EWD-L-BMSJ4

Villa Elevator User's Guide

(V2.2)

Xi'an Excellent Electromechnical Co.,Ltd

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Note: This system is applicable to all traction drive or reel drive villa elevator, please read the following sections carefully before use.

Notice: In any case, we are only responsible for the quality of the products under warranty.

Statement: Due to technological progress, the company reserves the right to change the product; For technical specifications, refer to

the manual delivered with the product.

System Overview

一. “EWD-L-BMSJ4”The main features of the weighing device:

1. The normal work of the product, the direct display of the car internal payload, self-learning process is simple.
2. Intelligent programming and control process, according to different customer needs, the controller output of the 4-way switch signal in any one of the signal corresponding to the percentage of load and dynamic / dynamic output adjustment, and the output simulation The amount of the way to modify.
3. Intelligent sensor equipment: the use of high-precision load intelligent sensor, direct detection of car load changes;
4. Wide measurement range (payload can be manually set according to demand), high positioning accuracy, intelligent temperature compensation.
5. Electrical performance in line with the "International Electrotechnical Commission (IEC)" standard requirements;
6. The core uses high precision load cell and high performance single chip microcomputer. Can set all the working parameters.
7. Unique programmable output signal control mode, suitable for a variety of activities of the car to mention the elevator weighing signal on the demand.
8. With the working parameters of artificial fine-tuning correction ability, the elevator can be modified after the artificial correction, so as to achieve the purpose of accurate measurement.
9. Unique sensor + controller design structure, wiring is simple.
10. Everything from the user point of view, easy to install, easy to debug, reduce the use of additional costs, performance and high cost.

二. “EWD-L-BMSJ4”working principle：

With the continuous progress of elevator technology, elevator weighing device on its performance has been

to the point where it can not be ignored. Elevator on the weighing device of high precision, high reliability, multi-functional needs are imminent. In the sensor technology and micro-computer continues to develop today, the use of high-precision rubber sensor to detect the elevator car due to load changes caused by electrical signals. High precision rubber sensor: the use of serial communication technology for its long-distance high-precision non-destructive transmission; sensor comes with 8 ~ 10m signal transmission cable; at the same time using the microcontroller microcontroller to its scientific computing, the final precision Directly in the controller digital display shows the car inside the payload, to achieve the elevator car payload weighing work function.

三. Controller and load sensor Appearance ：

1. Elevator load weighting device“EWD-L-BMSJ4”Controller

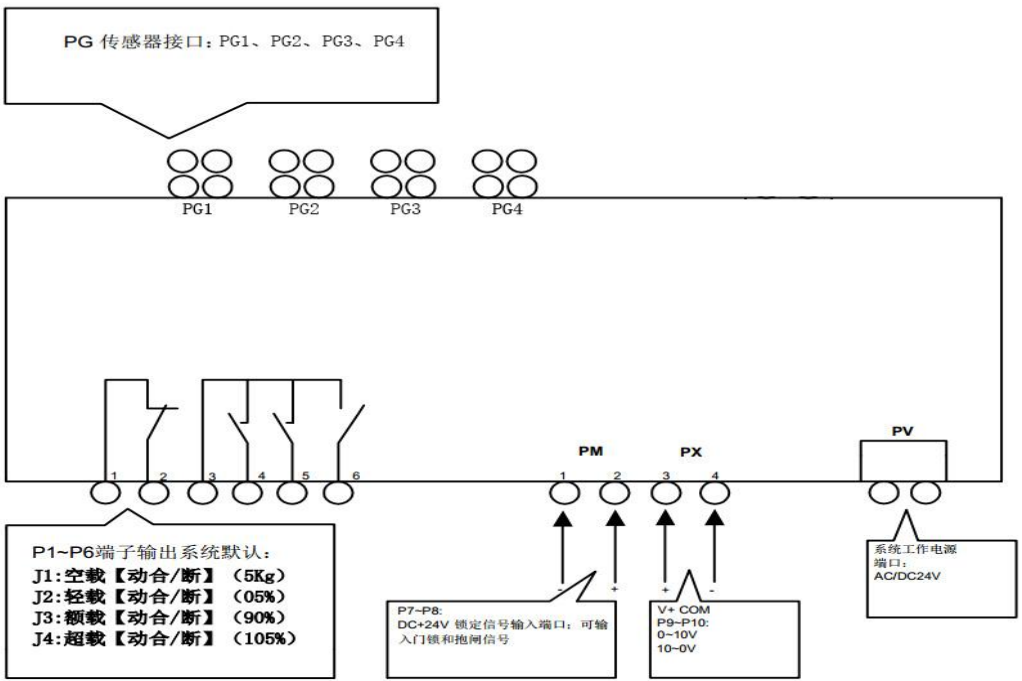
Model	**EWD-L-BMSJ4**
Elevator load weighting device“EWD-L-BMSJ4” Controller	

2. Sensor selection and installation:

Load sensor				
Model	XCL-Y/3411	XCL-YH/5018	XCL-Y/5222	XCL-ZL/W
Dimensions	see attachment	see attachment	see attachment	see attachment
Load sensor				
Model	XCL-T/A (20)	XCL-T/B (20)	XCL-ZL/P2	XCL-ZL/P3
Dimensions	see attachment	see attachment	see attachment	see attachment

四. Controller interface diagram and description：

1. Controller interface diagram：



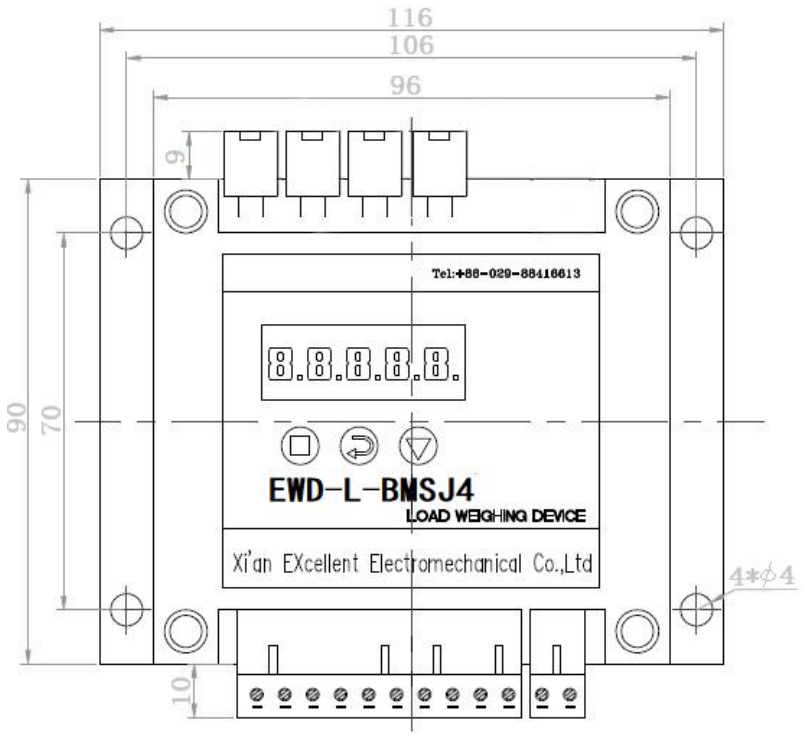
2.Controller port details：

			Function	Explanation	
PJ	Switching	1	J1Relay COM port	With the P2 to produce effective logic	1. Function：Be programmed as“J1～J4”(No load - over load)output signals to participate in elevator logic control 2.Max loading Capacity：DC/AC 48V/500mA
		2	J1 Relay Output	System default“J1”:5Kg No load Dynamic open output；	
		3	J2、J3、J4 Relay com port	With P4.P5.P6，to produce effective logic	
		4	J2 Relay Output	system default“J2”：Light load Dyn. Close output	
		5	J3 Relay Output	system default“J3”：Related load Dyn close output；	
		6	J4 Relay Output	system default“J4”：Overload Dyn,open output；	
PM	Lock	1	Lock signal COM prot	Note the voltage difference and the connection polarity when connecting	
		2	DC+24V lock signal，Can access the door lock signal and brake signal		
PX	Analog	3	0～10V;10～0V;Analog voltage output	Used for pre-torque compensation of the drive system	
		4	COMConnect the governor to the analog common		
PV	Power supply		System power supply port：AC/DC 24V / 200mA		
PG	Sensor connection port		PG1 PG2 PG3 PG4PG5PG6	EWD-L-BMSJ4 controller Connect to PG1-PG4 ports based on the number of sensors.	

①It is absolutely impossible to connect the output port other than the "PV" device directly to the external power supply, which may cause permanent damage

(Note：❽PX❾and❽PM❾Ports have polarity requirements and voltage level requirements)

五. Size of Controller：



Precautions for controller and sensor installation:

1. The controller part should be installed in the control box on the top of the car, and it is best not to be close to the transformer, governor and other equipment of the elevator electric control system.In any case, the sensor and controller should be installed away from the heat source;

2.4 sensors or 6 sensors should be installed on the bottom of the car and connected to the controller. It is better not to be in the same wiring groove with power sources such as 110V and 220V.

3. Connect the sensor connection port to the PG port of the controller, and connect PV to the power cord according to system requirements.

After making sure that the system is energized, the controller should display the corresponding working mode

4.After making sure that the system is energized, the controller should display the corresponding working mode

六. Button Function and Instruction Parameter Code Meaning description：

Note：（1）.Press the button, the meaning is to press the button to release.

(2) Hold down the button, meaning that the button is pressed for a long time as required.

1. Button Meaning and Function Description：

No.	Button icon	Function	Explanation

1	【■】	Set and confirm Button（SET）	Set a parameter and confirm the internal data function
2	【⮌】	Switch / cursor shift Button(SHIFT)	Used to switch the digital display digit
3	【▼】	Data increase Button（ADD）	Change the internal value of the parameter

2.Button to use method description：

⑴Set and confirm button【■】Instructions：

When power is displayed, press it【■】，Enter the parameter setting status，by【⮌】 and 【▼】button Enter the setting parameter，Can be set accordingly。Finish setting ， press【■】button check，Save the parameters。

⑵Switch / cursor shift buttons【⮌】Instructions：

In the parameter setting state，press once【⮌】，The cursor moves one by one ， to the last one，Press the toggle / cursor shift button【⮌】And cycle back to the first place.

⑶Data increase button【▼】Instructions：

In the parameter setting state，press once【▼】，Add one to the cursor bit data, add the maximum value of the set data and then cycle back to the minimum value of the data.

3.With the decimal point of the parameters of the process of adjusting the use of key examples:

After powering on the product, press 【■】 button to enter the instruction setting state. When "00000" is displayed, press 【➲】button to move the flashing cursor to the last digital tube. Press 【▼】 key to adjust the digital display to "00001", press【■】button to enter the command parameter setting state, digital display "dd - c", press 【■】 buttons to enter this Parameter modification mode, display "00001" means that the decimal point is 1 bit. Press【➲】and【▼】to change the digital tube display to "00002", press【■】key to confirm this parameter is modified, the digital tube decimal point will move one by one. (Note: other instruction item parameters can be modified and confirmed in accordance with this method.)

3.Instruction Parameter Code Meaning Description：

No	Instruction parameter code	Function code	Code default data	Function and explanation
1	**00001**	**dd--c**	**00001**	Display the decimal point position setting, the factory default for the 1-bit display "00001", adjustable 4 decimal point adjustment
2	**00002**	**Lc--01**	**1000.0**	The amount of load range set, according to the different capacity of the elevator directly to the manual set to the load range can be。
3	**00003**	**Bj--1**	**0005.0**	J1 for the no-load signal output corresponding to the car load, the default setting elevator car load 5.0kg:
		Bj--2	**0005.0**	J2 for the light load signal output corresponding percentage, the default

				setting for the amount of 5% output action,
		BJ--3	**0090.0**	J3 for the full load signal output corresponding percentage, the default setting for the amount of 90%,
		BJ--4	**0105.0**	J4 for the overload signal output corresponding percentage, the default setting for the amount of 105%,
4	**00004**	**BJ-HL**	**BJ1-L**	J1 relay dynamic output, dynamic (L) / moving (H) adjustable
			BJ2-H	J2 relay moving output, moving off (L) / moving together(H)adjustable
			BJ3-H	J3 relay moving output, dynamic (L) / moving (H) adjustable
			BJ4-L	J4 relay dynamic output, dynamic (L) / moving (H) adjustable
5	**00005**	**Da--c**	**Da-00**	Analog output mode corresponds to P9 ~ P10 terminal port output 0 ~ 10V,
			Da-01	Analog output mode corresponds to P9 ~ P10 terminal output 10 ~ 0V,
6	**00006**	**HELP-**	**---01**	Restore factory settings

7	**00007**	**B2--c**	**B2-01**	Multiplier parameter setting, multiplied by the amount of 1 times, "01 ~ 99" value corresponding to the amount of 1 to 99 times the amount of adjustable; ★ multiplier parameters to be modified after the completion of self-learning after the completion of confirmation
8	**00008**	**L-H-2**	**LL--1**	The controller learns the no load parameter;
			HH--1	The controller self - learns the load parameter
9	**00009**	**I-h-2**	**1000.0**	Fine-tuning the coefficient setting to fine-tune the learning results

七、System debugging methods and instructions (self-learning)：

（Here to lift the amount of 1000Kg as an example to describe the load range setting and "no load and the amount of two self-learning" process）

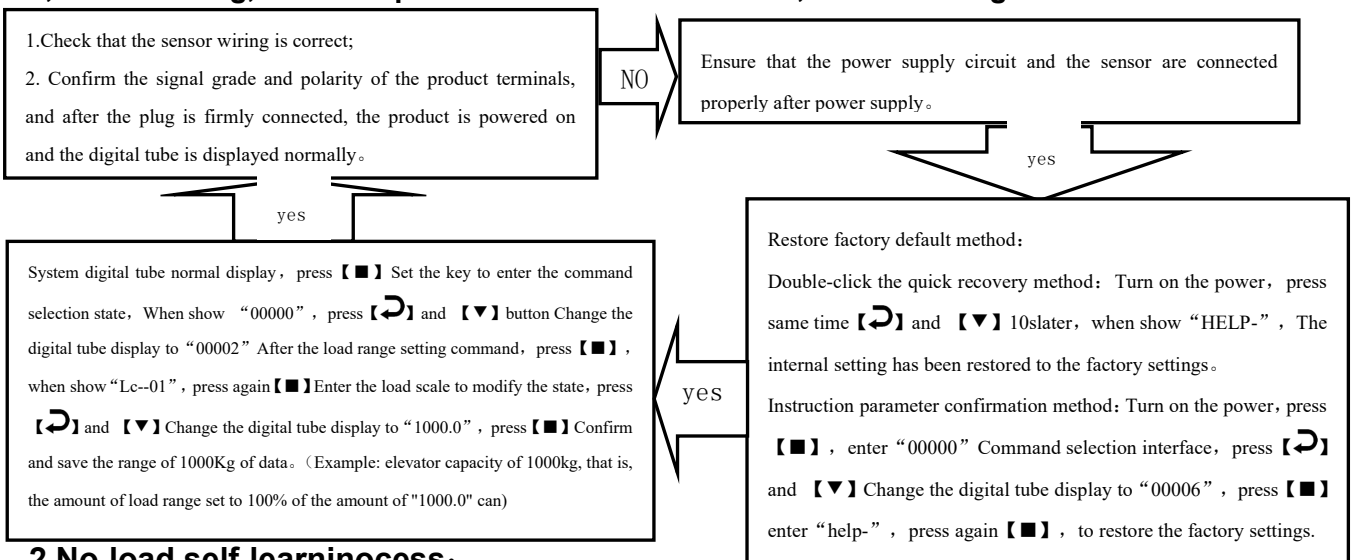
Before the system debugging：

①：Products must be in strict accordance with the "EWD-L-MSJ4 user manual" for self-learning, otherwise it will cause the product can not be used and product measurement accuracy is not accurate.

②：Before commissioning, it is necessary to specify the weight of the car. The weight of the truck can not

exceed the total range of the sensor. Otherwise, the sensor will be damaged and the product will not be used.

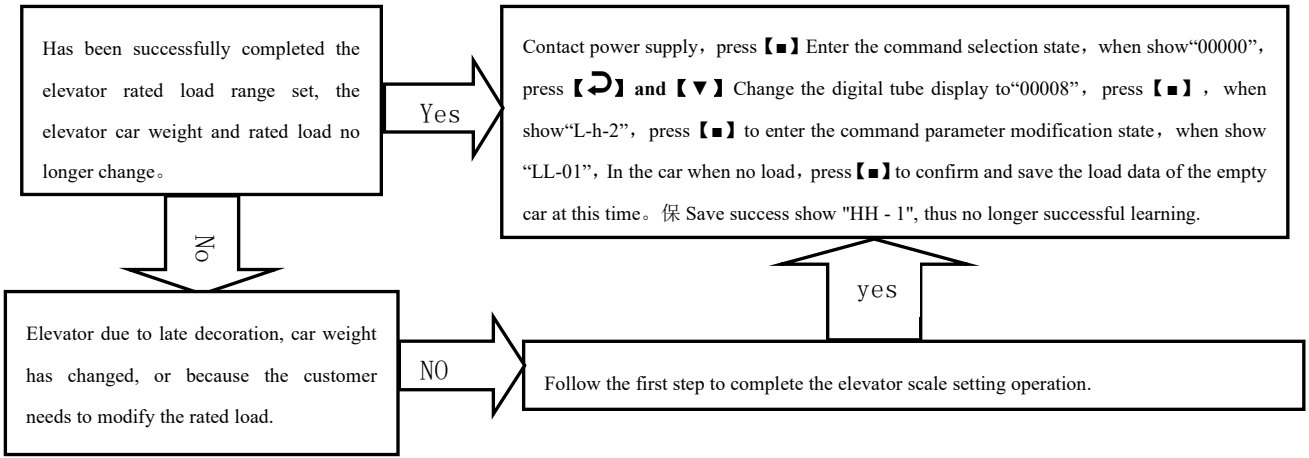
1.Elevation range setting：Note：①1. Product digital tube display the default decimal point to 1, the unit is Kg, For example :the case shows "1000.0", that is 1000kg.



2.No-load self-learninocess：

Note： ① product no-load self-learning before the car must ensure that there is no load and debris, otherwise it will lead to a greater error in the weighing effect.

② product no-load - the two-point self-learning process, must be "LL-01" first study no-load, "HH - 1" retraining, otherwise it will lead to the product can not be used


Has been successfully completed the elevator rated load range set, the elevator car weight and rated load no longer change。
Yes
Contact power supply，press【■】Enter the command selection state，when show“00000”，press【↩】and【▼】Change the digital tube display to“00008”，press【■】，when show“L-h-2”，press【■】to enter the command parameter modification state，when show “LL-01”，In the car when no load，press【■】to confirm and save the load data of the empty car at this time。保 Save success show "HH - 1", thus no longer successful learning.
NO
yes
Elevator due to late decoration, car weight has changed, or because the customer needs to modify the rated load.
NO
Follow the first step to complete the elevator scale setting operation.

3.Lift the amount of self-learning process：

After successful completion of the no-load self-learning process, add 100% of the load weight to the elevator car when the product "HH-1" is displayed. (For example, this elevator is set to 1000Kg, The weight of the weight of 1000Kg), press the【■】key to confirm and save the load data of the car. When the digital display "1000.0", this time shows the car is the actual load value, the flag from the self-learning completion.

No

Due to self-learning misuse (elevator load and weight changes), resulting in digital tube display weight and car load does not match or the error is too large, you need to restore the factory settings,

yes

Restore factory default method：：

① Double-click the quick recovery method：Turn on the power, press same time【↩】and 【▼】10slater，when show“HELP-”, The internal setting has been restored to the factory settings。

② Instruction parameter confirmation method：Turn on the power, press【■】，enter“00000”Command selection interface，press【↩】and 【▼】Change the digital tube display to“00006”, press【■】enter“help-”，press again【■】，to restore the factory settings.

yes

Digital display of the current load data, this mark the product from the successful study, into the normal working condition.

八、Multiplication parameter setting process description (auxiliary function)）：

Note： Repeated parameter debugging must be in the product after the completion of Chapter 8 product self-learning process before they take effect. Multiplier parameter adjustment range of "01 ~ 99", that is, the product multiplier for the amount of 1 to 99 times the amount for customers to choose. The product default multiplier parameter value is 1 times the amount of time to restore the factory settings after the product multiplier parameters are restored to the product default multiplier parameter value of the rated load of 1 times.

1.Multiply parameter setting process：

When the system is displayed normally,Press 【■】to enter the instruction selection state, and when "00000" is displayed； press【➲】and【▼】button to change the digital tube display to "00007". "Press【■】key to display "bz - c", press the【■】key again to enter the command parameter to modify the state, the product digital hanging display "bz-01" (after the two digital display "01" That is doubled, for example

2.For Example：

When the system is normally displayed, press the "■" key to enter the command selection state. When "00000" is displayed, press the "【】 key and [▼] to modify the display of the nixie tube to" 00007 ". Press the "■" key, and when "BZ--C" is displayed, press the "■" key again to enter the command parameter modification state. Product digital display "BZ-01" (the last two digital tube display "01" is the multiplier multiple, such as the multiplier parameter value of "05", at this time the elevator load multiplied 5 times, product output switch quantity and analog quantity will make the corresponding doubling changes) press [▼] the key to modify the digital tube display to the required times value-added, Press ■ to confirm and save the multiplication parameter.

System Features

十、Technical Specifications：

1.	Application：	eing applicable to all fixed car platform elevators	
2.	Floor Compensation	Artificial changes in learning errors and fine-tuning.	
3.	Sensitivity：	Elevator Rated Capacit/1000 (Example： The rated capacity is 1000 kg, and the sensitivity is 1 kg) [This data may be affected by elevator mechanical performance.]	
4.	System Error：	≤0.25%（-20～55℃）	
5.	Non-Linearity：	≤0.25%	
6.	Output Mode：	Programmable 4-way switch signal：	①4-channel programmable output modes are: No load, light load, rated load, 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。
		Linear analogue：	Full compensation range 0～10V;10～0V
7	Ambient Temperature：	-20～55℃	
8.	Relative Humidity：	20%～90%RH	
9.	Reaction Time：	≤0.25senconds	

10.	Power supply：	AC/DC24(±10%)V ／ 200mA
11.	installation Place：	Load sensor：See attachment sheet Controller：Control Cabinet in machineroom
12.	Overall Size：	Controller parts：115×90×40 mm3

The intension 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.

Other

Packinglist： EWD-L-BMSJ4 Controller 1piece
Φ4×40mm Fastening Screw sets 4sets
Load sensor 1piece
User's Guide 1piece

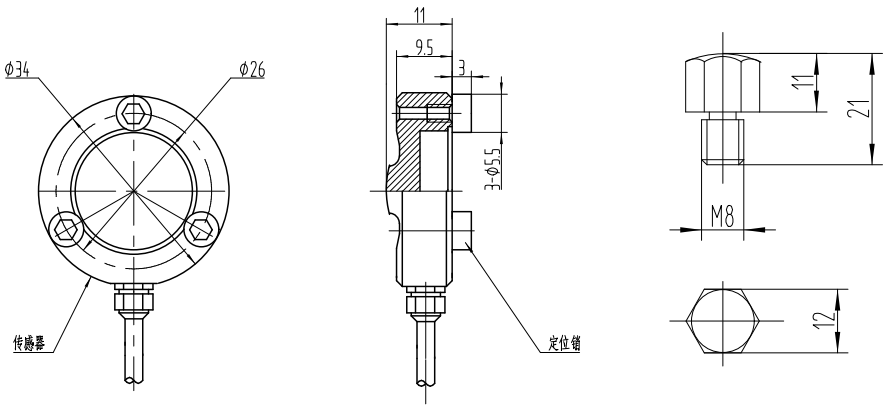
2.Address: Xi'an Excellent Electromechnical Co.,Ltd
7D， Block A, Olympic Building, 14th Chang An North Road, Xi'an, Shaanxi,China.
： (029)88416613 (029)85565714-886 ： 710061
Technical Support：0086-18092639750 008618092639752

Attched Document：

Load cell / tension sensor dimensions and installation

1. XCL-Y/3411 load sensor dimensions:

1.1 Sensor size diagram (measuring range：6KN,12KN)

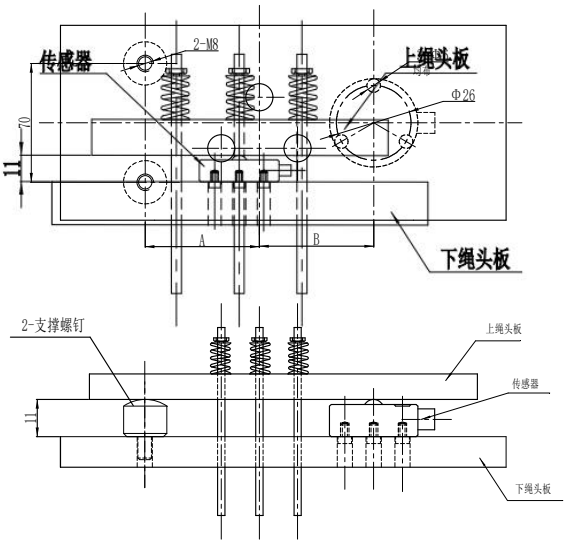


Note: 2 supporting screws per set

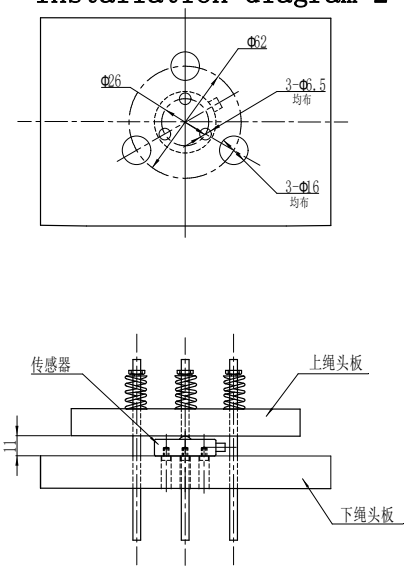
Supporting Screw

Installation Methods:

Installation diagram 1



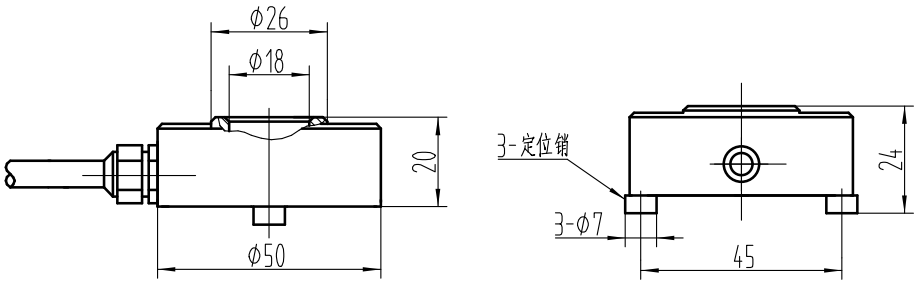
Installation diagram 2



Note: When the user makes the splint, the distance A should equal the distance B.

2.XYL-YH/5018-15KN load sensor dimensions:

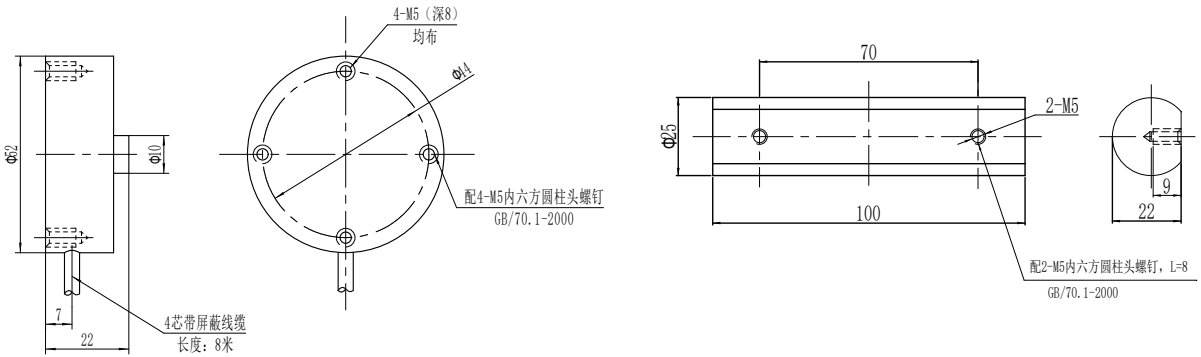
2.1 Sensor size diagram （measuring range：15KN）



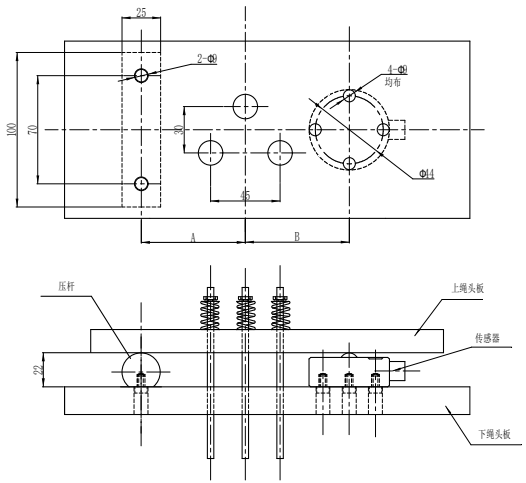
2.2 Installation Method:

3.XCL-Y/5222 load sensor dimensions:

3.1 Sensor size diagram （measuring range：6KN）：

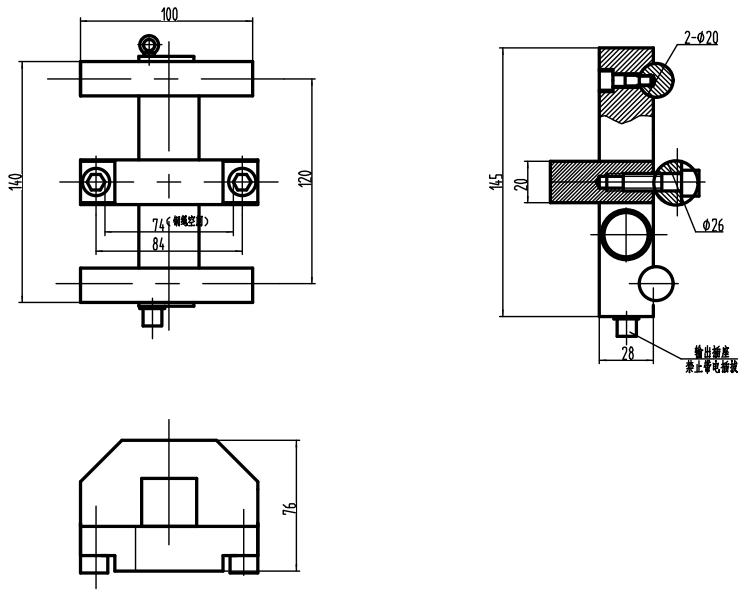


3.2 Installation Method:



4.XCL-ZL/W load sensor dimensions:

4.1 Sensor size diagram (measuring range: 15KN,8KN)

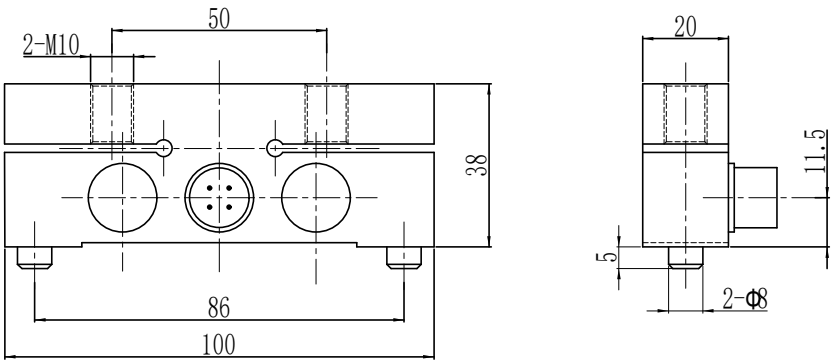


Note: During installation, be sure to use Ø6 wire rope to connect the safety ring and secure it on the support of the tractor, in case the sensor falls off during installation and debugging, to ensure personal safety!

4.2 Installation Method:

5.XCL-T/A(20)load sensor dimensions:

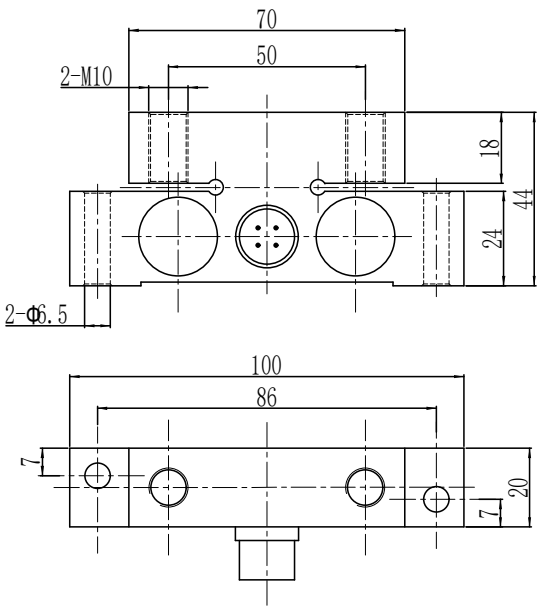
5.1 Sensor size diagram （measuring range：12KN)



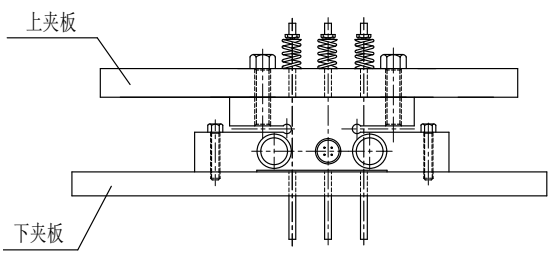
5.2 Sensor size diagram

6.XCL-T/B (20)load sensor dimensions:

6.1 Sensor size diagram (measuring range：10KN)

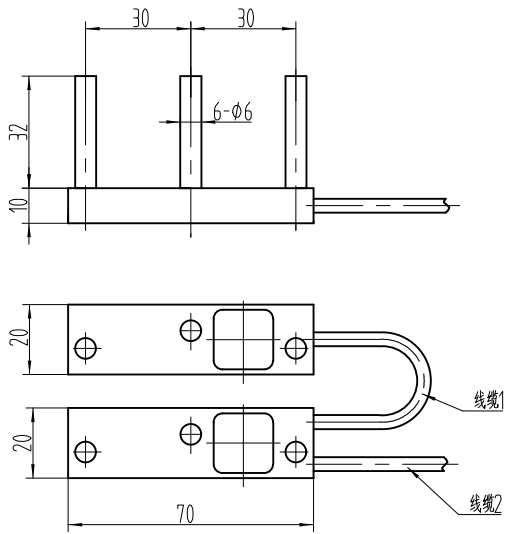


6.2 Installation Method



7.XCL-ZL/P2 load sensor dimensions:

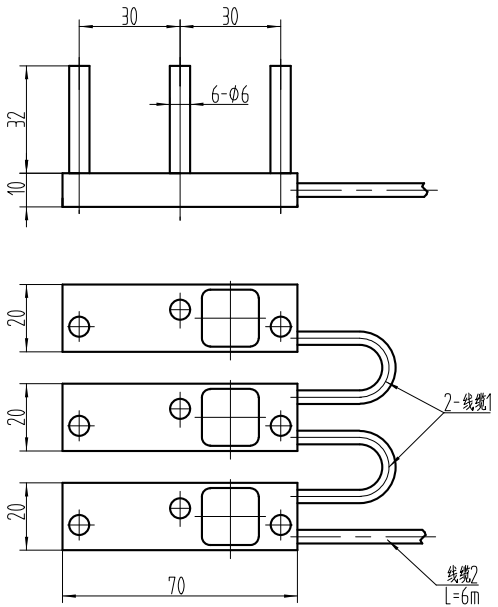
7.1 Sensor size diagram （measuring range：5KN,8KN)



7.2 Installation Method

8.XCL-ZL/P3 load sensor dimensions:

8.1 Sensor size diagram (measuring range：5KN,8KN)



8.2 Installation Method