EWD-LG-SJ3 { -A -B -C -D

EWD-RLG-SJ3 { -A -B -D

User's Guide (V1.0)

XIAN EXCELLENT ELECTROMECHANICAL CO., LTD

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Caution: This system is applicable an elevator with **fixed car platform**. Before use, be sure to read the following sections carefully.

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

1、 Product Appearance and Type Nomination：

1) Sensor of EWD-GA/ GB/ GC/ GD

Sensor Appearance					
	Notes：	① For sensor in conjunction with EWD-GW1transducer, a cable of 1 meter long is supplied with it ② For directly connected sensor, default length of the cable			

			supplied with it is 8 meters		
Product Naming	**Ordering Type**	EWD-GA	EWD-GB	EWD-GC	EWD-GD
	Sensor Type	"Disc" type Load Sensor	Character "王"type Tension Sensor	"Convex" type Stress Sensor	Character "一"type Load Sensor
	Detailed Explanation	See Fig. [3A]	See Fig. [3B]	See Fig. [3C]	See Fig. [3D]

2) Controller of EWD-LG-SJ3

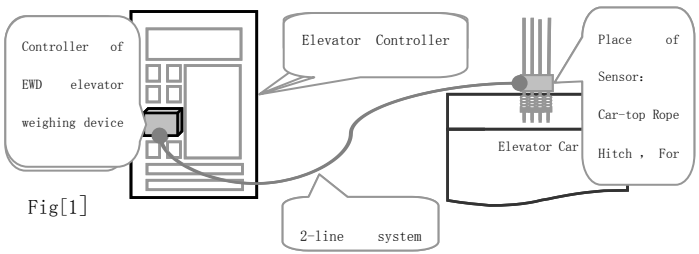
Install at the rope hitch of **car top**	**EWD-LG-SJ3**				
Application Range	Be applied to elevator of 1:1 roping drive with the rope hitch at the car top. The sensor uses 2 wires of the car traveling cable for serial communication with the controller.				
Controller Appearance	 See Fig.[2]for details		 When choosing controller of type EWD-LG-SJ3, it must be in conjunction with remote transducer of EWD-GW1		
Product	**Ordering Type**	**EWD-LG-SJ3A**	**EWD-LG-SJ3B**	**EWD-LG-SJ3C**	**EWD-LG-SJ3D**

Naming	Assorted Sensor	EWD-GA	EWD-GB	EWD-GC	EWD-GD

3) Controller of EWD-RLG-SJ3

Install at the rope hitch in **machine-room**	**EWD-RLG-SJ3**				
Application Range	Be applied to elevator of 2:1 roping drive with the rope hitch in machineroom. There is an 8-meter-long cable along with the sensor.				
Controller Appearance	 See Fig.[2]for details				
Product Naming	**Ordering Type**	**EWD-RLG-SJ3A**	**EWD-RLG-SJ3B**	**EWD-RLG-SJ3C**	**EWD-RLG-SJ3D**
	Assorted Sensor	EWD-GA	EWD-GB	EWD-GC	EWD-GD

2、 Installing Method and Working Principle of "EWD-LG-SJ3/RLG-SJ3"



Fig[1]

Take EWD-LG-SJ3 as example; system installing position; sensor EWD-RLG-SJ3 Installed at rope hitch in machineroom

With the constantly development of elevator technology, the impact of elevator weighing device on elevator performance can not be neglected. The requirement of elevator for weighing devices with high accuracy, high reliability and multi functions becomes extremely urgent. Presently, the progress of sensor technology and microcomputer is ceaseless. With the adoption of highly accurate intelligent "tension" or "load" and "stress" sensors, the electric signal produced by elevator car load changing is tested and inspected. System sensor installed at the traction rope hitch: Type "EWD-LG-SJ3"：With the adoption of serial communication technology, the signal can be transmitted remotely, highly accurately without loss.；Type "EWD-RLG-SJ3"： There is an 8-meter-long signal transmitting cable with the sensor. And the single-chip built-in the controller may do scientific calculations fulfilling the aim of weighing the effective load in elevator car.

3、 Illustration of the Appearance of Controller:

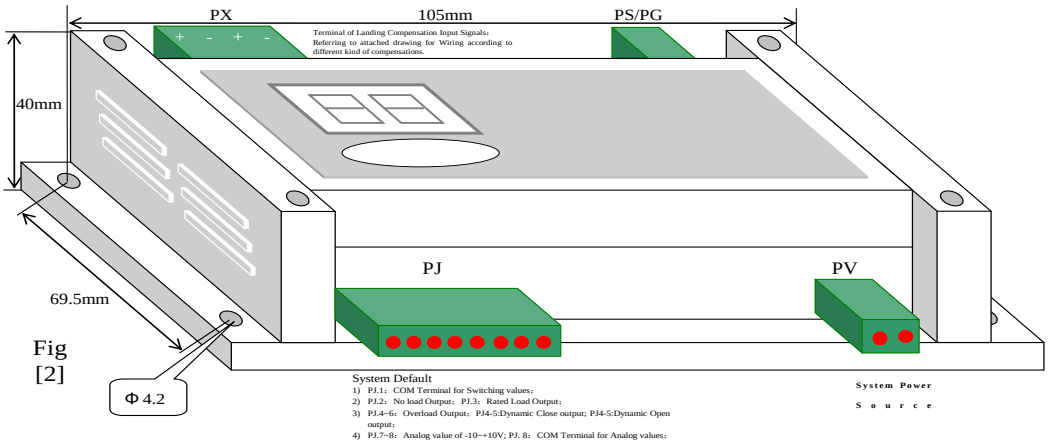


Fig [2]

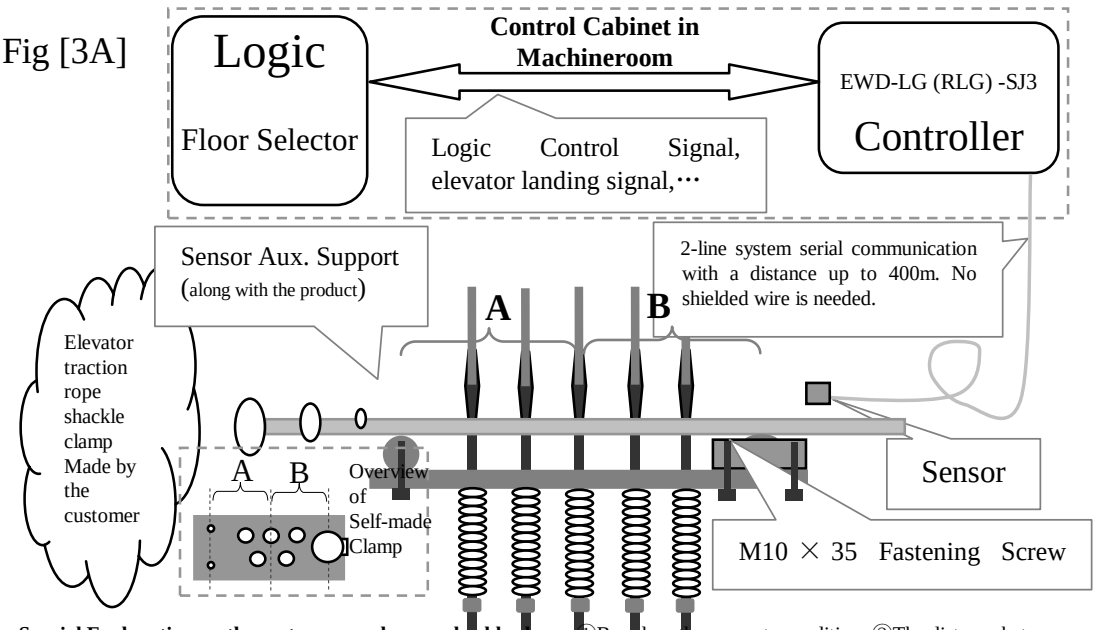
Note: ①Hereinafter, Pj1.1 means the 1st place of Pj1 wiring port, successively analogizing. Its arrangement in the control is from left to right. ②The size of the whole set is shown in section 13, chapter 19 in detail.③Terminal wiring is described in Chapter 5.

4、 Illustration of the Appearance of Sensor and Install Method: (Take EWD-LG-SJ3 as an example. And EWD-RLG-SJ3 sensor is installed in the same way)

A、Standard "Disc" type Intelligent loading Sensor

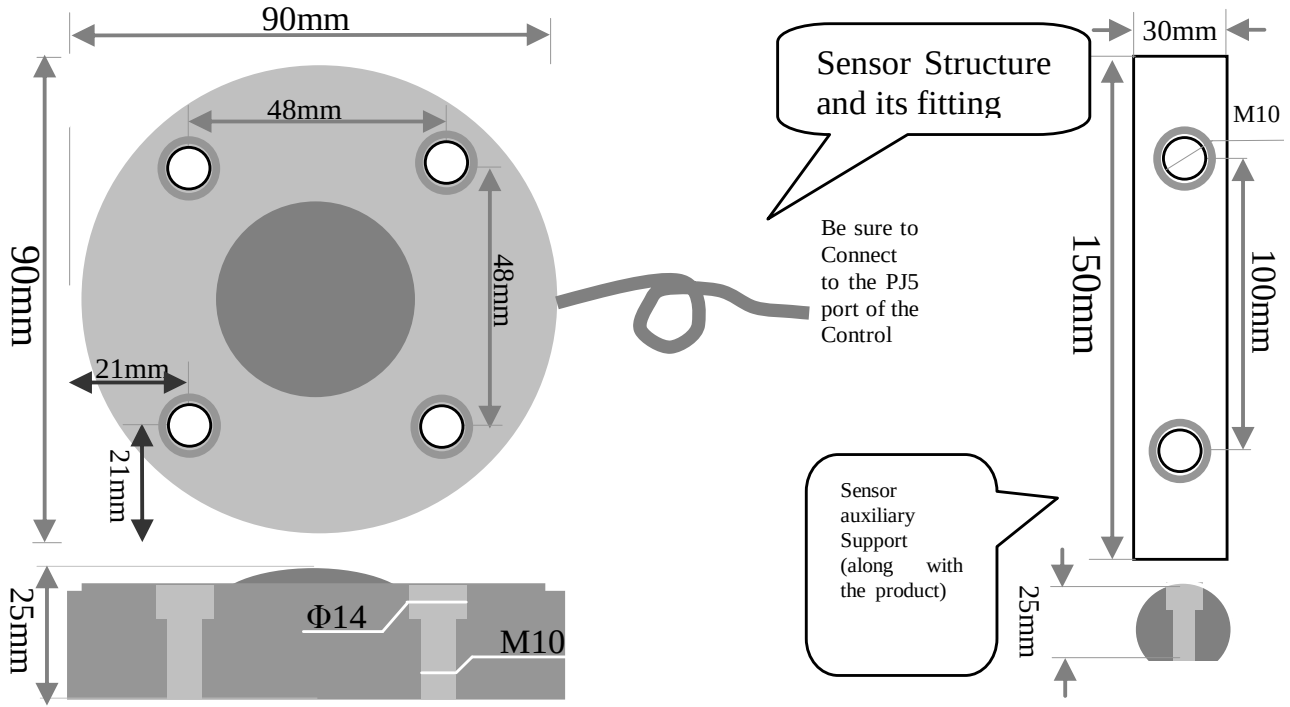
①Installing and fitting scheme: See Fig.[3A]

Fig [3A]

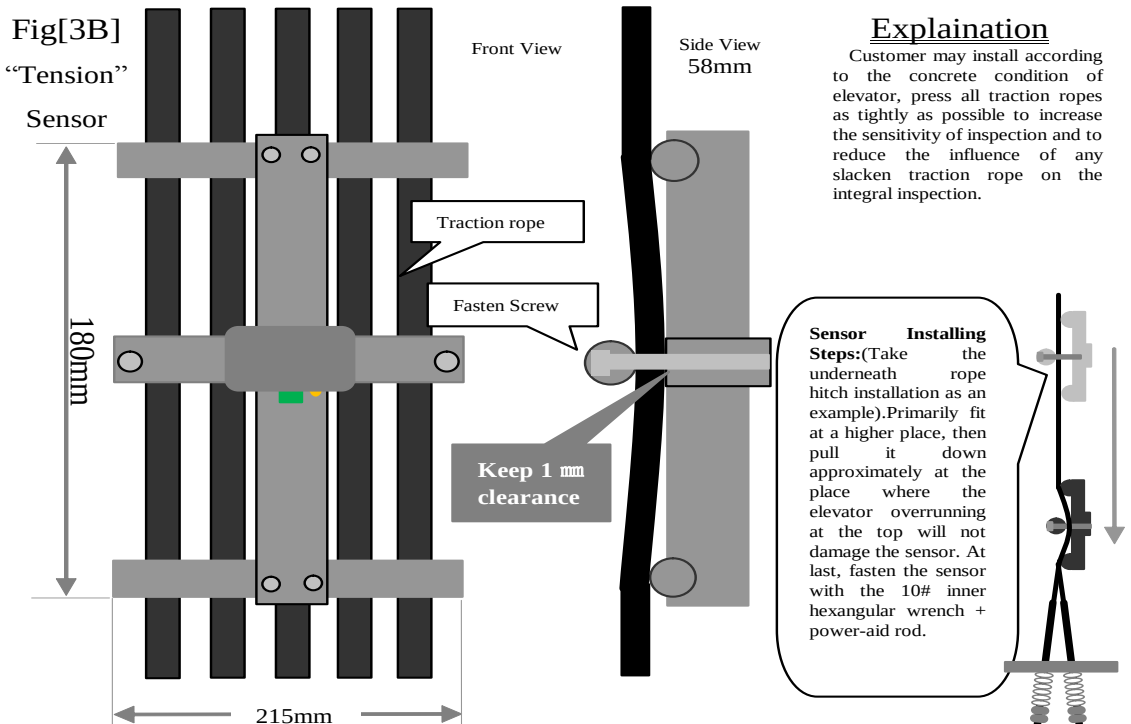


Special Explanation on the customer-made rope shackle clamp:①Based on the concrete condition;②The distance between Line "A" and "B" in the above figure should be divided equally referring to the center of the traction force;③Assure to fix the sensor and its auxiliary support well with the screw sets along with the system; ④The pull rod through hole should be larger 3~5mm than the original hole for the convenience of the movement of the pull rod.⑤The clamp thickness should not be less than 15mm.

②**Appearance and Structure of S**ensor：[EWD-GA sensor] See Fig[3A]



B*、*Standard Character "王" Type Intelligent Tension Sensor (Sensor of EWD-GB***)*** ***See Fig【3B】***

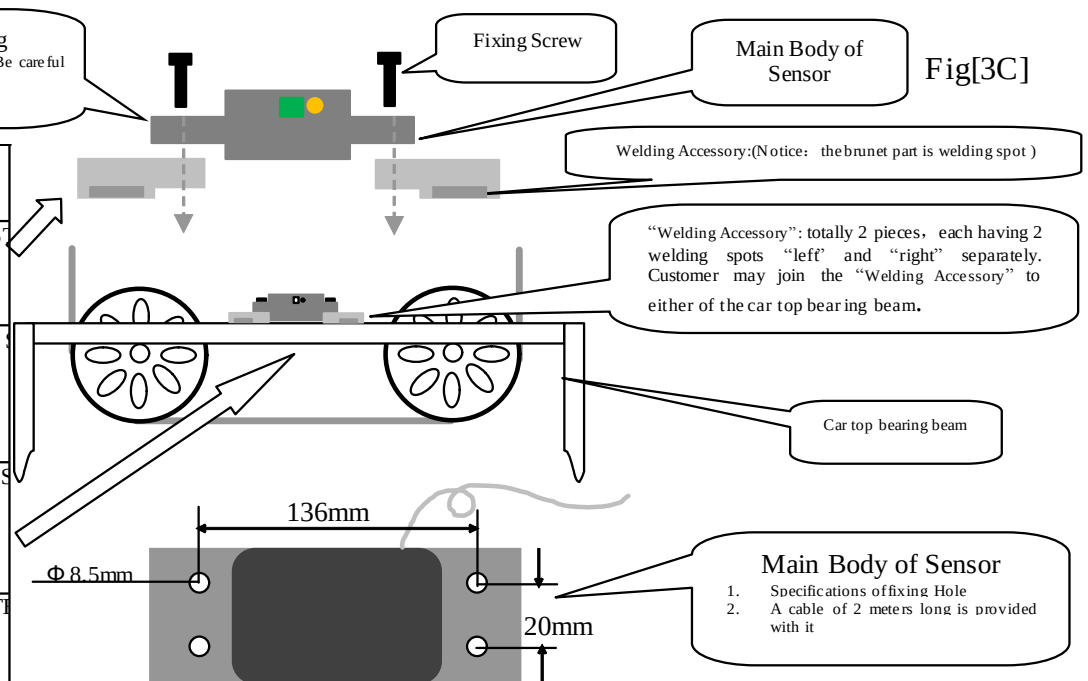


C*、*Standard Convex Type Intelligent Stress Sensor (Sensor of EWD-GC***) Just for*** **EWD-LG-SJ3**

See Fig【3C】

Scheme for Stress Sensor Fixing

Attention： A stress sensor is of high-precision. Be careful during fixing to avoid undesirable damage.



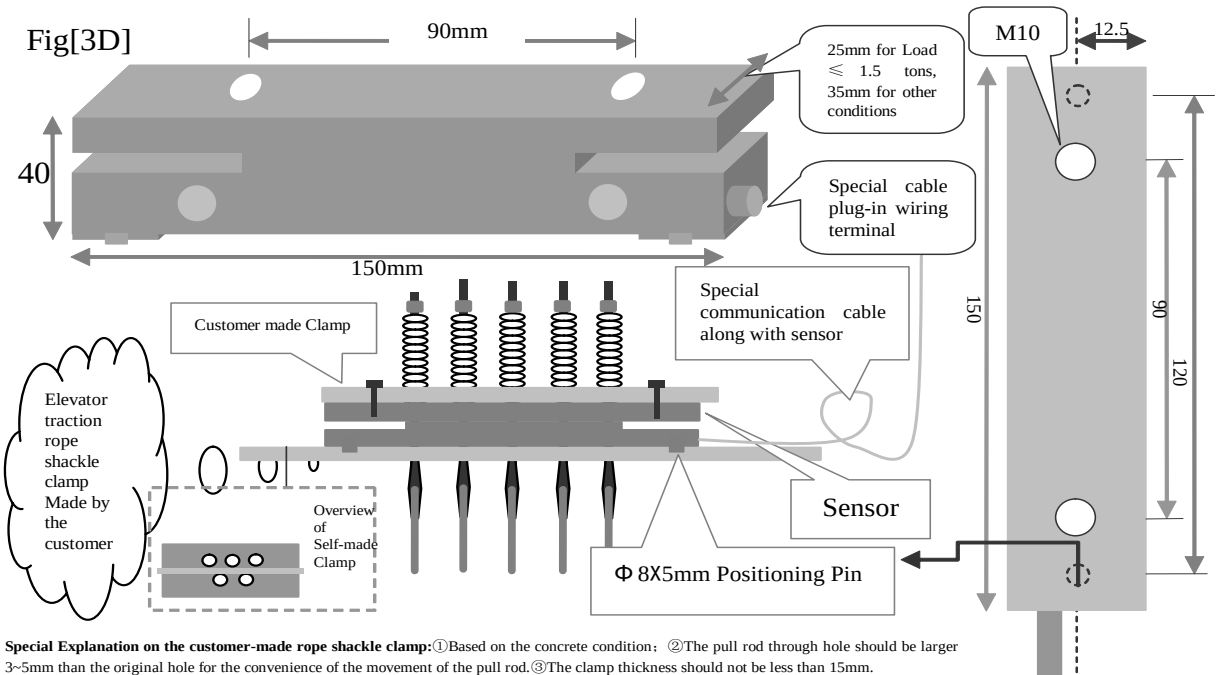
Fig[3C]

Steps of Fitting for "Stress" Sensor

Be assure to stop the empty car at the floor with the least of stress，normally the bottom floor.	ST
Use the "sensor main-body and welding attachments" supplied by our part to fit the welding positioning accessories referring to the right-side figure, be assure to fasten all the connecting screw sets.	
Use the welding machine to join the welding accessories to the middle part of the car top bearing beam in accordance with the right figure at the 4 welding spots firmly by spot welding.	
After natural cooling of the welding spots, wire and adjust the device. Power on it after confirming no error in wiring, the "state indicator" should be of some reaction.	STI

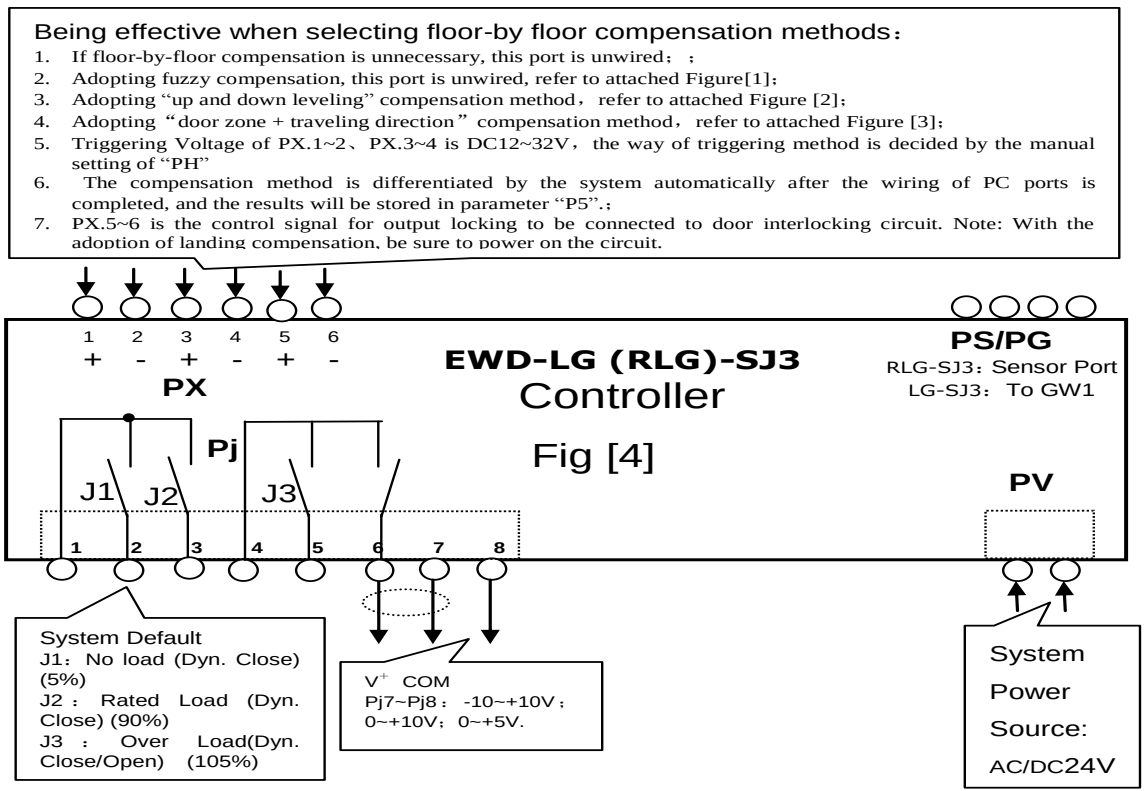
D、Standard Character "一" Type Intelligent Load Sensor (Sensor of* EWD-GD*) Just for

EWD-RLG-SJ3 ***See Fig【3D】***



Special Explanation on the customer-made rope shackle clamp:①Based on the concrete condition；②The pull rod through hole should be larger 3~5mm than the original hole for the convenience of the movement of the pull rod.③The clamp thickness should not be less than 15mm.

5、 Description of the System Controller Terminals：



Detailed Explanation of the Controller Terminals：

<table>
<tr><th colspan="3"></th><th>Function</th><th colspan="2">Explanation</th></tr>
<tr><td rowspan="7">PJ</td><td rowspan="6">Switching</td><td>.1</td><td>COM of J1~2 Relay</td><td>In coordination with Pj.2～4 to produce effective logic</td><td rowspan="6">1. Effect：Be programmed as"no load～overload"output signals to participate in elevator logic control

2. Max loading Capacity：DC/AC 48V/500mA</td></tr>
<tr><td>.2</td><td>J1 Relay Output Terminal</td><td>System Default"J1"：No load Output；</td></tr>
<tr><td>.3</td><td>J2 Relay Output Terminal</td><td>System Default "J2"：Rated load Output；</td></tr>
<tr><td>.4</td><td>COM of J3 Relay</td><td>In coordination with Pj.5～6 to produce effective logic</td></tr>
<tr><td>.5</td><td>J3 Relay Output Terminal</td><td>System Default "J3"：Overload Dyn Close Output；</td></tr>
<tr><td>.6</td><td>J3 Relay Output Terminal</td><td>System Default "J3"：Overload Dyn Open Output；</td></tr>
<tr><td rowspan="2">Analog</td><td>.7</td><td>Analog Voltage Output: 0～10V；-10～+10V；0～+5V</td><td colspan="2" rowspan="2">Being used for pre-torque compensation for driving system</td></tr>
<tr><td>.8</td><td>COM connected to analog common terminal of speed regulator</td></tr>
<tr><td colspan="2">PX 5[+]～6[-]</td><td colspan="3">Lock output signal control terminal. Be connected in system door lock signal circuit, pay attention to connecting polarity.</td></tr>
<tr><td colspan="2">PS/PG</td><td colspan="3">For EWD-LG-SJ3：To Connect PS to the communication terminal of GW1 transducer
For EWD-RLG-SJ3：To Connect PG to the sensor along with signal cable</td></tr>
<tr><td colspan="2">PV</td><td colspan="3">System Power Supplying Terminal：AC/DC24V / 200mA</td></tr>
<tr><td rowspan="3">PX</td><td></td><td>Parameter P5=2</td><td>Parameter P5=3</td><td>Parameter P5=4</td><td rowspan="3">1. No wiring: system unnecessary of landing compensation;
2. System may accurately control elevator floor-by-floor compensation to interpolate the dead weight floor error caused by cable, rope and</td></tr>
<tr><td>1[+]～2[-]</td><td>Down leveling signal (Up leveling Sensor)</td><td>Signal of Elevator entering leveling zone or door zone</td><td></td></tr>
<tr><td>3[+]～4[-]</td><td>Up leveling signal (Down leveling Sensor)</td><td>Elevator Up traveling Signal</td><td>Main floor signal</td></tr>
</table>

		compensation cable; 3.This terminal defaults positive skip of input signal being effective and the enabling method of PX3.1~2、PX3.3~4 depends on parameter "PD". 4.See attached figure for wiring.

①Absolutely don't connect the output terminals (except "PV") of this device to the external power source directly and the resulted permanent damage to the device is beyond our responsibility.

②Attention: As for the input signal of "PX" terminal，a requirement of polarity is needed, PX.1、3 and PM.1 are "+", and the corresponding circuit voltage should be "DC 12~32V".

Installation and Adjustment

6、 Schematic Diagram for System Construction and Installing Method:

① Schematic Diagram of the appearance of the whole set：Controller Section See Fig. [2]

② Sensor Section: "Disc" type See Fig. [3A]；Fig. [3B] for Character "王"type, Fig. [3C] for Convex type, Fig. [3D] for Character "一" type.

③ Schematic Diagram for "Disc" type load sensor installing method See Fig. [3A.1]；

④ Schematic Diagram for Character "王" type tension sensor installing method See Fig. [3B]；

1) Option of **EWD-LG-SJ3**: EWD-GB intelligent sensor and EWD-GW1 remote transducer;

2) Option of **EWD-RLG-SJ3**: EWD-GB sensor

⑤ Schematic Diagram for Convex type tension sensor installing method See Fig. [3C]；

1) Option of **EWD-LG-SJ3**: EWD-GC intelligent sensor and EWD-GW1 remote transducer;

2) Option of **EWD-RLG-SJ3**: Currently, no option.

⑥ Schematic Diagram for Character "一" type load sensor installing method See Fig. [3D]；

1) Option of **EWD-LG-SJ3**: EWD-GD intelligent sensor and EWD-GW1 remote transducer;

2) Option of **EWD-RLG-SJ3**: EWD-GD sensor

7、 Install Method of Sensor and Controller:

① Adjust traction ropes so that the pull of each rope keeps coincident.

② A: "Disc" type sensor is installed at the place of the elevator- car-side traction rope shackle according to Fig. [3A.1] and Fig. [3A.2] with customer-made shackle clamp plate.

B: Character "王" type tension sensor is installed at the place of the elevator- car-side traction rope shackle according to Fig. [3B] and refer to it for more details.

C: Convex type tension sensor is installed in the middle of the car-top bearing beam according to Fig. [3C] and refer to it for more details.

D: Character "一" type load sensor is installed at the place of the elevator- car-side traction rope shackle according to Fig. [3D] with customer-made shackle clamp plate.

③ Control Section should be installed in the control cabinet placed in machineroom，being away from equipments such as the transformer, speed regulator of elevator electric control system. Under any

condition, sensor and controller should be far away from heat source.

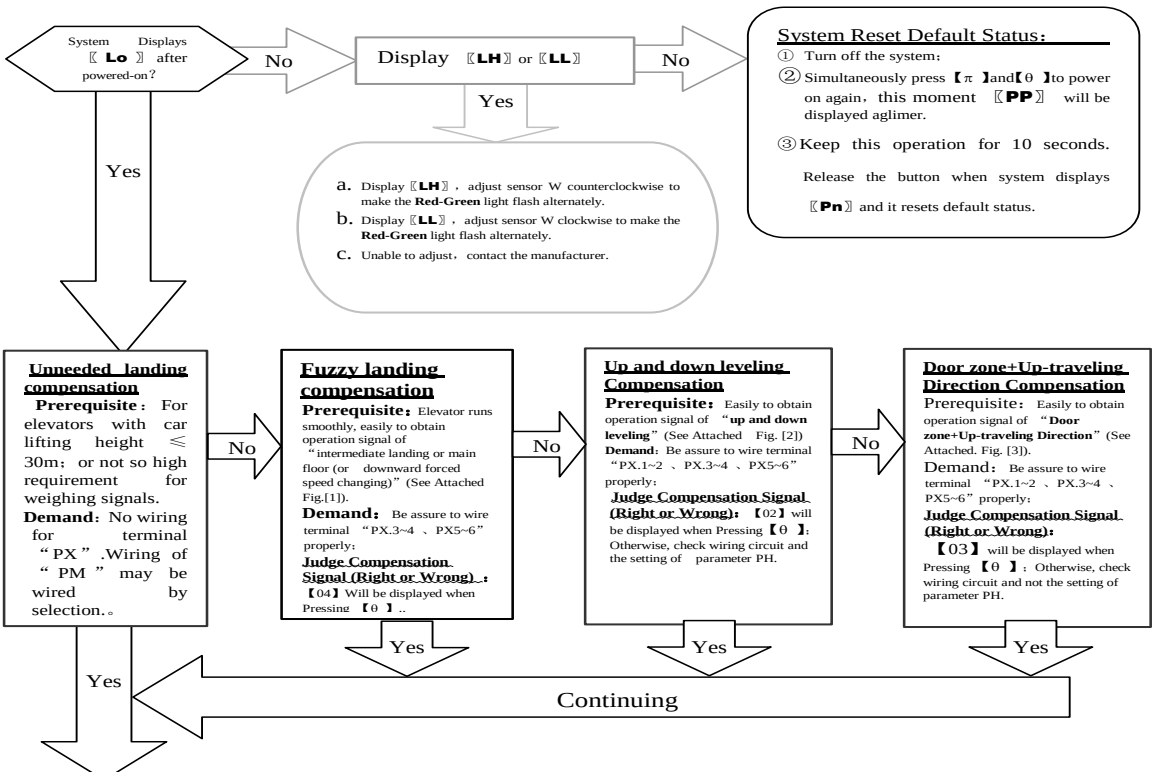
④ It would be better not to put the connecting cable between sensor and controller in the same wire duct with dynamic power of 110V or 220V.

⑤ Connect the sensor wiring terminal to PS terminal of the control, simultaneously, connect power line to PV according to system requirement. Pay attention to the voltage level.

⑥ When no error is inspected, power on the system and the corresponding operation patterns will be displayed on the control.

8、 Adjustment Method and Description of the System (Autotune Operation)

① Initialization： Selection of Compensation Method



② Lock the dead weight of elevator car:

Let personnel leave car and car top and stop elevator at the bottom floor leveling position. Then adjusting personnel enters machineroom. When〖Lo〗is displayed on the control, press key【π 】and【θ 】simultaneously. When system displays "Pn", test and inspection is completed ,and 〖PL〗和〖01〗will be displayed alternatively

Yes

Use 100% rated load autotuning method?

No

Press key【π 】;

Modifying parameter"P1": P1 = 02: using 20% rated load autotuning

No

P1 = 03~50: Setting 300～5000Kg autotuning for rated load autotuning. This parameter is just for D Character "—" type sensor.

Yes

Yes

③. No load Autotuning Operation Mode:

Yes

Use "No floor compensation or fuzzy compensation"?

No

Yes

In the period of 〖PL〗and〖01〗displaying alternately, press key【θ 】.

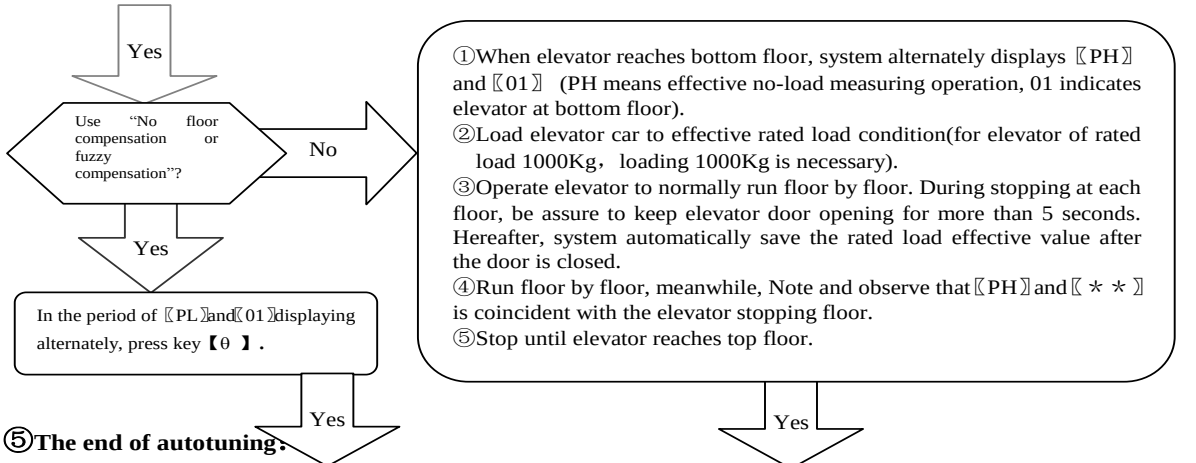
Yes

① Alternately displaying〖PL〗and〖01〗(PL means effective no-load measuring operation, 01 indicates elevator at bottom floor). After attendant enters elevator car, he must operate to normally run floor by floor. During stopping at each floor, be sure to keep elevator door opening for more than 5 seconds. Hereafter, system automatically save the no-load effective value after the door is closed. This moment, "01" will display aglimer for 1 second. Note: In the future operation, the attendant may not be changed ad arbitrium. After autotuning, this system will automatically eliminate the attendant's weight.
② When elevator enters the next upper floor, levels and opens door, the system must alternately display〖PL〗and〖02〗.
③ Note and observe that〖PL〗and〖＊＊〗is coincident with the elevator stopping floor (Example: 〖＊＊〗means elevator landing is between 01 and 60).
④ After elevator reaches the top floor, the system alternately displays 〖PL〗and〖top floor number〗.This moment, let elevator run to bottom floor again.『Now, system will automatically modify the value of "P2"』.

Yes

〖PL〗is displayed aglimer, system no-load autotuning is completed

④Rated Load Autotuning Operation Mode：



⑤The end of autotuning：

① The system resets automatically，this moment,〖FY〗→〖J2〗will be displayed. **By now，the whole autotuning course is finished.**
②In autotuning condition, if there is any operation failure or system abnormality,(displaying〖EF〗)，start the autotuning of this item from the very beginning once again.

⑥ System adjustment under other conditions：

For following reasons, the parameters of this system need re-modifying in the way described above.

1) Elevator car decoration changing causes its dead weight change.
2) Larger unbalance appears among traction ropes.
3) Sensor of weighing device becomes flexible.
4) Overrunning at the top or at the bottom occurs.

Operation Parameters Adjustment and the Implication

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

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

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

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

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

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

⑥To modify other configuring datum, repeat the operation in item 3, item 4, and item 5.

⑦At the moment when system displays 〖P*〗，Simultaneously press【π】and【θ】，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 PD to 03；(PX.1~2、PX.3~4 enabling for low voltage level compensation signal)

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

②Release【π】and【θ】buttons，system will display〖P0〗and〖**〗aglimer

③When displaying〖P0〗，press【θ】to increasing it to〖PD〗；

④Release button【θ】，system alternately displays〖PD〗and〖**〗.

⑤When displaying〖**〗，press【π】or【θ】to regulate its value as〖03〗.

⑥Release button，system alternately displays〖PD〗and〖03〗.

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

10、Implication of parameter P：

Normally，it is unnecessary to modify parameter after "P0". System may automatically modify them in the course of Autotuning.

① Directions of Parameter **P0** [System Operation Mode]：

Setting	Explanation	Default Setting	Normal Value
00	Normal Operation (Automatically modify by system after autotune.)	01 (Sensor Positioning)	00 System Auto Modifying
01	Sensor positioning, system autotuning		
09	Options for dealing with abnormality when Selecting"王"type intelligent sensor.		
0A	Forcibly set system settings as default values		

② Directions of Parameter **P1** [System Rated Load Setting Mode]：

Setting	Explanation	Default Setting	Normal Value
01/02或 05～55 ×100Kg	01— Select"100% Rated load, floor by floor" Autotune 02— Select"20% Rated load, floor by floor" Autotune； **—Select rated load setting mode(Not Recommended)Example： "10"means rated load of 1000Kg. There is a certain error in this method. ***Note：This mode is just for*** *type "D" sensor.*	01 (Rated load Autotuning)	

③ Directions of Parameter **P2** [The Highest Elevator Landing Setting Mode](Automatically modify them in the course of Autotuning by system)：

Setting	Explanation	Default Setting	Normal Value
01～32	Setting elevator landings：Selection of 01 means ceasing floor compensation function.	99 (landings)	System automatically modifies them in the course of Autotuning.

	Input signal of PX is ineffective this time.		

④Directions of Parameter **P3** [Setting Elevator Shutdown at Main Floor]:

Setting	Explanation		Default Setting	Normal Value
01～19	Higher Bits	Lower Bits	01(landing) Effective when switched on, and with the basement floor is main floor.	System auto modification in fuzzy compensation autotuning
	0—"PX.5~6" effective for Low Voltage Level; 1—"PX.5~6" effective for High Voltage Level;	Setting elevator main floor. Example: Selecting 2 means there is a basement floor for this elevator.		
	Example: Selecting 12 means"PX5~6" effective for Low Voltage Level and there is a basement floor for this elevator.			

⑤ Directions of Parameter **P4** [Time Parameter for Floor-by-floor Compensation]:

Setting	Explanation		Default Setting	Normal Value
00～99	Higher Bits	Lower Bits	42 Anti-interference protection time of each floor is 2.0 seconds; Control Factor of fuzzy compensation is 2.	
	Anti-interference protection time of each floor : 0~9×0.5 Second;	Control Factor of fuzzy compensation: 0~3		
	0-Not Enabling protection time			

⑥ Directions of Parameter **P5** [Selection of Floor compensation input signal function] (Automatically modify in the period of Autotuning by system):

Setting	Explanation					Default Setting	Normal Value
	00	**01**	**02**	**03**	**04**	00 (Auto Measuring)	Auto modified by system in the period
	Allow auto deciding compensation method	Disable	up/down leveling step counting control	Door zone + running direction Control	Fuzzy compensation		

00～03	**Notes**：1. See Section 1, Chapter 8 and attached drawings for more details； 2. Elevator of serial communication control may use "03" or "04' operation method. Running direction Signal may be parallel connected to the forward rotation command signal of the SPECIFIED inverter.		of 〖Lo〗displaying.

⑦ Directions of Parameter **P6** **[Logic condition Setting Relay"J1", "J2", "J3"]**：

Setting	**Explanation**					**Default Setting**	**Normal Value**
	Higher Bits	Lower Bits					
00～17	0--- Selecting 0~10V 1--- Selecting 10~0V 2--- Selecting -10~10V 3--- Selecting +10~-10V 4--- Selecting 0~-+5V	Contact Status	**J3**	**J2**	**J1**	20 (Relay Dynamic Close output，analog output of 0～10V is effective)	
		0	Dynamic Close	Dynamic Close	Dynamic Close		
		1	Dynamic Close	Dynamic Close	Dynamic Open		
		2	Dynamic Close	Dynamic Open	Dynamic Close		
		3	Dynamic Close	Dynamic Open	Dynamic Open		
		4	Dynamic Open	Dynamic Close	Dynamic Close		
		5	Dynamic Open	Dynamic Close	Dynamic Open		
		6	Dynamic Open	Dynamic Open	Dynamic Close		
		7	Dynamic Open	Dynamic Open	Dynamic Open		

⑧ Directions of Parameter **P7** [Setting Relay"**J1**"Operation Range]：

Setting	**Explanation**	**Default Setting**	**Normal Value**
00～99 A0~A9 b0~b9	When Load≥ Rated load×P7%，"J1"signal is output. **00~99**：Actuating for 0~99% rated load **A0~A9**：Actuating for 100~109% rated load **b0~b9**：Actuating for 110~119% rated load **C0~C9**：Actuating for 120~129% rated load	05 Setting J1: actuating for 05% Rated Load	

C0~C9 d0~d9 E0~E9 F0~F9	d0**~d9**：Actuating for 130~139% rated load E0**~E9:** Actuating for 140~149% rated load **F0~F9:** Actuating for 150~159% rated load		
	Example: P7=80：For effective load of 1T，system actuates at 800Kg. P7=A5：For effective load of 1T，system actuates at1050Kg. P7=C5：For effective load of 1T，system actuates at 1250Kg.		

⑨ Directions of Parameter **P8** [Setting Relay"**J2**"Operation Range]：

Setting	Explanation	Default Setting	Normal Value
The same as P7	The same as P7: When load≥Rated Load×P8％，output "J2"signal	A0 Setting"J2", system actuates at 100% rated load	

⑩ Directions of Parameter **P9** [Setting Relay"**J3**"Operation Range]：

Setting	Explanation	Default Setting	Normal Value
The same as P7	The same as P7: When load≥Rated Load×P9％，output "J3"signal	A5 Setting"J3", system actuates at 105% rated load	

⑪ Directions of Parameter **PA** [No-Load Auto Zeroing Time Interval]：

Setting	Explanation	Default Setting	Normal Value
00～96 (Hours)	When it reaches the set time，system will begin the operation of no load zeroing automatically. 01—— System disables the function of no load auto zeroing. 12～96—After system powered on (for 12～96 hours)，it begins the operation of inspecting load detaining time, a part of no load zeroing operation.	00(Disable)	

⑫ Directions of Parameter **PB** [Detaining Time of No-Load Auto Zeroing]:

Setting	Explanation	Default Setting	Normal Value
10～90 (Minutes)	After auto zeroing time is reached, system load doesn't change in this period and system will allow the beginning of No-Load Auto Zeroing operation.	30(Minutes)	

⑬ Directions of Parameter **PC** [No load Auto Zeroing Error Range]:

Setting	Explanation	Default Setting	Normal Value
03～20 (%)	When conditions of both (7) and (8) being satisfied and the ratio of present load to the absolute value of original no load is larger than this setting, system begins No load Auto Zeroing operation immediately.	05% (|No load Error| larger than 5%, System)	

⑭ Directions of Parameter **PD** [Characteristics of Compensation Terminals]:

Setting		Explanation		Default Setting	Normal Value
00~03		PX.1~2	PX.3~4	00 PX.1~2、PX.3~4 Effective for High Voltage Level	
	00	Effective for High Voltage Level	Effective for High Voltage Level		
	01	Effective for Low Voltage Level	Effective for High Voltage Level		
	02	Effective for High Voltage Level	Effective for Low Voltage Level		
	03	Effective for Low Voltage Level	Effective for Low Voltage Level		

⑮ Directions of Parameter **PE** [Selection of Sensor Parameters]:

Setting	Explanation					Default Setting	Normal Value
80～90	D7～D4	D3	D2	D1	D0	84 Standard Sensor, 2 gain-Levels for selection	
		Sensor Gain Adjustment 0 ～ 3 gain-Levels for selection			0-Standard Sensor 1-Modification of "Convex" type stress sensor picking-up abnormality.		
	Recommendation: Normally, users don't need to adjust this parameter. Any dissidence, contact with						

	the manufacturer directly.

Attentions: ① When selecting not indicated settings, system will not normally operate.

② No load auto zeroing parameters PA, PB and PC should be used cautiously because of the cause variety of elevator no load point drifting. It is recommended for the user to allow or forbid this function according the concrete conditions.

③ Even if No load auto zeroing operation enabled，in the course of elevator periodical maintenance，autotuning operation of this system should be redone without exception.

Explanation of Displaying Code:

11、 System Normal Operation Code:

〖J0〗	〖J1〗	〖J2〗	〖J3〗
No Relay Output	Relay**J1** Output	Relay**J2** Output	Relay**J2** Output
	Default 5% of Rated Load	Default 90% of Rated Load	Default 105% of Rated Load

1. Displaying "HJ※※※※"when pressing【π】button indicates present car effective load. For instance, displaying"HJ0520 "indicates the load of 0520kg.
2. Displaying ".※. ※." when pressing【θ】button or in the course of landing changing indicates present system compensating landing. Adjusting Personnel may judge whether system compensating landing tracing is right or not by its numerical value. Note: This option is just for floor-by floor compensation method.
3. Displaying "0.0."in fuzzy compensation indicates compensation is effective. Displaying "0.1."indicates elevator entering modifying zone.

12、 Code for Other Operation and Failures

	Display Code	Indication	Solution
1	FY	System Startup	

	Display Code	Indication		Solution
2	PC	Sensor Resetting		
3	PP	Get into the status of operation parameters modification		
4	PL	Autotuning No load parameters	(**Still Displaying** indicates preparation status，**aglimmer displaying** indicates the end of inspection)	
5	PH	Autotuning Rated load parameters		
6	LL	Installation and positioning	Too big Positioning	Sensor having no load
7	LH		Too small Positioning	Sensor overload
8	Lo		Accurately Position	
9	LP		Interior Auto Correction	
10	LY		Forcibly skip sensor interior auto correction	
11	P*	System Configuration Indication		
12	Pn	Saved		
13	EA	Saving Failure		Modifying operation parameters again
14	EJ	Without this system setting		Check system settings
15	EH	Applied Overflowing Pressure		Sensor pressure may beyond its withstanding range
16	EL	Applied Insufficient Pressure		Sensor being not pressed
17	EE	No landing of this code		Make certain PC signals abnormality or no load autotuning normal or not
18	EF	Memorizing abnormally		Repeat this operation.
19	ES	Communication Failure		Carefully check wiring between sensor and control.

How to do?

13、Brief Analysis of Other Conditions：

⑴Bad system Operation Stability with the main indication of large output fluctuation in the condition of fixed load

and elevator motionless?

Check if PV power supply source fulfils system requirements?

⑵After long-term of operation, system no load zeroing point appears larger deviation?

May be caused by the reason described in section 8 , chapter 8. Set system Autotuning mode to calibrate again, or startup parameter"PA≠0" to realize the function of system no load auto zeroing.

⑶System displaying failure code 〖EE〗 ?

Incorrect Input signal of terminal PX on the control or unreasonably setting.

⑷When selecting floor indication step counting control method, floor-by-floor compensation consistency is bad?

Whether up or down landing signals or leveling signal is normally wiring, Setting of parameter P5 is reasonable?

⑸Traveling Up and down with the same load and stopping at the same floor, but the weighing result is different?

①Lift rope pull is not symmetrical, adjust please.

②Elevator guide shoes are too tightened, running friction is large. It is recommended to adjust or modify relevant mechanical part to make it move flexible, then operate the system to autotune again.

⑹System output signal doesn't change linearly along with load?

Maybe system sensor is damaged.

⑺How to descry present effective load of elevator car?

*①In the period of system normal operation, press button【π】.This moment, system displays〖HJ〗→〖**〗→〖**〗 .For example : displaying 〖HJ〗→〖09〗→〖50〗 indicates a car with rated load of 1000 Kg presently bearing an effective load of 950Kg.*

②If elevator effective load is not 1000 Kg, it may be decided after system autotuning operation is finished by modifying parameter"P1".

③ Because of various impacts from outer environment, displayed data may fluctuate in a small scope.

⑻When elevator is motionless, weighing signal is normal. But in the course of door opening, it is abnormal?

Elevator door operation system causes relative car weight offset. It may be controlled by adopting door opening/closing relay output signals+ door lock signal jointly participating system Pj4 locking.

⑼How to determine car dead weight(This operation is effective for type A and D sensor and "EWD-LG-SJ3#"type)?

a. *After modified parameter"P0=11"is saved，this moment, system displays〖HP〗→〖**〗→〖**〗 ; For example：displaying〖HP〗→〖15〗→〖10〗 means car dead weight of 1510Kg.*

b. *Because of various impacts from outer environment，displayed data may fluctuate in a small scope. Users may adopt algorithm of average value of several times to deal with inspection results. Meanwhile, inspection accuracy may be influenced by self-made traction rope clamp and traction ropes tension equality.*

c. *Press【π】or【θ】ad arbitrium, system may reset to original setting.*

⑽During system operation, analog output is abnormal, repeatedly resetting or abnormal coordination with speed regulator?

May be caused by crossing and interfering system power source. Select another set of power source to supply power to system，or equip AC/DC 24V/300mA *exterior power source to supply power.*

14、How to Repeat doing Autotune operation for system?

Method 1：Simultaneously press【π】and【θ】on system control panel to power on. This moment, system aglimmer displays〖PP〗and 〖P-〗.Keep 10 seconds，system will display〖Pn〗.On that occasion， all operation parameters reset to default settings.

Method 2：Modifying parameter P0=0A will reset system immediately to default status. But for users with specified code, it is necessary to modify parameter P0 as appointed code. Detailed operation is described in chapter 9.

15、How to adopt 20% rated load for rated load autotune?

After system displaying 〖Lo〗, modify parameter"P1=02".Do no load autotuning operation as described in chapter 6. In the period of displaying〖PH〗, load elevator car with a weight equal to 20% of rated load to do rated load autotuning operation. When operation is finished,〖L1〗is displayed.

16、How to do "Weight Setting" autotune for EWD-GA type sensor? (Just limited to EWD-GD. Affected by mechanical system, having certain error)

After system displaying〖Lo〗, modify parameter"P1=elevator effective load"(For 1ton, input10; 3 tons, input 30). Do no load autotuning operation as described in chapter 5. When operation is finished, 〖J0〗is displayed.

17、How to get the version code of the product?

After power off, press 【θ】to supply power. System displays〖1.0〗indicating the corresponding **User's Guide** of this product being Version"V1.0".

System Features

18、Main Characteristic:

(1) Selecting super thin "Disc" type intelligent load sensor, it is capable of directly inspecting elevator car load change unnecessary to change the pull rod of traction rope shackle;

(2) Weighing range is wide (effective load of 500Kg～5500 Kg), high-accuracy position, intelligent temperature compensation.

(3) Electric property complies with the requirements of "International Electro-technical Commission（IEC）"Standard.

⑷ Inner core consists of highly accurate load sensor and high performance single-chip micro-computer. All operation parameters can be set on field.

⑸ Auto on-site measuring of various compensation methods, boosting requirement of high accuracy weighing signal of elevator system.

⑹ System may do scientific calculation according to mathematical equations with the function of no-load auto zeroing, automatically modifying measuring error.

⑺ Directly displaying present effective load. Some types may directly measure dead weight of elevator car for the benefit of users.

⑻ Field adjustment may select 20% or 100% rate load autotuning method or load setting method, being easily adjusted and operated.

⑼ Independent development of the method of ***Programmable Output Signal Control*** is suitable for all the requirement of traction elevators with various kinds of fixed car platform.

⑽ Having the function of operation parameters auto modification, auto accommodation to multi methods of intelligent floor compensation function, being applicable to traction elevators of less than 30 landings.

⑾ Distinctive design structure of sensor+ controller, only 2 connecting wires between sensor and controller making wiring simply.

⑿ The whole shoot starts from users' point of view, easy installation and adjustment, decreasing users' additional cost in use, high ratio of performance to price.

19、Technical Specifications:

1.	Application	Being applicable to all traction elevators fixed car platform (less than 60 landings) with the load of 500 kg～5000 kg .
2.	Floor	Auto accommodating to the following compensation methods: ①Up and Down leveling; ②Up

	Compensation：	command + door zone; ③Fuzzy and intelligent.		
3.	Sensitivity	Elevator Rated Capacity/200 (Example： The rated capacity is 1000 kg, and the sensitivity is 5 kg) [This data may be affected by elevator mechanical performance.]		
4.	System Error	≤0.5％(5～40℃)		
5.	Non-Linearity	≤0.5％		
6.	Compensation	The method of circuit parallel connection is applicable to the signal source system of DC12~32V.Also, the interior fault of this system doesn't affect the original operation mode of elevator.		
7.	Output Mode	Relay	Programmable universal signal	①3-channel programmable output modes are: No load, light load, semi full load, heavy load, rated load, and overload (customer may set the changing range freely). ②Each channel can be programmed as dynamic **Close** or **Open** contact. ③Contact Capacity: DC/AC 48V/100mA
			Analogue quantity	Overall Compensation Range 0～10V, -10V～+10V, 0V～+5V
8.	Ambient Temperature			Temperature： -20～55℃
9.	Relative Humidity			20%～90％RH
10.	Reaction Time	≤0.5Second，The communication distance between the intelligent and the control is 0~400m.		
11.	Power Supply：	AC/DC24(±10%)V / 200mA		
12.	Installation Place	Sensor Section：At the place of traction rope shackle Controller Section：Control Cabinet in machineroom. See the figure 3 for installing dimension.		
13.	Overall Size：	Sensor Section：See the figure [3]；Controller Section：115×90×40 mm^3		

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

Promise

(1)If 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）。

(2)For any requirement of special functions, make it out by mail.

(3)Any system abnormality in adjustment or operation, please contact our company directly.

Others:

1.**Packing List**:

Type A: Intelligent "Disc" type load sensor 1Set

Sensor Auxiliary Support 1

M10×35mm Fastening Screw sets 6 sets

Type B: Intelligent Character "王" tension sensor 1set

Type C: Intelligent stress sensor 1set

Type D: Intelligent Character "—"load sensor 1 set

M10×35mm Fastening Screw sets 2 sets

EWD-LG-SJ3/EWD-RLG-SJ3 controller 1

Φ4×40mm *Fastening Screw sets* 4sets

EWD-GW1:Remote tranducer（Just for EWD-LG-SJ3） 1set

M4×20mm Fastening Screw *2 sets*

User's Guide 1 copy

2.**Address book**: :

Xi'AN EXCELLENT ELECTROMECHANICAL CO.,LTD

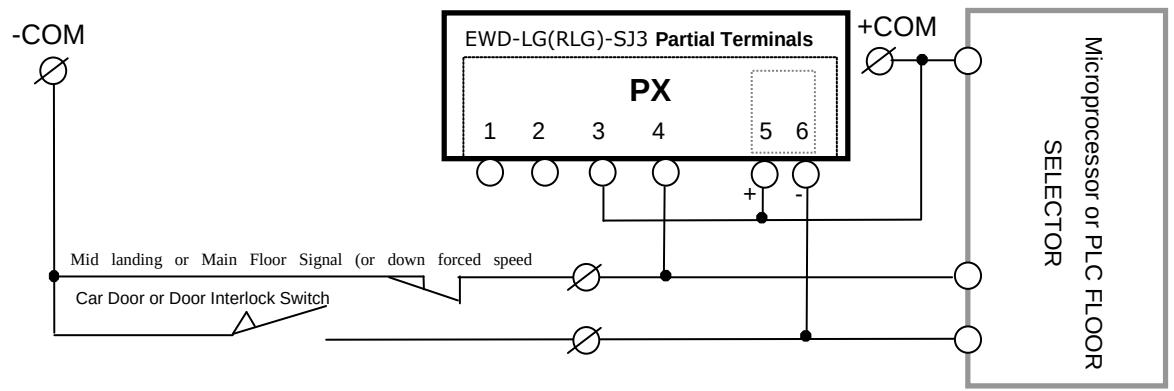
☎ : (029)88416613，18092639750

: 7D，Block A, Olympic Building, 14th Chang An North Road, Xi'an, Shaanxi,China

◀◀ : (029)86698830

✉ : 710068

Att. Fig [1]：Wiring Method of Terminal PX in the mode of parameter "P5=4" (Auto accommodating fuzzy floor compensation)



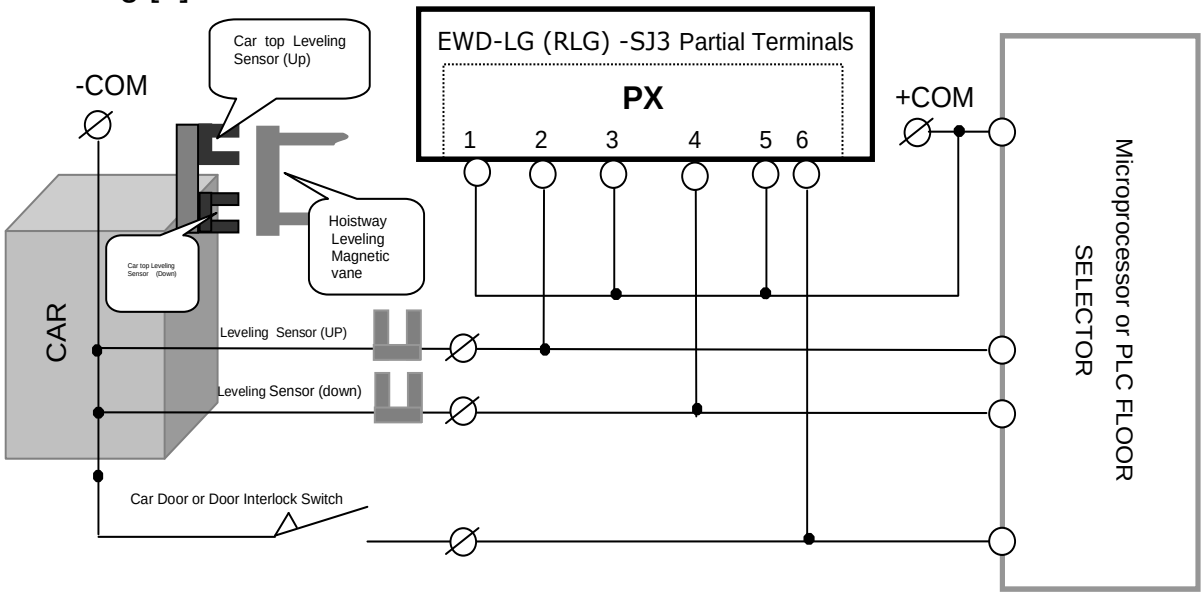
Recommended Application Range of this mode：All elevators with better mechanical installation characteristic.

Notes：1. Directly parallel connect PX.3~4 and PX.5~6 to corresponding electric circuit. If user selects "mid landing" position signal, more accurate compensation effect may be received.

2. PX.3~4 must be connected to corresponding signal circuit. In fuzzy compensation autotuning, system auto modifies higher bits setting of parameter P3 to determine the enabling method of this signal(System default is that in the period elevator stops at main floor,"main floor position signal switch" is in closed condition.).

3. Voltage of terminal COM should be in the range of "DC12~32V".

Att. Fig [2]: Wiring Method of Terminal PX in the mode of parameter "P5=2" (Leveling Signal Control)



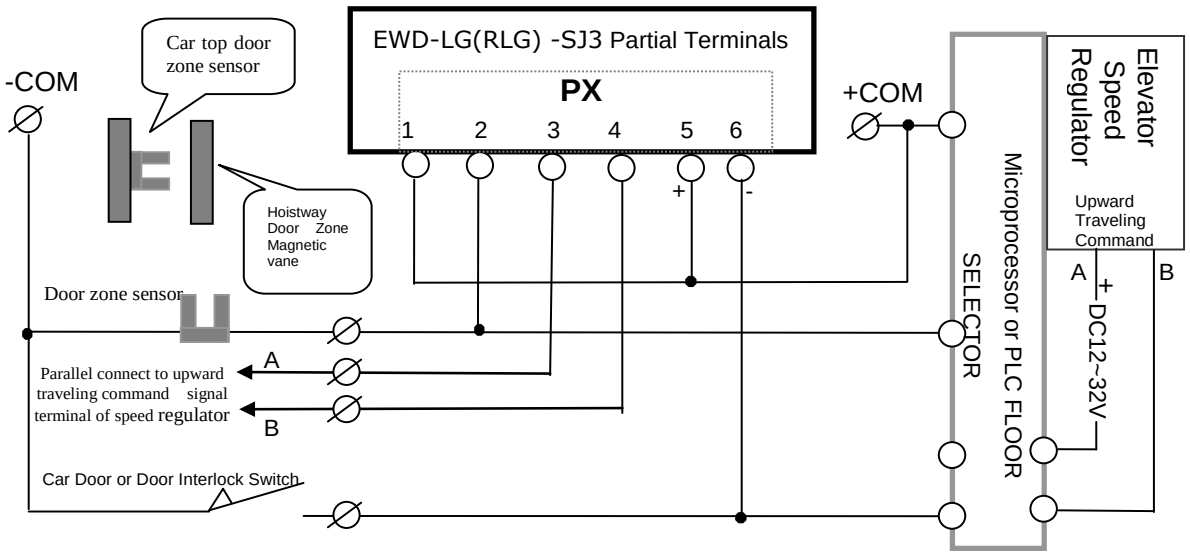
Recommended Application Range of this mode: Elevator having "up leveling" and "down leveling" input signals or allowing to add leveling device in hoistway;

Notes: 1.Directly parallel connect PX.1~2, PX.3~4 and PX.5~6to corresponding electric circuit;

2.PX.1~2 and PX.3~4must be connected to corresponding leveling signal circuit. User may select Close Enabling or Open Enabling according to concrete conditions. Please notice manual setting parameter PJ(system default is that in the period elevator leveling, "leveling signal switch" is in Closed condition.).

3.Voltage of terminal COM should be in the range of "DC12~32V".

Att. Fig [3]: Wiring Method of Terminal PX in the mode of parameter "P5=3" (Door Zone+ Running Direction Control)



Recommended Application Range of this mode: Elevator having "Door zone sensor" and "Upward running command" signals.

Notes:
1. Directly parallel connect PX.1~2, PX.3~4 and PX.5~6 to corresponding electric circuit. Meanwhile, pay attention to the" upward running " signal picking-up points "**A**" and "**B**".
2. PX.1~2 must be connected to door zone signal circuit. (system default is that in the period elevator leveling, "door zone signal switch" is in Closed condition.), PX.3~4 must be connected to upward traveling command signal circuit. (system default is that in the period of upward traveling, circuit "PX.3~4" exists an operation voltage of "DC12~32V"). User may select Close enabling or Open enabling according to concrete condition. Pay attention to manual setting of parameter PJ.
3. Voltage of terminal COM should be in the range of "DC12~32V"