▼】，system displaying 〖L1〗means the end of adjustment. This is an auxiliary method when 100% auto tuning can be done.

13、The compression of car damping rubber exceeds the sensor inspection range?

Before auto tuning, be assure to select "PD"="02/03" and save it. Then, readjusting the installing position of the sensor is OK (See parameter PD for more details).

14、On adopting operation of "load increasing，displacement aloofing" method?

Before auto tuning, be assure to select "PD"= "1*" and save it. Then, readjusting the installing position of the sensor is OK.

System Characteristics

15、Working principle of "EWD-H-KJ3" elevator weighing device

With the continuous progress of elevator technology, elevator weighing device on its performance has reached a point where can not be ignored. Elevator on the weighing device of high precision, high reliability, multi-functional needs are imminent. In the sensor technology and the development of micro-computer today, the use of high-precision Hall sensors to detect the elevator car due to the load caused by the displacement changes, while the use of single-chip microcomputer to its scientific computing, the device to achieve the The work function of the elevator car payload weighing.

16、Main property

(1) Working in a contactless and inductive way. No mechanical movement. Solid-state relay outputs. Being directly installed in the original place of overloading switch. No necessity of changing the mechanism of elevator car.

(2) The whole system is designed in the waterproof structure with small overall size, easy installation and adjustment and simple structure.

(3) Wide induction range, high accuracy positioning, intelligent temperature compensation making the range of operating temperature wider.

(4) The inner core consists of Hall sensor of high accuracy and single-chip microprocessor of high efficiency. All parameters may be set on the field.

(5) Adopting strong inductive magnet, improving the anti-interference capability of the system to the utmost.

(6)Each set has passed strictly aging treatment to assure reliable operation；

(7)The system is based mathematical equations and scientific calculation, correcting inspection error automatically.；

(8)On-site adjustment is easy, either by autotuning or by manual displacement setting.

(9) The independent development of the programmable output signal control method can be used for all kinds of traction elevator with moveable car platform.

17、Technical specifications：

1.	Application		Being applicable to all moveable car platform elevators，with an auto inspection range of (2.00mm ≤car platform movement≤10.00mm)；manual setting displacement range 2.5～9.9mm (relate to parameter PD)	
2.	Sensitivity		Elevator rated load/200 (With the rated load of 1T, it is 5.0Kg)	
3.	System Error：		≤1.5%(5～40℃)	In the whole temperature range≤3.0%
4.	Non-Linearity：		≤1.0%	
5.	Output Mode：	Solid-state Relay	Programmable universal signal：	①3channel programmable output modes are：No load、Light load、Half load、Heavy load、Rated load 、Over load (customer may set the changing range freely) ②Each channel can be programmed as dynamic Close or Open contact. ③Contact Capacity：DC/AC 32V/50mA。
6.	Storage Temp：		-25～75℃	
7.	Ambient Temperature：		-20～55℃	
8.	Relative Humidity：		20%～99%RH	
9.	Reaction Time：		≤0.25 Second	
10.	Power Supply：		AC/DC 24(±10%)V / 150mA	
11.	Installation Place：		Moveable car platform of elevator	
12.	Overall Size：		45×45×90 mm3	

The intensity exceeding the limit parameters listed above may result in the abnormality or permanent damage to the system.

Promise

⑴If this system appears any quality problem of product itself in 1 year after delivery, it will be replaced freely（damage of the product seal will not be dealt with）。

⑵For any requirement of special functions, make it out by mail.

⑶Any system abnormality in adjustment or operation, please contact our company directly.

Others

1.Accessory　Instruction Manual　1 copy　Fixing Screw set　2 sets
Inductive magnet [20×20×4mm3]　1 piece

2.address book：

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