莱茵 LinecSKI®

中国工信部高精度传感器一条龙应用计划示范项目

国家级专精特新“小巨人”企业，国家级高新技术企业

中国工业强基重点产品，中国工信部传感器一条龙应用计划示范企业

莱茵系列直线位移传感器

LINECSKI SERIES LINEAR DISPLACEMENT SENSOR



LR2



LR11



LR12



LM



LS2



LF

莱茵系列直线位移传感器

LINECSKI SERIES LINEAR DISPLACEMENT SENSOR

- Demonstration project of one-stop application plan for high-precision sensors of Ministry of Industry and Information Technology of China
- National level specialized and special new "little giant" enterprise, national level high-tech enterprise
- Key products of strong industrial base in China, demonstration enterprise of sensor one-stop application plan of Ministry of Industry and Information Technology of China

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通用拉杆式直线位移传感器 Universal pull rod linear displacement sensor

通用拉杆式 Universal Pull Rod Type

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微型自复位式直线位移传感器 Miniature self-resetting linear displacement sensor

微型自复位式 Miniature self-resetting

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电位计原理直线位移传感器信号输出说明
Potentiometer principle linear displacement sensor signal output description

此类情况不需要配模块
No modules are required in this case

- ●供电2.5V，输出即是：0~2.5V
  If the power supply is 2.5V, the output ranges from 0 to 2.5V
- ●供电5V，输出即是：0~5V
  The power supply is 5V, and the output is 0~5V
- ●供电10V，输出即是：0~10V
  The power supply is 10V, and the output is 0~10V
- ●供电24V，输出即是：0~24V
  The power supply is 24V, and the output is 0~24V

此类情况需要配模块
Modules are required in this case

如果供电12~24V，想输出：
0~5V、0~10V、4~20mA、RS485等
此类情况需要另购变送模块与传感器配套使用

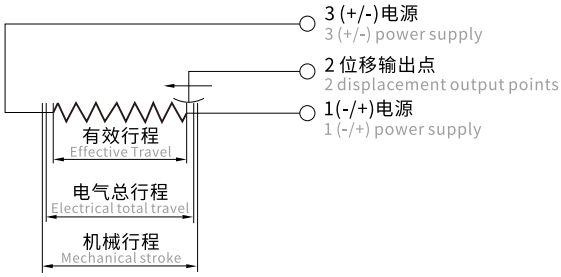
If the power supply is 12~24V, you want to output:
0~5V, 0~10V, 4~20mA, RS485, etc. In such cases,
you need to purchase another transmission
module to work with the senso

● 电气原理 Electrical Principle

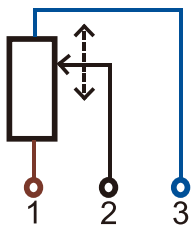
所有传感器为绝对位置测量型，用于调节系统和测量系统中，对位移和长度进行直接测量，输出直流电压信号，也可以通过内置或者外置的V/I转换模块将信号转换成标准的0~5V/0~10V/4~20mA直流信号/RS485数字信号等，可以满足远距离传输控制要求。电位计原理,0~100%给定输入电压(随位移变化而变化)。

All sensors are absolute position measurement type, used in the adjustment system and measurement system, direct measurement of displacement and length, output DC voltage signal, can also be converted into standard 0~5V/0~10V/4~20mA DC signal /RS485 digital signal through the built-in or external V/I conversion module. It can meet the requirements of long-distance transmission control. Potentiometer principle,0~100% of the given input voltage (varies with displacement).

● 电气安装示意图
Electrical Installation Diagram



● 电气原理图
Electrical Schematic Diagram



1.棕色线（电源+/-）
Brown wire (power supply+/-)

2.黑色线/黄色线（输出）
Black wire/Yellow wire (output)

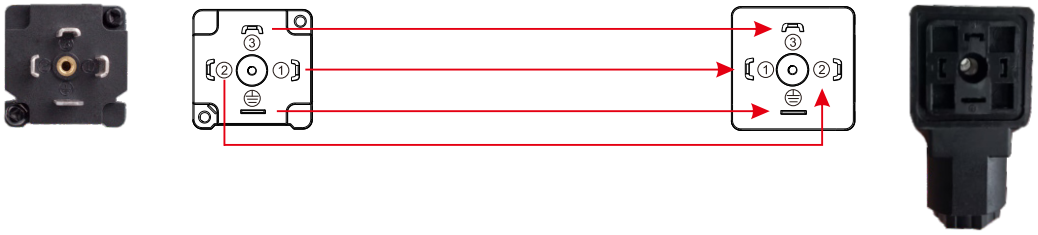
3.蓝色线（电源-/+）
Blue wire (power supply -/+)

● 赫斯曼插座接线图
Hirschman Socket Wiring Diagram

●传感器赫斯曼插座
Sensor Hermann socket

（LS2、LF等型号标配）
(LS2、LF and other models come standard)

● 赫斯曼插头/插头式模块
Hermann plug/plug type module



温馨提示：

★ 建议传感器供电电压为DC5V-24V，严禁接220V电源。

★ 为避免新手因接错线导致传感器短路烧坏，建议在接线之前将电子尺拉杆拉出一些，这样如果1和2或者2和3不小心接到了电源正负极，不至于会导致短路，传感器也就不会因接错线而轻易烧掉了。

Kind reminder:

It is recommended that the sensor supply voltage is DC5V-24V, and it is strictly prohibited to connect to a 220V power supply.To prevent beginners from short circuiting and burning out the sensor due to incorrect wiring, it is recommended to pull out the electronic ruler rod before wiring. This way, if 1 and 2 or 2 and 3 are accidentally connected to the positive and negative poles of the power supply, it will not cause a short circuit, and the sensor will not be easily burned out due to incorrect wiring.

产品特性 Product Feature

普通的电子尺和拉绳尺，电阻式的都是电位计原理的位移传感器，实际上就相当于一个电位器，通俗点讲也叫：滑动变阻器，供电多少V电压，输出就是0~多少V电压：即：您如果供电电压是5V，那输出直接就是0~5V。如果供电电压是10V，那输出就是0~10V。如果供电3.3V，那输出就是0~3.3V。如果供电3.6V，那输出就是0~3.6V。如果供电电压是24V，那输出就是0~24V。

Ordinary electronic ruler and rope ruler, resistance type is the displacement sensor of the principle of potentiometer, in fact, it is equivalent to a potentiometer, popular point is also called: sliding rheostat, power supply voltage, the output is 0~ how much V voltage: that is: if you supply voltage is 5V, the output is directly 0~5V. If the supply voltage is 10V, the output is 0~10V. If the power supply is 3.3V, the output is 0~3.3V. If the power supply is 3.6V, the output is 0~3.6V. If the supply voltage is 24V, the output is 0~24V.

原则上是根本没有电阻输出这一说法的，电阻根本是无法被输出的。(举例：拿LS2型号电子尺来说，1和3可以接DC10V的正负极，那2和3或者2和1之间的电压就是0~10V；1和3接DC24V的正负极，那2和3或者2和1之间的电压就是0-24V。)

In principle, there is no resistor output at all, and the resistor cannot be output at all. (For example, take the LS2 mod-el electronic ruler, 1 and 3 can be connected to DC10V positive and negative terminals, that 2 and 3 or 2 and 1 between the voltage is 0~10V; 1 and 3 are connected to the positive and negative terminals of DC24V, so the voltage between 2 and 3 or 2 and 1 is 0-24V.

切勿将2端接入电源的正极或者负极，否则容易造成短路，烧掉该传感器，2 是输出端。

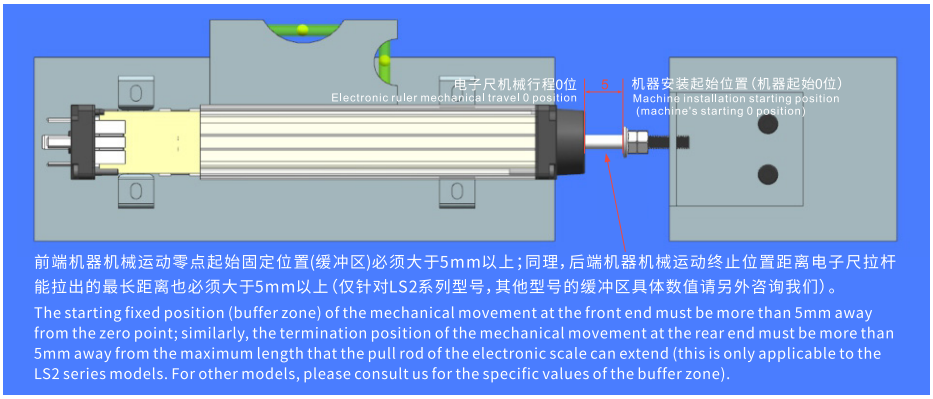
Do not connect the 2 terminal to the positive or negative terminal of the power supply, otherwise it is easy to cause short circuit and burn the sensor. 2 is the output terminal.

如果您供电电压只有24V的，没有5V 或者是10V的电源，但是输出却想要 0~5V 或者 0~10V，那就需要配我们的模块即可。如果客户需要 4~20mA输出就必须配模块才行。模块可以内置在传感器内部，也可以外置插头模块或单独的铝合金或塑胶壳的模块，此时直接给模块供电电压12~36V均可以，输出可以是0~5V、0~10V、4~20mA、-10V~+10V、-5V~+5V等。如果选择的是四线制模块，那么供电电压为18~36V。具体供电电压，以产品实物标签上的标注为准。

If you supply voltage is only 24V, there is no 5V or 10V power supply, but the output wants 0~5V or 0~10V, then you need to match our module. If the customer needs 4~20mA output, it must be equipped with a module. The module can be built inside the sensor, or an external plug module or a separate aluminum alloy or plastic shell module, at this time, the direct power supply voltage to the module can be 12~36V, the output can be 0~5V, 0~10V, 4~20mA, -10V~+10V, -5V~+5V, etc.If you choose a four-wire molding block, then the supply voltage is 18~36V. Note For the specific power supply voltage, refer to the label on the product.

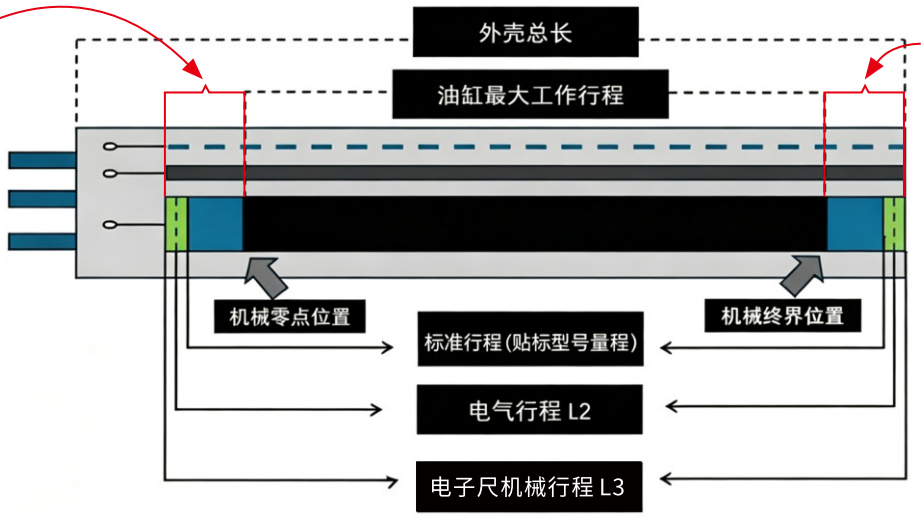
安装概要 Installation Summary

- 定位传感器时要保证水平状态下再进行锁固
  When positioning the sensor, it is necessary to ensure that it is in a horizontal state before locking it
- 牵引支架螺丝孔与传感器拉杆必须保持同心
  The screw holes of the traction bracket and the sensor pull rod must be kept concentric
- 选择的电子尺有效行程必须大于油缸有效行程10mm以上
  The effective stroke of the selected electronic ruler must be more than 10mm longer than that of the hydraulic cylinder
- 安装固定的前后缓冲区必须大于5mm以上（仅针对LS2系列型号，其他型号的缓冲区具体数值请另外咨询我们）
  即：在固定电子尺起始位置的时候，必须将拉杆拉出5mm以上，此位置为机械零点位置，终点位置也同样道理。后端机器机械运动终止位置距离电子尺拉杆能拉出的最长距离也必须大于5mm以上。因为电子尺拉杆运行到拉杆拉出5mm以内的位置的状态下，或者电子尺拉杆运行到电子尺拉杆最末端5mm以内的状态下，可能不在电气行程范围内（在机械行程范围），可能会导致工控电脑显示数据与实际位置不一致，导致机械位置偏差报警等问题。原理图如下：
  The fixed front and rear buffer zones must be greater than 5mm (only for the LS2 series models. For other models, please consult us for the specific values).
  That is: When setting the starting position of the electronic scale, the pull rod must be pulled out by more than 5mm. This position is the mechanical zero point position. The same principle applies to the end position. The maximum distance that the rear machine's mechanical movement can terminate from the electronic scale's pull rod being able to pull out must also be greater than 5mm. Because when the electronic scale pull rod is in the state where it has pulled out by less than 5mm, or when it is in the state where it is at the 5mm end of the electronic scale pull rod, it may not be within the electrical travel range (within the mechanical travel range), which may cause the industrial control computer to display data that is inconsistent with the actual position, resulting in mechanical position deviation alarms and other problems. The schematic diagram is as follows:



设定机器机械零点：
电子尺拉杆必须要先拉出5mm以上距离，方可设定机器的机械零点。

Set the zero point of the machine mechanism:
The pull rod of the electronic ruler must be pulled out by more than 5mm before the mechanical zero point of the machine can be set.



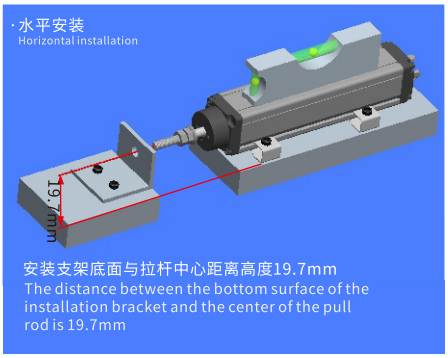
设定机器机械终点：
机器机械运动终止位置带动电子尺拉杆拉出的最长位置距离电子尺能拉出的最末端位置至少在5mm以上。

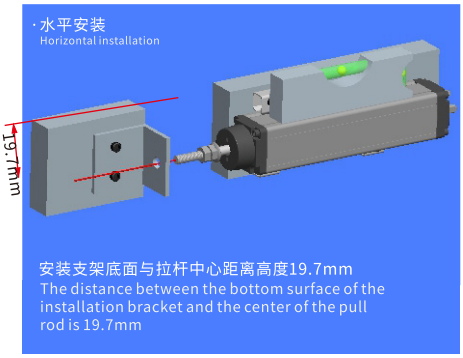
Set the mechanical end point of the machine:
The stopping position of the machine's mechanical movement causes the pull rod of the electronic scale to extend to the farthest position that the electronic scale can reach, and this distance must be at least 5mm longer than the farthest end position that the electronic scale can reach.

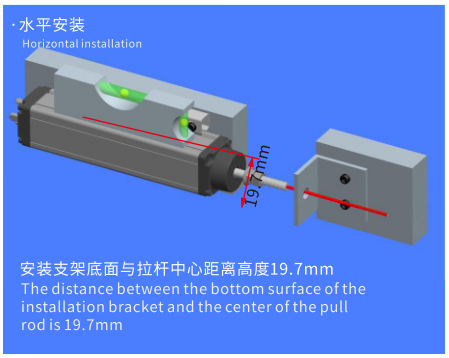
（电子尺拉杆能拉出拉进的最大位移，安装电子尺机器的机械行程起点和终点设定范围距离要小于该位移10mm以上，起点和终点分别各5mm以上）
(The maximum displacement that the electronic ruler pull rod can extend and retract is 10mm. The distance between the mechanical travel start and end points of the machine where the electronic ruler is installed should be more than 10mm away from this displacement, and the start and end points should each be more than 5mm away.)

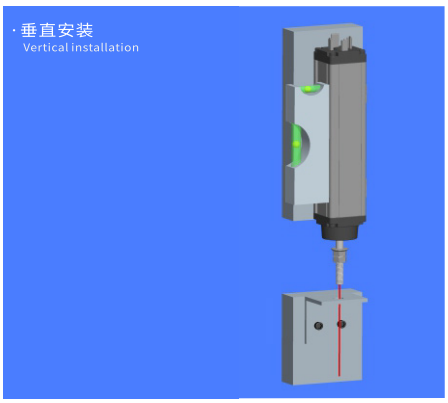
方形拉杆式直线位移传感器建议安装方式：侧装和正装（例如LS2、LM等系列产品）

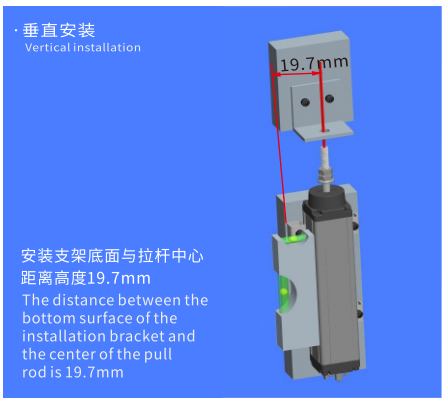
Square tie rod linear displacement sensor recommended installation: side mounting and formal mounting (such as LS2、LM and other products)





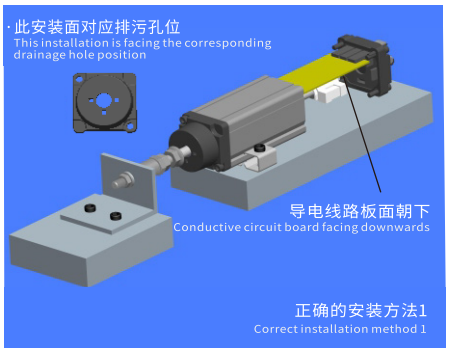


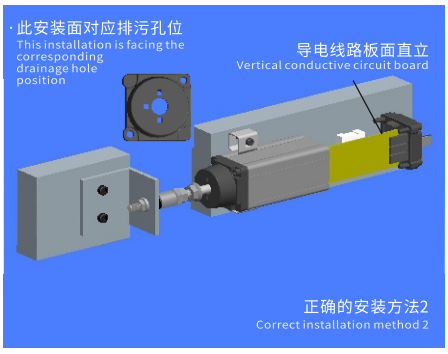


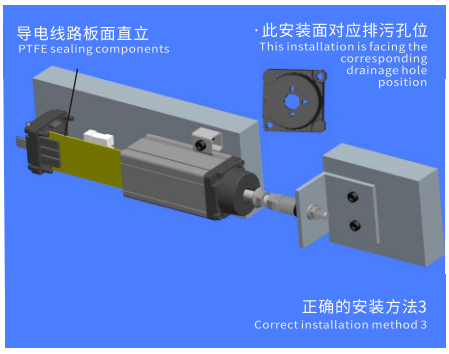


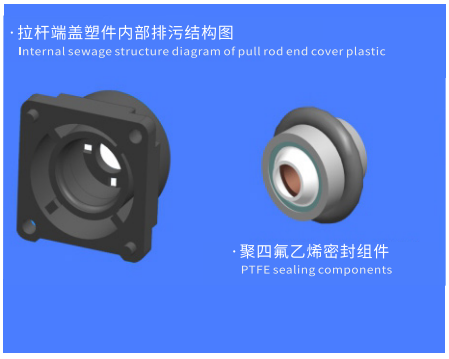
以上均是常规正确的安装方法，可降低电刷滑芯与铝管轨道的摩擦系数，从而提高传感器的使用寿命和稳定性。

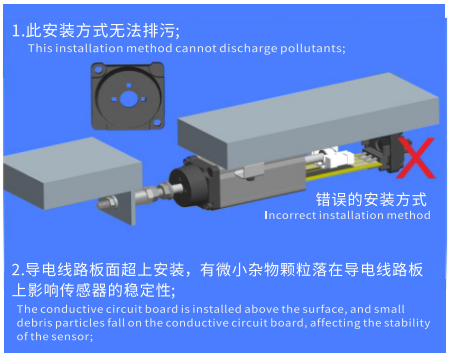
The above are all conventional and correct installation methods that can reduce the friction coefficient between the brush sliding core and the aluminum tube track, thereby improving the service life and stability of the sensor.











●在安装传感器时尽可能将导电线路板面向下或直立两个方向安装，禁止将导电线板面向上时安装，这样可避免传感器内部有微小杂物颗粒落在导电线路板上，从而影响传感器的稳定性。

When installing sensors, try to install the conductive circuit board in both downward and vertical directions as much as possible. It is prohibited to install the conductive circuit board when facing upwards. This can prevent small debris particles from falling on the conductive circuit board inside the sensor, which can affect the stability of the sensor.

●三个排污孔是根据传感器在正确安装方式下而设计的一款导排水、油污结构，保证了传感器拉杆往复运行时表面上所沾上的水、油及时排除干净，即：传感器导电线路板面向下或直立时均有排污功能。

The three drain holes are a drainage and oil pollution structure designed based on the correct installation method of the sensor, ensuring that the water and oil on the surface of the sensor rod are promptly removed during reciprocating operation. That is, when the conductive circuit board of the sensor is facing downwards or upright, it has a drainage function.

方形滑块式直线位移传感器建议安装方式：侧装和倒置安装（例如LF系列产品）

Square slider linear displacement sensor recommended installation: side installation and inverted installation (For example, the LF series products.)

安装固定正确方法:

1、尺身必须水平固定安装；

2、拉杆牵引孔必须与拉杆同心；

3、电子尺有效行程必须大于油缸有效行程；

4、安装时碳膜线路板工作面必须侧立或向下（避免油污灰尘或碳粉落在碳膜工作面上）。

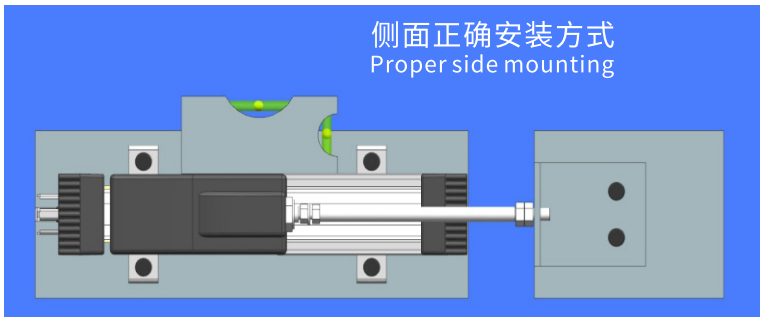
Correct method of installation and fixing:

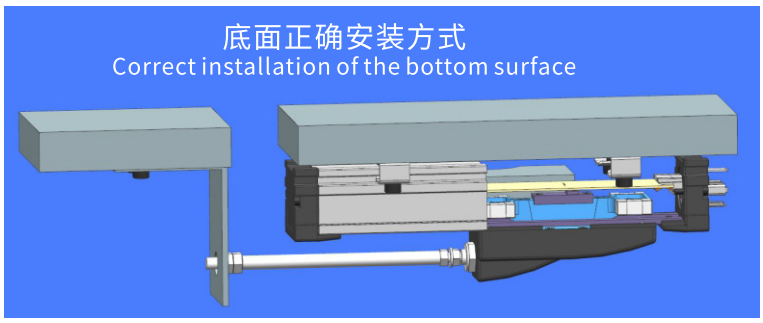
1, the ruler body must be fixed horizontally;

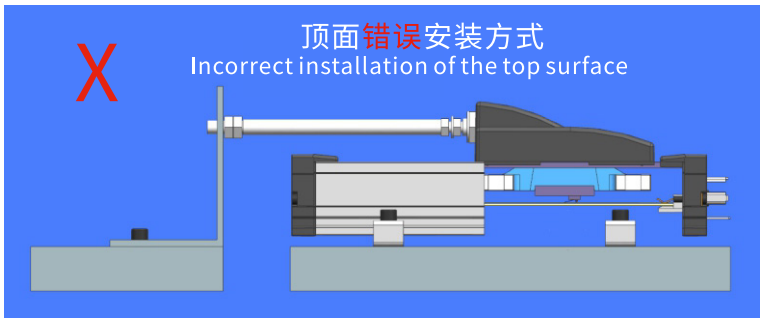
2. The drawbar traction hole must be concentric with the drawbar;

3, the effective stroke of the electronic ruler must be greater than the effective stroke of the cylinder;

4. When installing the carbon film circuit board, the working surface must stand sideways or downward (to avoid oil dust or carbon powder falling on the carbon film working surface).







所有这种电位计/滑动电阻原理的电子尺，正确的安装方向是要让电子尺碳膜线路板工作面朝下或侧立，油污和灰尘即使进入电子尺内部也不会影响电子尺正常工作，因为油污进去电子尺内部之后由于重力原因会沉积在铝管底部，不会对有工作作用的电刷和线路板产生影响，从而电子尺的信号输出也不会受到影响；

All this potentiometer/sliding resistance principle of the electronic ruler, the correct installation direction is to let the electronic ruler carbon film circuit board working face down or side, oil and dust even into the electronic ruler will not affect the normal work of the electronic ruler, because the oil into the electronic ruler will be deposited at the bottom of the aluminum tube due to gravity. It will not affect the working brush and circuit board, so the signal output of the electronic ruler will not be affected;

错误的安装方法是碳膜线路板工作面朝上，电子尺内部进入油污和灰尘进入到电子尺内部之后，会直接落在碳膜线路板与电刷接触的工作面上，严重影响碳膜线路板与电刷的充分接触，导致接触不良，从而导致电子尺测量数据跳动，或者不准确。

The wrong installation method is that the working face of the carbon film circuit board faces up, and after the oil and dust enter the inside of the electronic ruler, they will directly fall on the working surface where the carbon film circuit board and the brush contact, seriously affecting the full contact of the carbon film circuit board and the brush, resulting in poor contact, resulting in the measurement data of the electronic ruler jumping, or inaccurate.

随着电子尺使用时间的延长，机器周边难免会有一些油污或灰尘通过拉杆的运动带进去电子尺内部；而且电子尺在工作时候，线路板与电刷一直在运动接触摩擦，随着使用时间的延长势必会产生一些的磨损碳粉，当然莱茵的电子尺产生的摩擦碳粉比较其他进口或者国产的电子尺碳粉相比来说是非常少的（莱茵的电子尺线路板和电刷比较其他进口和国产品牌电子尺都要更加耐磨损，使用寿命更长，推荐安装方式并不是只针对莱茵品牌电子尺有效，其他品牌也建议这种方式，道理都是一样的，都可以延长产品寿命，在同样安装方式的情况下，不论是不正确安装方式或者正确安装方式，同等情况下，莱茵品牌的产品使用寿命都会优于其他品牌产品，建议安装方式并不意味着本公司产品比其他品牌差）；这些油污杂质或碳粉等如果沉积在线路板上越多，产品就越容易接触不良，造成输出信号不准确，从而大大缩短了产品的使用寿命。线路板朝下或者侧立，就会避免这些杂质掉落在线路板上，从而大大加长了电子尺的使用寿命，所以强烈建议用户按照我们的推荐安装方式进行安装产品。

With the extension of the use time of the electronic ruler, there will inevitably be some oil or dust around the machine through the movement of the pull rod into the internal electronic ruler; And the electronic ruler at work, the circuit board and brush have been in motion contact friction, with the extension of the use of time is bound to produce some wear toner, Of course, the friction toner produced by LinecSKI's electronic ruler is very small compared with other imported or domestic electronic ruler toner (LinecSKI's electronic ruler circuit board and brush are more wear resistant and have longer service life than other imported and domestic brands of electronic ruler). The recommended installation method is not only effective for LinecSKI brand electronic ruler, other brands also recommend this way. The truth is the same, can extend the product life, in the same installation mode, whether it is incorrect installation or correct installation, under the same circumstances, LinecSKI brand product life will be better than other brand products, the recommended installation does not mean that the company's products are worse than other brands); If these oil impurities or toner are deposited on the circuit board, the more easily the product is in poor contact, resulting in inaccurate output signals, which greatly shortens the service life of the product. The circuit board is down or sideways, it will avoid these impurities falling on the circuit board, thus greatly extending the service life of the electronic ruler, so it is strongly recommended that users install the product according to our recommended installation method.

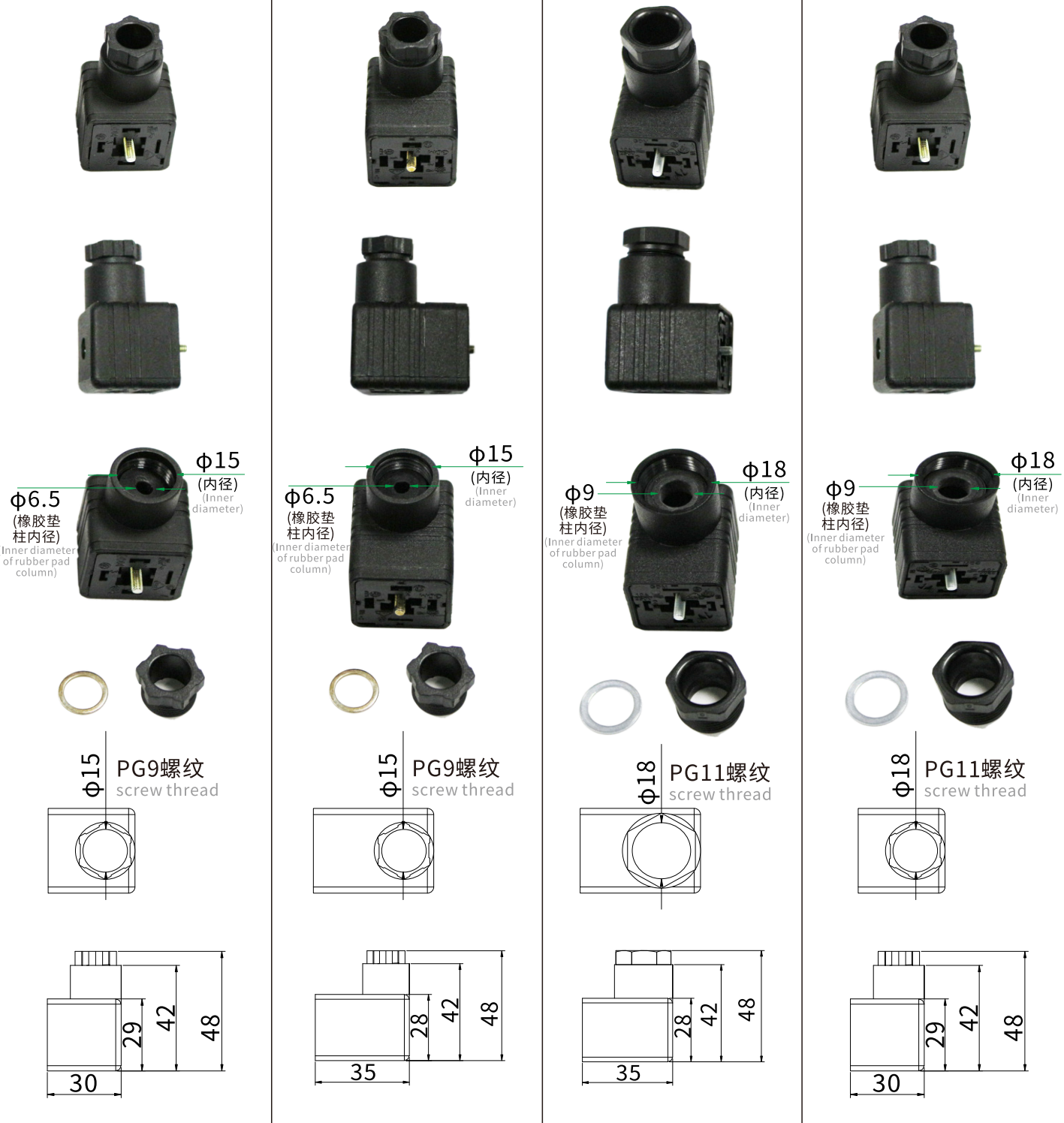
其他型号电子尺同理，在安装时候也应该尽量保证碳膜电路板超下或者侧立，由于不同型号线路板设计方向不同，所以推荐的建议安装方法方向可能不同，其他型号具体电子尺的线路板安装方向以实际型号为准。

Similar to other models of electronic ruler, when installing the carbon film circuit board should also try to ensure that the carbon film circuit board is over the bottom or side, because different models of the circuit board design direction, so the recommended installation direction may be different, the specific electronic ruler of other models of the circuit board installation direction depends on the actual model.

赫斯曼插头资料 Hermann Plug Information

型号分别为H1、H2、H3、H4共四种
There are four types of models: H1, H2, H3, and H4

连接器产品电气接线标准：DIN43650
Electrical wiring standard for connector products: DIN43650



H1赫斯曼小插头
H1 Hesmann small plug
(默认标配，PG9螺纹)
(default standard configuration, PG9 thread)

H2赫斯曼大插头
H2 Hermann large plug
(大插头，PG9螺纹)
(Large plug, PG9 thread)

H3赫斯曼大插头
H3 Hermann large plug
(大插头，PG11螺纹)
(Large plug, PG11 thread)

H4赫斯曼小插头
H4 Hesmann small plug
(小插头，PG11螺纹)
(Small plug, PG11 thread)

产品选型 Product Selection

LS2 - 200mm - □ - □ - □ - □ - □

□ 空白：标准品，产品没有“MT”代码中的特殊要求 Blank:Standard, the product has no special requirements in the "MT" code
MT：1、有改装要求，如：尾部直出线，并且尾部有螺杆或者有鱼眼等改装要求；
MT:1, there are modification requirements, such as: the tail straight out of the line, and the tail has a screw or fish eye modification requirements;
2、其他特殊要求的非标产品，如：加强密封型(或压铸机专用)、阻值非标、安装方式非标、尺寸非标、标签非标(中性包装或者大客户要求的型号标示名称)等。
2, other special requirements of non-standard products, such as: reinforced sealing type (or die-casting machine), resistance value non-standard, installation method non-standard, size non-standard, label non-standard (neutral packaging or large customer requirements of the model name).
凡是有特殊要求带“MT”的，要在产品外包装上写明具体非标修改情况，便于后续验货查看。
Those who have special requirements with "MT" should indicate the specific non-standard modifications on the outer packaging of the product to facilitate subsequent inspection.
GD：滑芯用防滑/防松脱固定螺母加螺丝胶固定。
GD:The sliding core is fixed with anti-slip/anti-loose fixing nuts and screw glue.
JM：加强密封轴芯(压铸机专用轴芯)。
JM:Strengthen the sealing core (die-casting machine special core).
如以上要求同时存在，可以中间加“/”，如GD/JM：代表滑芯用防滑固定螺母，并且加强密封轴芯。
If the above requirements exist at the same time, you can add a "/" in the middle, such as GD/JM: represents the non-slip fixing nut for the slip core, and strengthens the sealing shaft core.

□ 空白：标配标准万向节 Standard universal joint　YW：鱼眼万向节 Fisheye universal joint
W1:加长万向节 Lengthened universal joint　W2：缩短万向节 Shorten the universal joint

□ 空白：赫斯曼插头的产品标配不自带电缆线 Blank:This series comes standard with H1 Hersman plug
1:只代表赫斯曼插头产品带1米电缆线。注意:其他非赫斯曼插头的产品默认自带1米线，不用选该数字代码“1”
1:Represents only Hersman plug products with 1 meter cable line. Note: Other non-Hersman plug products come with 1 meter cable by default, do not select the numeric code "1"
2-2000：代表需要加长到多少米的电缆线，单位是m/米，2代表加长到2米电缆线，5代表加长到5米电缆线·····
2-2000:Represents the number of meters of cable that need to be extended, the unit is m/ m, 2 represents the extension to 2 meters of cable, 5 represents the extension to 5 meters of cable...

□ 空白：该系列产品标配H1赫斯曼插头 Blank:This series comes standard with H1 Hersman plug
H2：配H2赫斯曼插头，该插头具体介绍请见我司赫斯曼插头资料页面
H2:With H2 Hersman plug, the specific introduction of the plug please see our Hersman plug information page
H3：配H3赫斯曼插头，该插头具体介绍请见我司赫斯曼插头资料页面
H3:With H2 Hersman plug, the specific introduction of the plug please see our Hersman plug information page
H4：配H4赫斯曼插头，该插头具体介绍请见我司赫斯曼插头资料页面
H4:With H2 Hersman plug, the specific introduction of the plug please see our Hersman plug information page

□ 空白：默认标配，没有内置信号变送模块，电阻输出型：5KΩ、10KΩ(0-100%给定输入工作电压，随位移变化而变化)，即电位计原理输出，供电电压0-24皆可(默认标配)
即：如供电电压为5V，那么输出信号为0-5V；如供电电压为10V，那么输出信号为0-10V；如供电电压为24V，那么输出信息为0-24V。可加外置或插头式信号变送模块将电位计信号转换为其他信号输出，如供电电压为24V或15-24V的时候，此时若需要0-5V、0-10V、-10-10V、4-20mA、RS485等信号输出方式的，可另加选我司外置信号变送模块(注：供电电压12-24V的时候，0-5V、0-10V输出的信号变送模块也可工作)，具体型号请见外置或插头式信号变送模块选型资料。
Blank:Default configuration, no built-in signal transmitter module, resistive output type: 5KΩ, 10KΩ (0-100% of the rated input voltage, varying with the position).
I.e. potentiometer principle output, power supply voltage of 0-24V (default configuration)That is: If the power supply voltage is 5V, then the output signal is 0-5V; if the power supply voltage is 10V, then the output signal is 0-10V; if the power supply voltage is 24V, then the output signal is 0-24V. An external or plug-in signal transmitter module can be added to convert the potentiometer signal to other output signals, such as 0-5V, 0-10V, -10-10V, 4-20mA, and RS485 when the power supply voltage is 24V or 15-24V. When the power supply voltage is 12-24V, the 0-5V and 0-10V signal transmitter modules can also work. For specific models, please refer to the selection data for external or plug-in signal transmitter modules.

V1：内置信号变送模块，电压0-5V输出，供电电压8-24V　V1:Built-in signal transmission module, voltage 0-5V output, power supply voltage 8-24V
V2：内置信号变送模块，电压0-10V输出，供电电压12-24V　V2:Built-in signal transmission module, voltage 0-10V output, power supply voltage 12-24V
V3：内置信号变送模块，电压-5-5V输出，供电电压12-24V　V3:Built-in signal transmission module, voltage -5-5V output, power supply voltage 12-24V
V4：内置信号变送模块，电压-10-10V输出，供电电压12-24V　V4:Built-in signal transmission module, voltage -10-10V output, power supply voltage 12-24V
A1：内置信号变送模块，电压4-20mA输出，三线制，供电电压15-24V　A1:Built-in signal transmission module, voltage 4-20mA output, three-wire system, power supply voltage 15-24V
A2：内置信号变送模块，电压4-20mA输出，二线制，供电电压12-24V　A2:Built-in signal transmission module, voltage 4-20mA output, two-wire system, power supply voltage 12-24V
RS：内置信号变送模块，RS485数字信号输出，供电电压15-24V(12位分辨率) RS:Built-in signal converter module, RS485 digital signal output, power supply voltage 15-24V (12-bit resolution)
RSG：内置信号变送模块，RS485数字信号输出，供电电压15-24V(16位高分辨率)
RSG:Built-in signal converter module, RS485 digital signal output, power supply voltage 15-24V (16-bit high resolution)
A4：内置信号变送模块，电压4-20mA输出，四线制，供电电压9-30V(内含隔离模块，适合干扰较大的数字跳动场合使用)
A4:Built-in signal transmission module, voltage 4-20mA output, four-wire system, power supply voltage 9-30V(including isolation module, suitable for digital jumping occasions with large interference)
注意:模块内置时,电子尺主体长度会略微加长20mm-50mm左右,具体尺寸请咨询我们。
特别注意：选择内置模块时,传感器和变送模块需要分开选型下单，两个产品实际制作融合在一整体（模块内置在传感器里面了），但需要拆分为2个产品名称单独列出。内置模块的具体选型资料请参考本彩页后面的：“内置、外置变送模块”选型资料进行选型。
举例：客户如果需要LS2-200mm位移传感器配套内置模块4-20MA二线制，那具体选型后的产品名称需要分开2项列出，具体就是：1.位移传感器LS2-200mm　2.内置模块MNA2N；　也可列为：1.位移传感器LS2-200mm-A2　2.内置模块MNA2N。
Note: When the module is built-in, the main length of the electronic scale will be slightly extended by about 20mm to 50mm. For the specific dimensions, please contact us.
Special Note: When choosing the built-in module, the sensor and the transducer module need to be selected separately and placed in different orders. The two products are actually integrated into one whole (the module is built-in in the sensor), but they need to be listed as two separate product names. The specific selection information of the built-in module can be referred to in the "Built-in and Externally Mounted Transducer Module" selection information on the following page of this brochure.Example: If the customer needs a LS2-200mm displacement sensor with a built-in module of 4-20MA two-wire system, the specific selected product names need to be listed separately as two items. Specifically: 1. Displacement sensor LS2-200mm 2. Built-in module MNA2N; Or it can be listed as: 1. Displacement sensor LS2-200mm-A2 2. Built-in module MNA2N.

有效测量行程 Effective measuring stroke:
0-2500mm 之间任意量程可选，单位：mm 毫米 Optional range between 0-2500mm, unit: mm

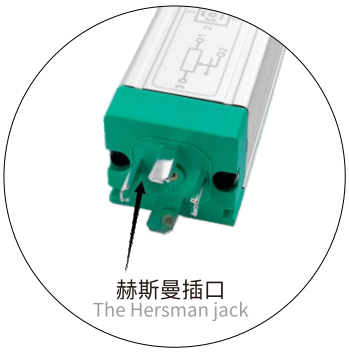
产品款型 Product type
LS2：位移通用拉杆式，LS2为LS的升级版　LS2:Displacement general pull rod type, LS2 is the upgrade version of LS
LF：位移通用滑块式　LF:Displacement universal slider type
LM：位移微型拉杆式　LM:Displacement micro pull rod type
LR11/LR12/LR2：位移微型自复位式　LR11/LR12/LR2:Displacement micro self-resetting type

注意Note:
1、请按照以上选型代码顺序进行选型，该型号标配的参数代码为“空白”。
1, Please select according to the above selection code sequence, the standard parameter code of this model is "blank".
2、如无特别说明：LS2/LF的出线方式默认标配为赫斯曼插头，不自带电缆线，如需要带线，请按以上选型表填写线的长度。
2, If there is no special instructions: LS2/LF wire out of the default standard with Hersman plug, do not come with cable, if you need to bring a line, please fill in the length of the line according to the above selection table.
3、不是标配赫斯曼插头的产品，有常规出线、防水接头出线、航空插头出线等方式，都默认自带1米屏蔽电缆线，如需加长线缆，请在选型代码中表现出来。
3, Not standard with Hersman plug products, conventional outlet, waterproof connector outlet, aviation plug outlet, etc., all default with 1 meter shielded cable, if you need to extend the cable, please show it in the selection code.

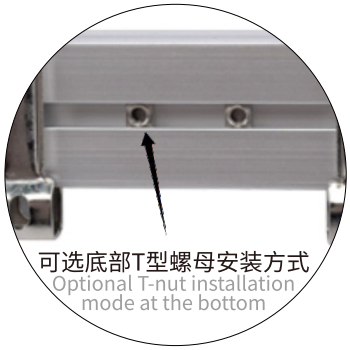
LS2系列:新款LS 通用拉杆式直线位移传感器

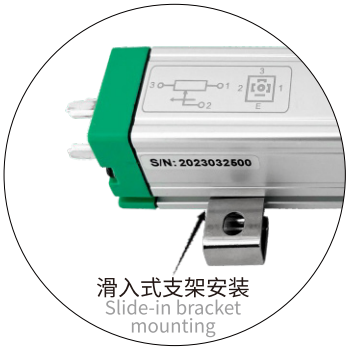
LS2 series: new LS universal pull rod linear displacement sensor

产品实物图 Physical Products Pictures











产品特点：铝管增加导流槽便于油污异物排出，底部增加T型螺母安装方式。

Product features: The aluminum pipe is equipped with a diversion channel to facilitate the discharge of oil and foreign matter, and the T-nut installation mode is added at the bottom.

配件选择 Accessory selection:

H1赫斯曼插头（标配） H1 Hermann plug (standard)		其他赫斯曼插头（可选） Other Hermann plugs (optional) 详情请见第9页 Please refer to page 9 for details	
万向节（标配） Universal joint (standard)		缩短万向节（可选） Shortened universal joint (optional)	
加长万向节（可选） Extended universal joint (optional)		鱼眼万向节（可选） Fish eye universal joint (optional)	

专利产品 Patented product

实用新型专利号Utility model patent number：ZL 2014 2 0241638.X

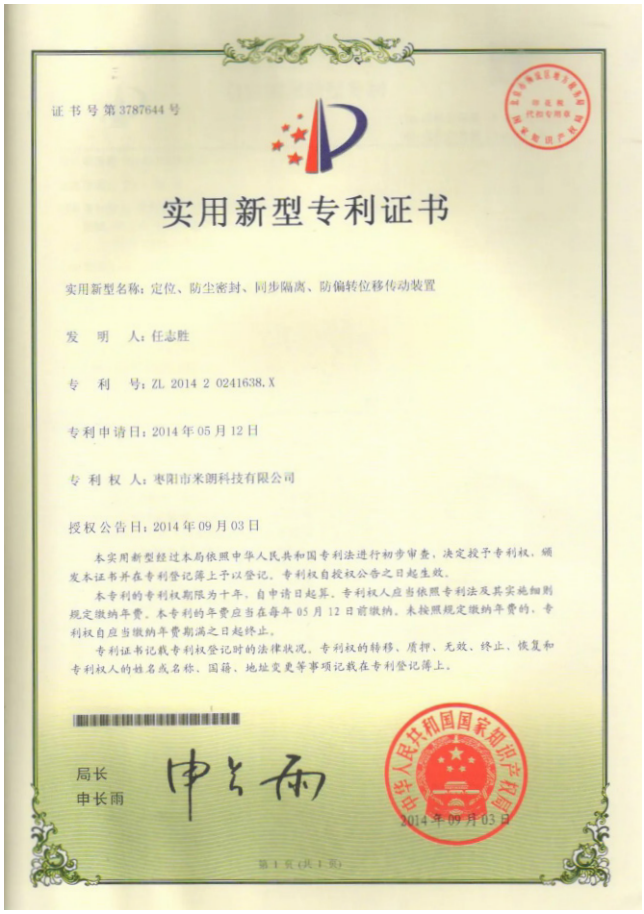
实用新型专利号Utility model patent number：ZL 2014 2 0241635.6

产品简介 Product Introduction

LS2系列是本公司结合十几年的生产制造经验和客户使用反馈意见，经工程部和研发部共同优化升级改良而成，产品外观、内部结构、材质、生产工艺、技术参数以及密封等级等参数都进行了大幅度升级，原材料均采用原装进口，生产制造完全采用目前国际同行业最先进技术及工艺，产品经过一亿次的往复寿命试验后，各项性能指标和技术参数仍然符合行业最高标准。其信号输出端与线板链接装置获国家实用新型专利，产品外观获得国家外观设计专利。

LS2 series is the company combined with more than ten years of manufacturing experience and customer feedback, by the engineering department and R & D department to optimize and improve, product appearance, internal structure, material, production process, technical parameters and sealing grade parameters have been greatly upgraded, raw materials are imported. Production and manufacturing fully adopt the international industry's most advanced technology and process, the product after 100 million times of reciprocating life test, the performance indicators and technical parameters are still in line with the industry's highest standards. The signal output terminal and wire board link device has obtained the national utility model patent, and the product appearance has obtained the national design patent.

专利证书 Patent Certificate


证书号第3787644号

实用新型专利证书

实用新型名称：定位、防尘密封、同步隔离、防偏转位移传动装置

发　明　人：任志胜

专　利　号：ZL 2014 2 0241638.X

专利申请日：2014年05月12日

专　利　权　人：枣阳市米朗科技有限公司

授权公告日：2014年09月03日

本实用新型经过本局依照中华人民共和国专利法进行初步审查，决定授予专利权，颁发本证书并在专利登记簿上予以登记。专利权自授权公告之日起生效。

本专利的专利权期限为十年，自申请日起算。专利权人应当依照专利法及其实施细则规定缴纳年费。本专利的年费应当在每年05月12日前缴纳。未按照规定缴纳年费的，专利权自应当缴纳年费期满之日起终止。

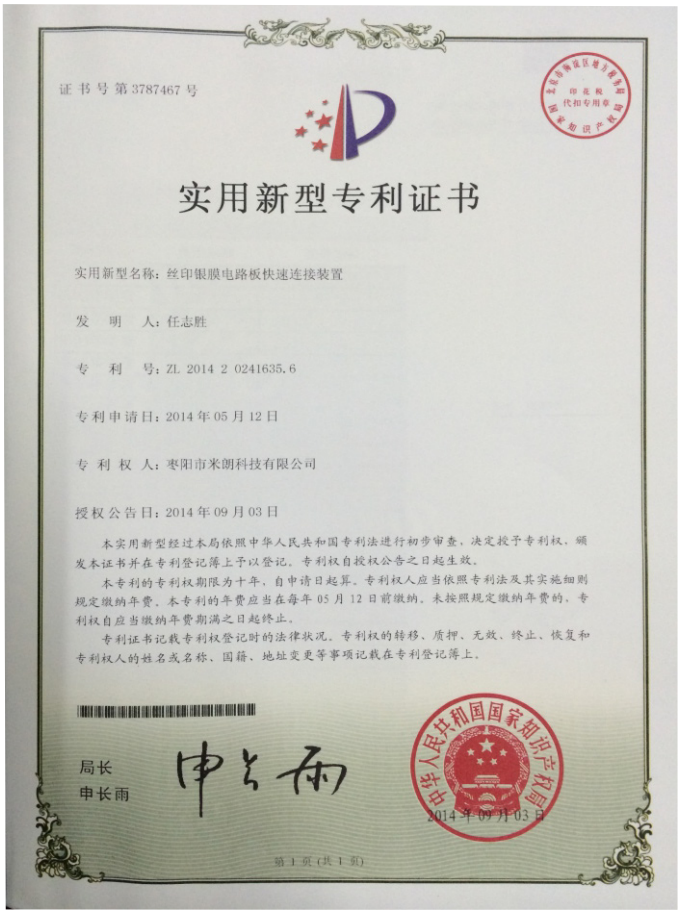
专利证书记载专利权登记时的法律状况。专利权的转移、质押、无效、终止、恢复和专利权人的姓名或名称、国籍、地址变更等事项记载在专利登记簿上。

局长
申长雨

中华人民共和国国家知识产权局

2014年09月03日

第1页(共1页)


证书号第3787467号

实用新型专利证书

实用新型名称：丝印银膜电路板快速连接装置

发　明　人：任志胜

专　利　号：ZL 2014 2 0241635.6

专利申请日：2014年05月12日

专　利　权　人：枣阳市米朗科技有限公司

授权公告日：2014年09月03日

本实用新型经过本局依照中华人民共和国专利法进行初步审查，决定授予专利权，颁发本证书并在专利登记簿上予以登记。专利权自授权公告之日起生效。

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局长
申长雨

中华人民共和国国家知识产权局

2014年09月03日

第1页(共1页)

产品补充说明 Product Supplement

外壳 Housing	硬制阳极氧化铝 Hard anodized aluminum oxide	滑刷组件 Sliding brush component	贵金属多触脚滑刷，带弹性阻尼 Precious metal multi touch foot sliding brush with elastic damping
安装 Lnstall	划入式可调节固定卡钳 Insert type adjustable fixed calipers	电阻元件 Resistance	导电塑料 Conductive plastics
拉杆 Bar	不锈钢，可旋转，M6外螺纹 Stainless steel, rotatable, M6 external thread	电气连接 Electrical connections	标准4极镀银赫斯曼插座 Standard 4-pole silver plated Hesmann socket 航空插头式4极 Aviation plug type 4-pole 防水接头式4极 Waterproof joint type 4-pole
轴承 Bearing	柔性回转缓冲滑动轴承 Flexible rotary buffering sliding bearing		

标准发货配件 Standard Shipped Parts



赫斯曼插头*1 Hersman plug *1
密封垫片*1 Sealing gasket *1
万向节*1 Universal joint *1
滑入式安装支架*2 Sliding in mounting bracket*2
M4平垫片*4 M4 Flat gasket*4
M4弹垫*4 M4 spring cushion*4
M4X20螺钉*4 M4X20 screws*4

注意事项 Matters Need Attention



① 选配防滑螺母加螺丝胶固定
Non-slip nuts are optional and fixed with screw glue

② 标配双卡簧固定
Standard double circlip fixed

电子尺滑芯用于震动较大场合时，若使用标配双卡簧结构固定拉杆容易脱落，可采用防滑螺母加螺丝胶固定方案，代替标配双卡簧固定方案。如图①，滑芯处用防滑螺母加螺丝胶固定。若使用防滑螺母加螺丝胶固定方案，下单时型号后面需带-GD，例如KTC1-100mm-GD,详见选型。

多用于注塑机顶针等拉杆容易拉脱的场合，左图①为选配防滑螺母加螺丝胶固定，右图②为标配双卡簧固定。

Electronic ruler sliding core is used in occasions with large vibrations. If the standard double spring clip structure is used to fix the pull rod, it is easy to fall off. The anti-slip nut and glue fixing solution can be used instead of the standard double spring clip fixing solution. As shown in Figure 1, the sliding core is fixed with an anti-slip nut and glue. If the anti-slip nut and glue fixing solution is used, the model number should be followed by "-GD" when placing an order, such as KTC1-100mm -GD. For more details, please refer to the selection guide.

It is mainly used in occasions where the pull rod is easy to fall off, such as the ejector pin of an injection molding machine. Figure 1 on the left shows the optional anti-slip nut and glue fixing, and Figure 2 on the right shows the standard double spring clip fixing.

标准技术参数 Standard Technical Parameters

注意事项：在下列数据表中所列的线性度、使用寿命等数值是传感器工作在以运算放大器作为电压输出器输出电压给滑刷，且滑刷上不带负载(Ie≤10μA)的条件得出的。

Notes:The linearity, service life, and other values listed in the following data table indicate that the sensor operates with an operational amplifier as the voltage output to the sliding brush, and the sliding brush is not loaded (Ie ≤ 10) μ A) Derived from the conditions.

	LS2通用拉杆系列 LS2 universal pull rod series	50~75 mm	100~150 mm	175~550 mm	600~1000 mm	1150~1250 mm
电气参数 Electrical parameters	独立线性度(±%) Independent linearity (±%)	0.1%		0.05%		
	电阻公差±10% Resistance tolerance ± 10%	2.0KΩ	3.0KΩ	5.0KΩ	10.0KΩ	20.0KΩ
	电气行程 Electrical stroke	量程+3mm Range+3mm				
	解析度/分辨率 Resolution	Infinite无断解析 Infinite uninterrupted parsing				
	可重复性 Repeatability	0.01mm				
	滑刷正常工作电流 Normal working current of the sliding brush	≤10μA				
	致故障时滑刷的最大电流 The maximum current of the sliding brush during the fault	10mA				
	最大允许工作电压 Maximum allowable working voltage	36V				
	输出电压与输入电压的有效温度系数比 The effective temperature coefficient ratio of output voltage to input voltage	通常5ppm/K Usually 5ppm/K				
	绝缘阻抗(500VDC) Insulation impedance (500VDC)	≥10MΩ				
	绝缘强度(500VAC,50Hz) Insulation strength (500VAC, 50Hz)	≤100μA				
机械参数 Mechanical parameters	铝管外壳长度(A) Aluminum tube housing length(A)	量程+47.5mm Range+47.5mm				
	机械行程(B) Mechanical stroke (B)	量程+5mm(±1) Range+5mm(±1)				
	拉杆最大承载拉力 The maximum load-bearing tension of the pull rod	50KG				
	工作受力 Work stress	水平方向＜10N Horizontal direction＜10N				
		竖直方向≤10N Vertical direction ≤ 10N				
环境参数 Environmental parameters	抗振动标准 Anti vibration standard	5~2000Hz,A_{max}=0.8mm,a_{max}=20g				
	抗冲击标准 Impact resistance standard	50g,11ms				
	工作温度范围 Working temperature range	-60°C~+150°C				
	寿命 life	＞100x10^6 次(time)				
	最大运行速度 Maximum operating speed	10m/S,最大运行加速度10m/s^2 10m/S, maximum operating acceleration 10m/s^2				
	防护等级 Protection grade	最高IP67(DIN40500/IEC529) Maximum IP67 (DIN40500/IEC529)				

量程选型参考:
Range selection reference:
单位:mm
Unit: mm

50	75	100
110	125	130
150	175	200
225	250	275
300	325	350
360	375	400
425	450	475
500	550	600
650	700	750
800	850	900
950	1000	
1150	1250	

注：LS2默认不带线，LS2C、LS2P线长1米。

Note:LS2 does not have a line by default, and LS2C and LS2P lines are 1 meter long.

安装尺寸图 Installation Size Chart

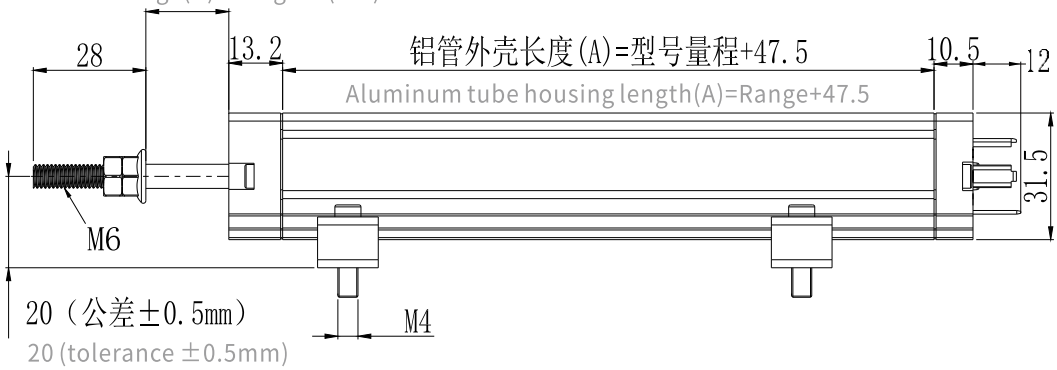
单位 unit:mm

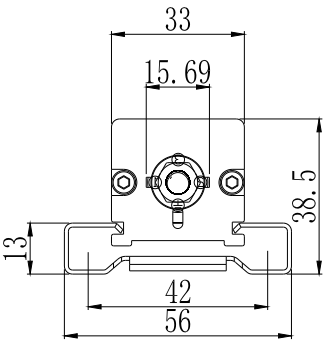


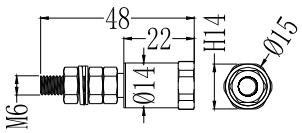


默认五金支架(左)，可选铝合金支架(右)
Default hardware support (left),
optional aluminum support (right)

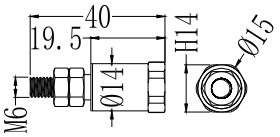
机械量程(B)=型号量程+5(±1)
Mechanical range(B)=Range+5(±1)



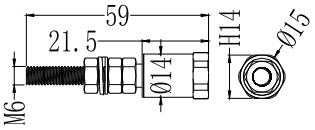




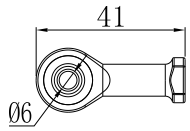
标准万向节(默认)
Standard universal joint (default)



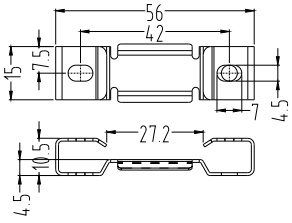
缩短万向节(可选)
Shortened universal joint (optional)



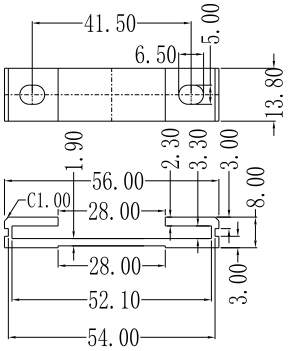
加长万向节(可选)
Extend the universal joint(Optional)



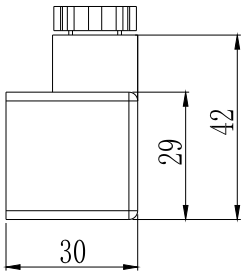
鱼眼接头(可选)
Fisheye connector (optional)



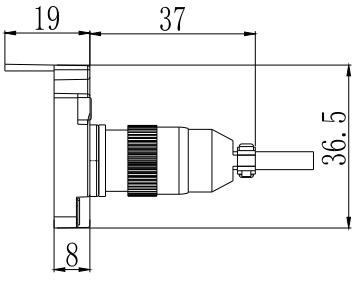
默认五金支架
Default hardware bracket



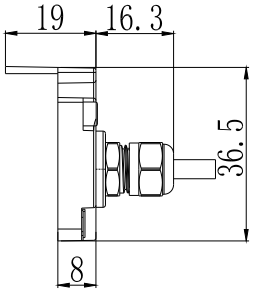
可选铝合金支架
Optional aluminum bracket



LS2:
默认：标准赫斯曼插头式
Default:Standard Hersman plug type



LS2P:
可选：航空插头式
Choosable:Aviation plug

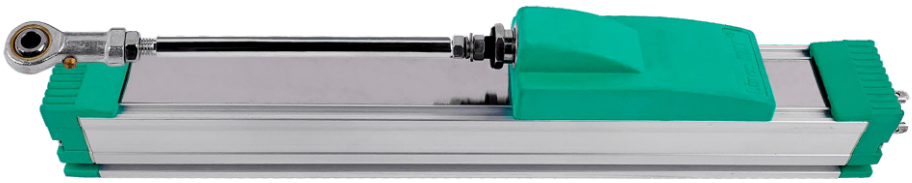


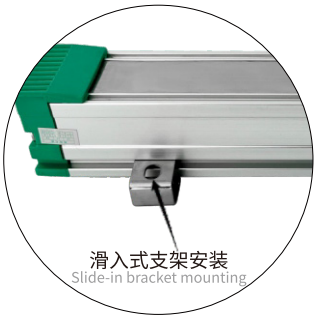
LS2C:
可选：防水接头式
Choosable:Waterproof joint

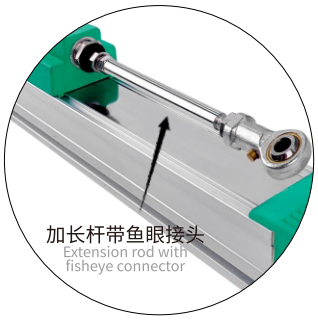
LF系列 通用滑块式直线位移传感器

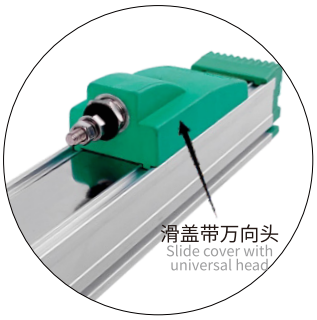
LF series universal sliding block linear displacement sensor

产品实物图 Physical Products Pictures











标准技术参数 Standard Technical Parameters

LF通用滑块系列 LF general purpose slider series	50~75 mm	100~150 mm	175~550 mm	600~1000 mm	1150~2500 mm
线性精度（±%FS） Linear accuracy (±% FS)	0.1%		0.05%		
电阻公差±10% Resistance tolerance ± 10%	2.0KΩ	3.0KΩ	5.0KΩ	10.0KΩ	20.0KΩ
机械行程 Mechanical travel	行程+6mm Trip+6mm				
解析度/分辨率 Resolution	Infinite无断解析 Infinite uninterrupted parsing				
重复性精度 Repeatability accuracy	0.01mm				
最大工作速度 Maximum working speed	10m/S				
建议使用电流 Recommended current	≤1mA				
使用温度范围 Operating temperature range	-60°C～+150°C				
输出类型 Type of output	0～100%给定输入工作电压(随位移变化而变化) 0~100% of the given input working voltage (varies with displacement)				
灵敏度 Sensitivity	1				
温漂 Temperature drift	无限小 infinitesimal				

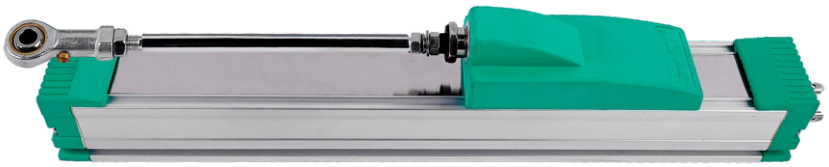
量程选型参考:
Range selection reference:

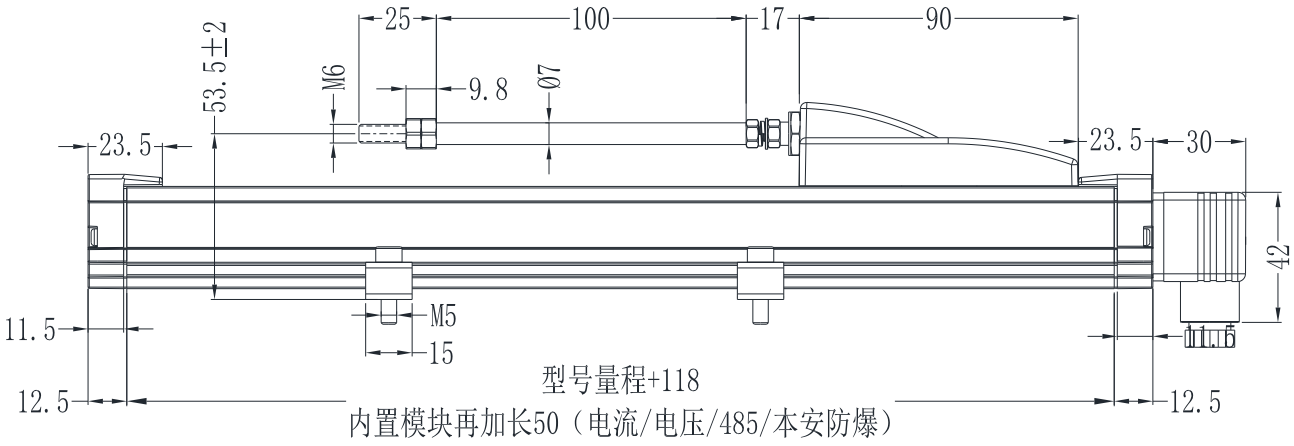
单位:mm
Unit: mm

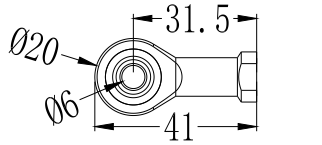
50	75	100
110	125	130
150	175	200
225	250	275
300	325	350
360	375	400
425	450	475
500	550	600
650	700	750
800	850	900
950	1000	1150
1250	1350	
1450	1500	
1600	1800	
2000	2250	
2500		

安装尺寸图 Installation Size Chart

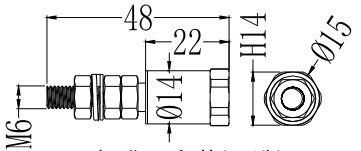
单位 unit:mm



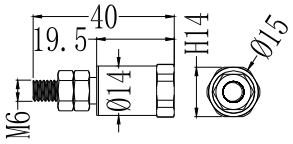




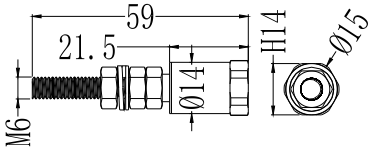
鱼眼接头(默认)
Standard universal joint (default)



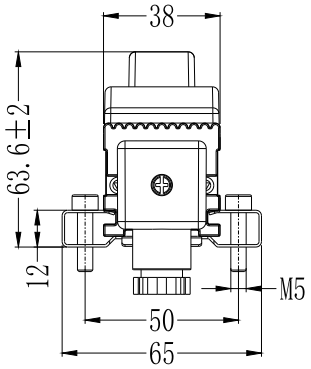
标准万向节(可选)
Standard universal joint (optional)

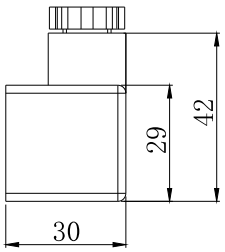


缩短万向节(可选)
Shortened universal joint (optional)

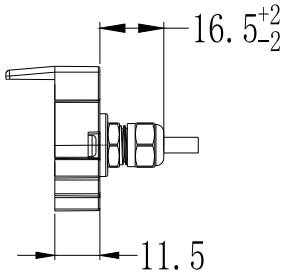


加长万向节(可选)
Extend the universal joint(Optional)

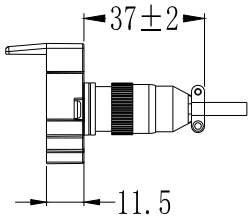




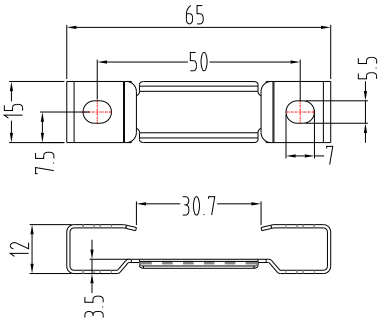
LF:
赫斯曼插头式（标配）
Hersman plug (standard)



LFC:
防水接头式
Waterproof joint type



LFP:
航空插头式
Aviation plug type



安装支架
installing support

LM系列 微型拉杆式直线位移传感器

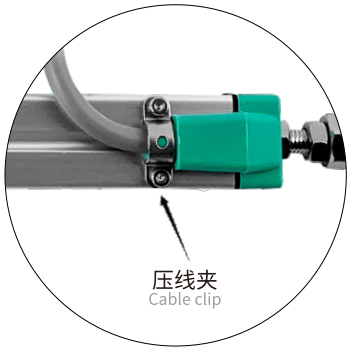
LM series micro pull rod linear displacement sensor

产品实物图 Physical Products Pictures





不锈钢拉杆
Stainless steel tie rod



压线夹
Cable clip



滑入式安装支架
Slide-in mounting bracket

标准技术参数 Standard Technical Parameters

LM微型拉杆系列 LM micro tie rod series	10~25mm	30~150mm	175~300mm
线性精度（±%FS） Linear accuracy (±% FS)	0.1%		
电阻公差±10% Resistance tolerance ± 10%	2.0KΩ	5.0KΩ	0.05%
机械行程 Mechanical travel	行程+3mm Trip+3mm		
解析度/分辨率 Resolution	Infinite无断解析 Infinite uninterrupted parsing		
重复性精度 Repeatability accuracy	0.01mm		
最大工作速度 Maximum working speed	10m/S		
建议使用电流 Recommended current	≤1mA		
使用温度范围 Operating temperature range	-60°C～+150°C		
输出类型 Type of output	0～100%给定输入工作电压(随位移变化而变化) 0~100% of the given input working voltage (varies with displacement)		
灵敏度 Sensitivity	1		
温漂 Temperature drift	无限小 infinitesimal		

量程选型参考:
Range selection reference:

单位:mm
Unit: mm

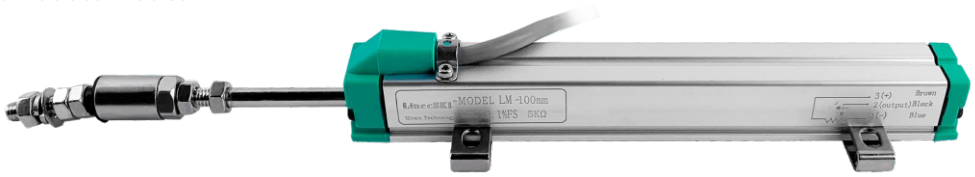
10	15	25
30	40	50
75	100	125
130	150	175
200	225	250
275	300	

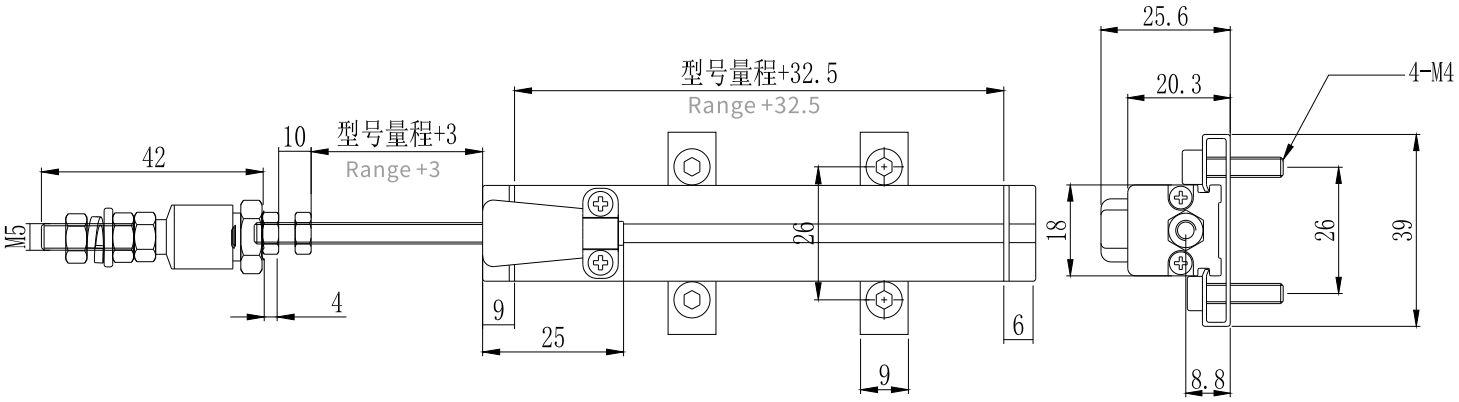
安装尺寸图 Installation Size Chart

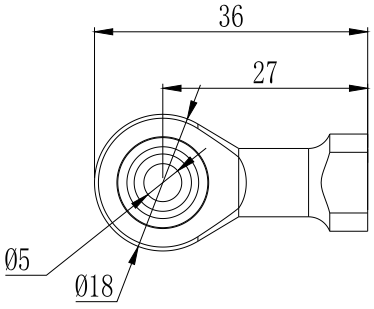
单位 unit:mm

LM

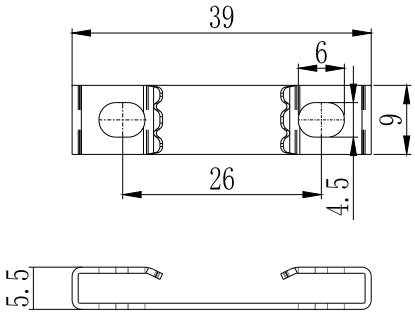
标准款External module model



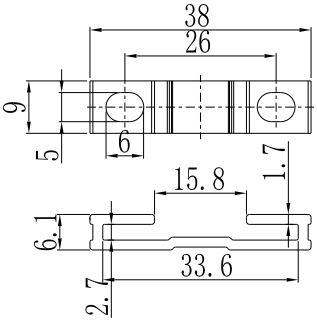




标配万向头，可选鱼眼接头
Standard with universal head, optional fisheye connector



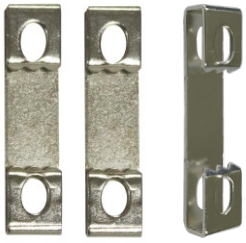
五金支架
Hardware bracket



可选铝合金支架
Optional aluminum bracket



标配四个M4x16螺丝
Four M4x16 screws are standard



标配两个五金支架
Two hardware brackets are standard

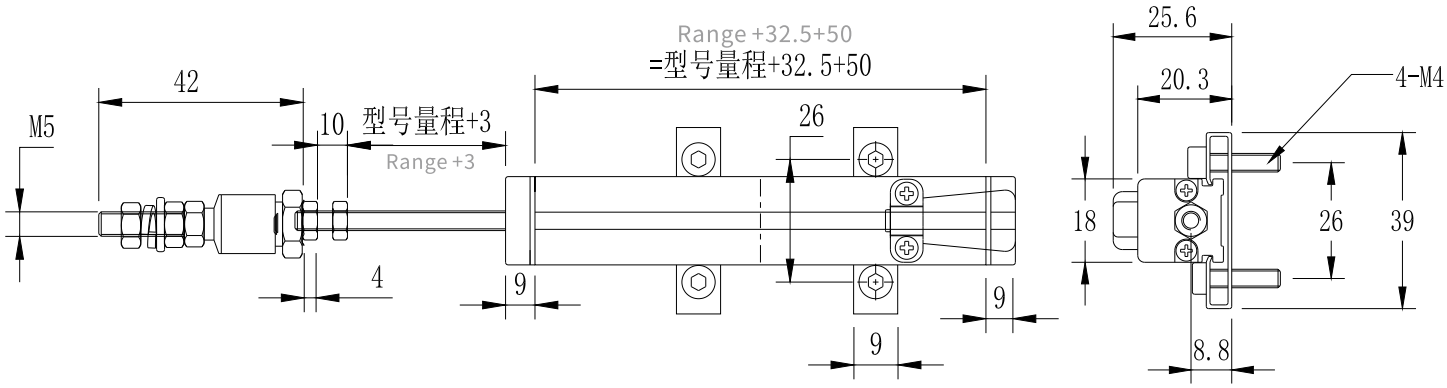


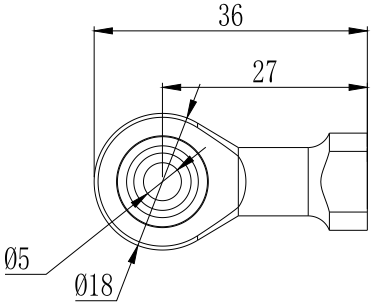
可以选配两个铝合金支架
Two aluminum alloy brackets are available

LM

内置模块款Built-in module model

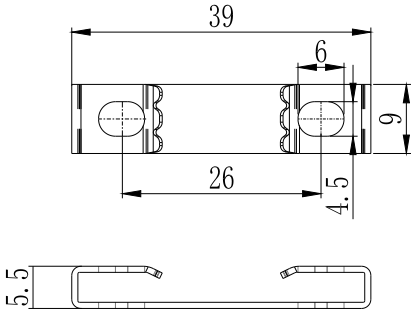






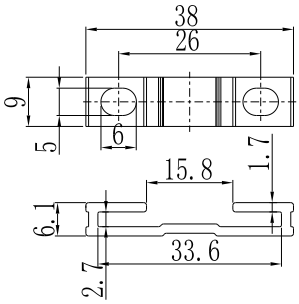
标配万向头，可选鱼眼接头

Standard with universal head, optional fisheye connector



五金支架

Hardware bracket



可选铝合金支架

Optional aluminum bracket



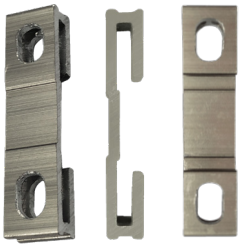
标配四个M4x16螺丝

Four M4x16 screws are standard



标配两个五金支架

Two hardware brackets are standard



可以选配两个铝合金支架

Two aluminum alloy brackets are available

LR系列 微型自复位式直线位移传感器

LR series miniature self-resetting linear displacement sensor

产品实物图 Physical Products Pictures

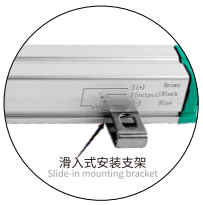
LR2





后盖无孔
The back cover no holes.





LR11





后盖有孔
The back cover has holes.





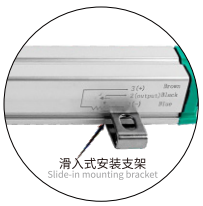
LR12





后盖有孔
The back cover has holes.





标准技术参数 Standard Technical Parameters

LR微型自复位系列 LR micro self-resetting series	10~25mm	30~150mm	175~250mm
线性精度(±%FS) Linear accuracy (±% FS)	0.1%		0.05%
电阻公差±10% Resistance tolerance ± 10%	2.0KΩ	5.0KΩ	
机械行程 Mechanical travel	行程+3mm Trip+3mm		
解析度/分辨率 Resolution	Infinite无断解析 Infinite uninterrupted parsing		
重复性精度 Repeatability accuracy	0.01mm		
最大工作速度 Maximum working speed	5m/S		
建议使用电流 Recommended current	≤1mA		
使用温度范围 Operating temperature range	-60°C～+150°C		
输出类型 Type of output	0～100%给定输入工作电压(随位移变化而变化) 0~100% of the given input working voltage (varies with displacement)		
灵敏度 Sensitivity	1		
温漂 Temperature drift	无限小 infinitesimal		

量程选型参考:
Range selection reference:

单位:mm
Unit: mm

10	15	25
30	40	50
75	100	125
130	150	175
200	225	250
275	300	

安装尺寸图 Installation Size Chart

单位 unit:mm

LR2

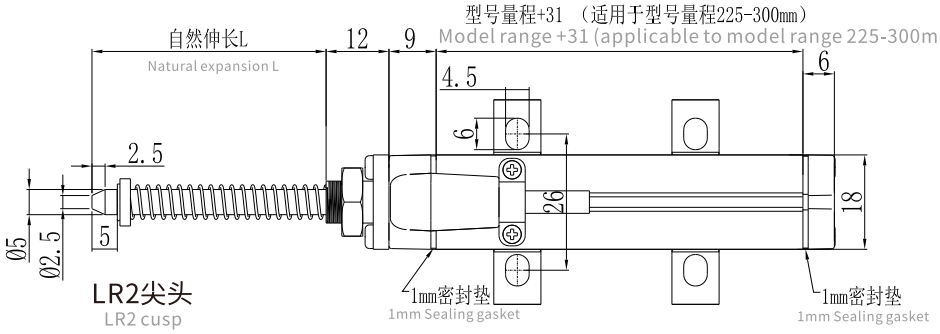
标准款External module model

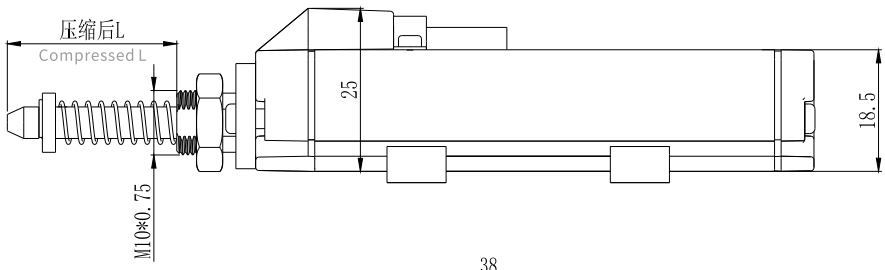


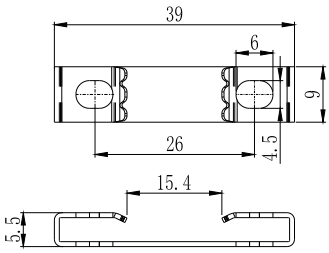


后盖无孔
The back cover no holes.

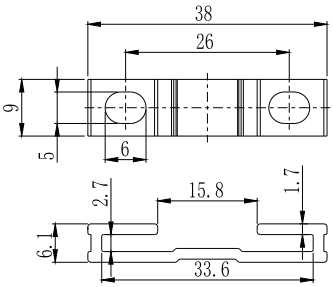
型号量程+30.5（适用于型号量程10-200mm）
Model range +30.5 (applicable to model range 10-200mm)
型号量程+31 （适用于型号量程225-300mm）
Model range +31 (applicable to model range 225-300mm)



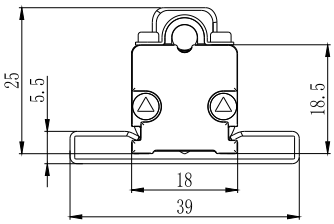




标配五金支架
Standard hardware support



可选铝合金支架
Optional aluminum bracket





标配四个M4x16螺丝
Four M4x16 screws are standard



标配两个五金支架
Two hardware brackets are standard



可以选配两个铝合金支架
Two aluminum alloy brackets are available

参数 Parameter / 量程 Range	10 mm	15 mm	25 mm	50 mm	75 mm	100 mm	125 mm	150 mm	175 mm	200 mm	250 mm	300 mm
自然伸长 Natural elongation L/mm	36	42	48	81	113	146	190	212	241	269	345	409
压缩后 After compression L/mm	23	24	20	28	35	43	62	59	63	66	92	106
标准弹簧回弹力 Standard spring resilience (N)	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7-9N	7-9N	7-9N	7-9N	7-9N
标准弹簧规格 Standard spring specification	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

LR2

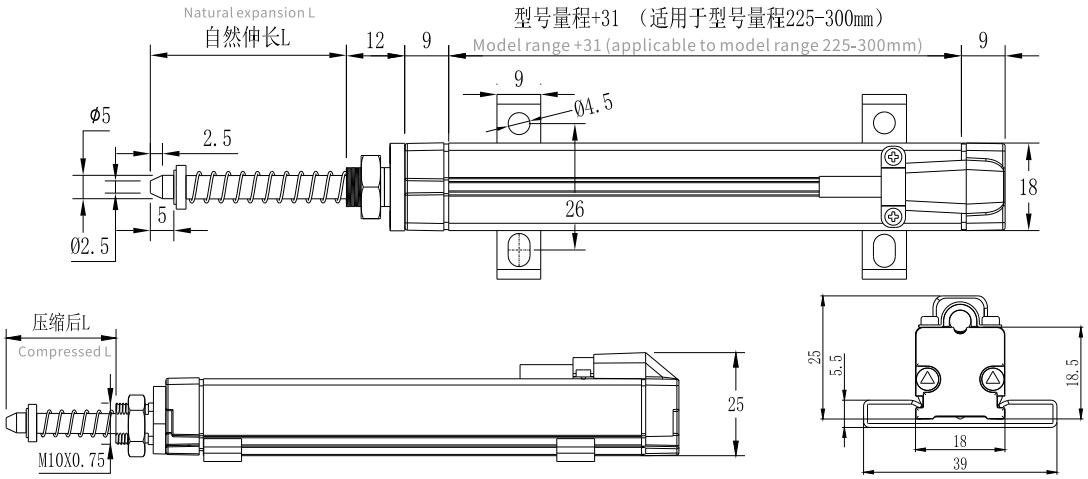
内置模块款Built-in module model

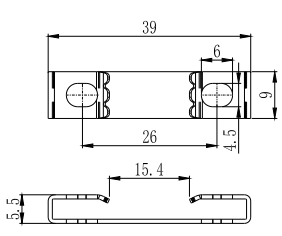




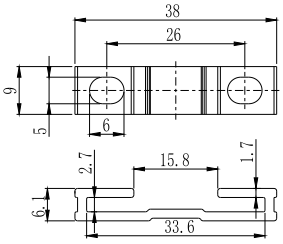
后盖无孔
The back cover no holes.

型号量程+30.5（适用于型号量程10-200mm）
Model range +30.5 (applicable to model range 10-200mm)
型号量程+31 （适用于型号量程225-300mm）
Model range +31 (applicable to model range 225-300mm)





标配五金支架
Standard hardware support



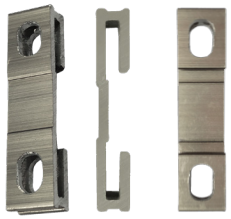
可选铝合金支架
Optional aluminum bracket



标配四个M4x16螺丝
Four M4x16 screws are standard



标配两个五金支架
Two hardware brackets are standard



可以选配两个铝合金支架
Two aluminum alloy brackets are available

参数 Parameter / 量程 Range	10 mm	15 mm	25 mm	50 mm	75 mm	100 mm	125 mm	150 mm	175 mm	200 mm	250 mm	300 mm
自然伸长 Natural elongation L/mm	36	42	48	81	113	146	190	212	241	269	345	409
压缩后 After compression L/mm	23	24	20	28	35	43	62	59	63	66	92	106
标准弹簧回弹力 Standard spring resilience (N)	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7-9N	7-9N	7-9N	7-9N	7-9N
标准弹簧规格 Standard spring specification	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

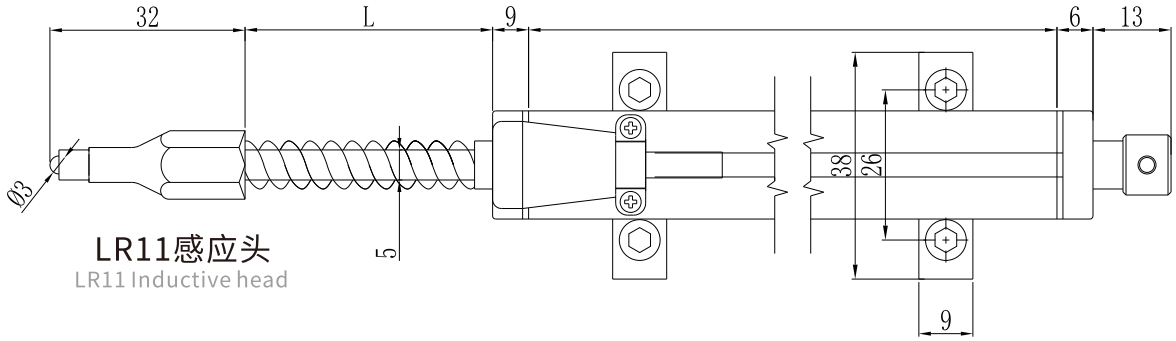
LR11



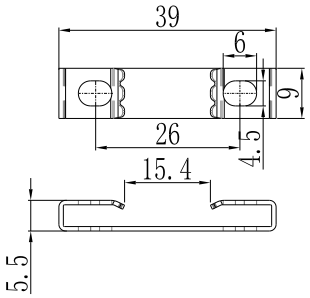


后盖有孔
The back cover has holes.

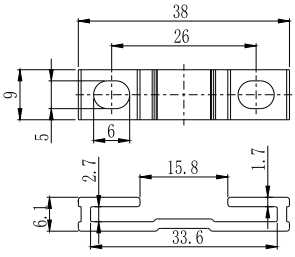
Model range +30.5 (applicable to model range 10-200mm)
型号量程+30.5（适用于型号量程10-200mm）
Model range +31 (applicable to model range 225-300mm)
型号量程+31 （适用于型号量程225-300mm）



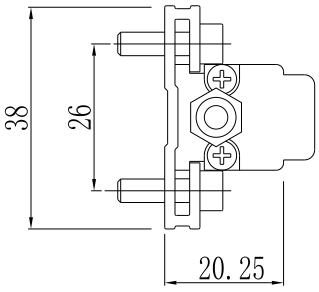
LR11感应头
LR11 Inductive head



标配五金支架
Standard hardware support

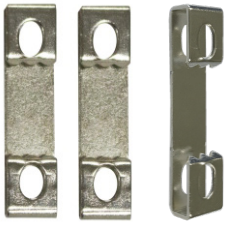


可选铝合金支架
Optional aluminum bracket

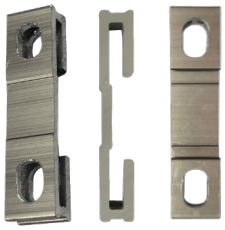




标配四个M4x16螺丝
Four M4x16 screws are standard



标配两个五金支架
Two hardware brackets are standard



可以选配两个铝合金支架
Two aluminum alloy brackets are available

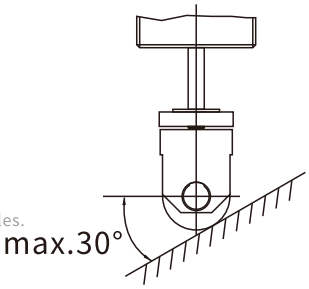
参数 Parameter / 量程 Range	10 mm	15 mm	25 mm	50 mm	75 mm	100 mm	125 mm	150 mm	175 mm	200 mm	250 mm	300 mm
自然伸长 Natural elongation L/mm	22	28	33	66	99	131	175	198	225	254	330	393
压缩后 After compression L/mm	10	11	6	15	21	30	48	45	48	52	78	90
标准弹簧回弹力 Standard spring resilience (N)	4N左右 about	4N左右 about	4N左右 about	4N左右 about	4.5N左右 about	6N左右 about	6N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about
标准弹簧规格 Standard spring specification	0.4	0.4	0.4	0.4	0.4	0.45	0.45	0.45	0.45	0.45	0.45	0.45

LR12





后盖有孔
The back cover has holes.

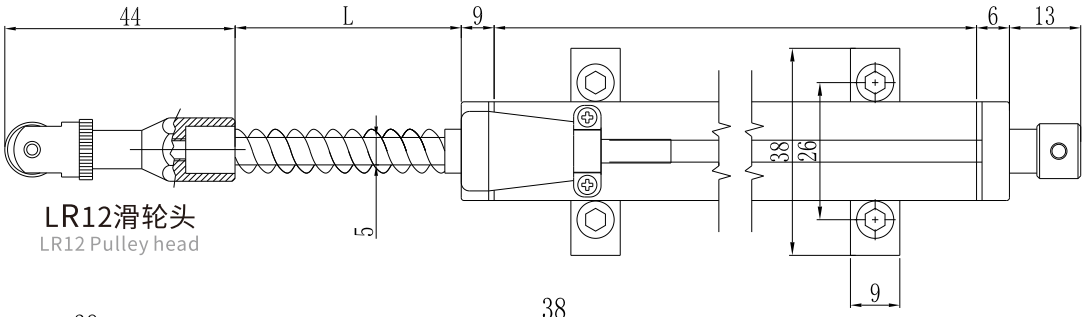


Model range +30.5 (applicable to model range 10-200mm)

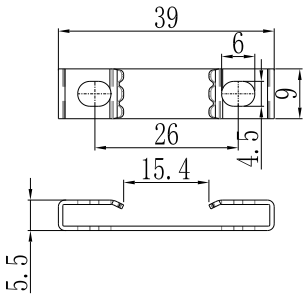
型号量程+30.5（适用于型号量程10-200mm）

Model range +31 (applicable to model range 225-300mm)

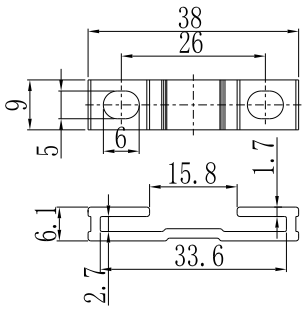
型号量程+31 （适用于型号量程225-300mm）



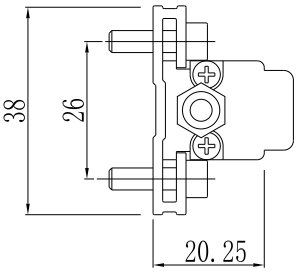
LR12滑轮头
LR12 Pulley head



标配五金支架
Standard hardware support



可选铝合金支架
Optional aluminum bracket

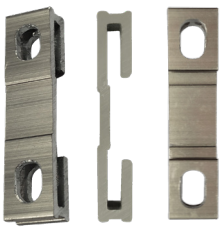




标配四个M4x16螺丝
Four M4x16 screws are standard



标配两个五金支架
Two hardware brackets are standard



可以选配两个铝合金支架
Two aluminum alloy brackets are available

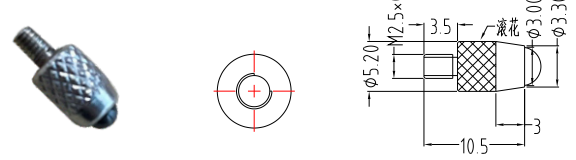
参数 Parameter / 量程 Range	10 mm	15 mm	25 mm	50 mm	75 mm	100 mm	125 mm	150 mm	175 mm	200 mm	250 mm	300 mm
自然伸长 Natural elongation L/mm	22	28	33	66	99	131	175	198	225	254	330	393
压缩后 After compression L/mm	10	11	6	15	21	30	48	45	48	52	78	90
标准弹簧回弹力 Standard spring resilience (N)	4N左右 about	4N左右 about	4N左右 about	4N左右 about	4.5N左右 about	6N左右 about	6N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about	7N左右 about
标准弹簧规格 Standard spring specification	0.4	0.4	0.4	0.4	0.4	0.45	0.45	0.45	0.45	0.45	0.45	0.45

可选接触头 Optional contact head

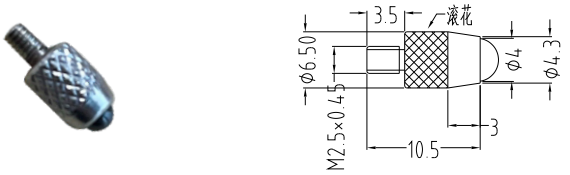
LR11/LR12:接触头螺纹尺寸可定制为M2.5*0.45，可更换以下接触头

LR11/LR12: The contact head thread size can be customized to M2.5*0.45, and the following contacts can be replaced

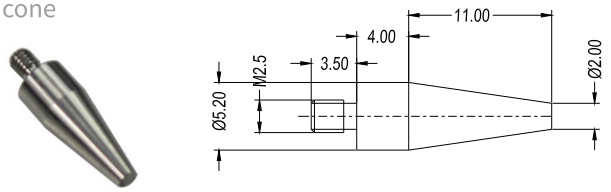
氮化硅陶瓷球头
Silicon nitride ceramic ball



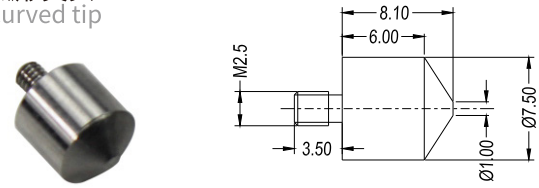
氮化硅陶瓷球头
Silicon nitride ceramic ball tip



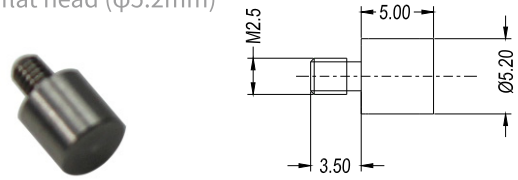
锥头
cone



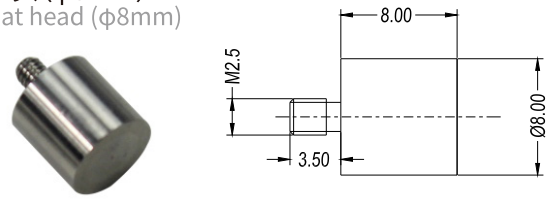
弧形尖头
curved tip



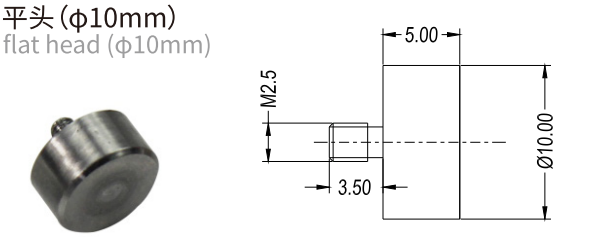
平头(ϕ5.2mm)
flat head (ϕ5.2mm)



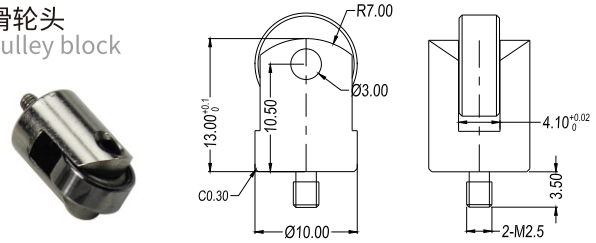
平头(ϕ8mm)
flat head (ϕ8mm)



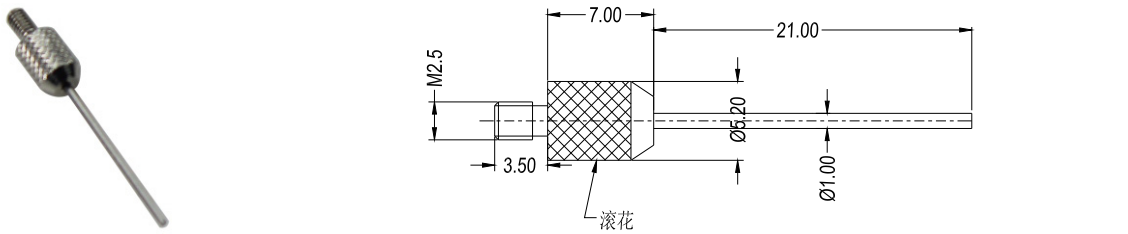
平头(ϕ10mm)
flat head (ϕ10mm)



滑轮头
pulley block



针头
pinhead







如需定制其他规格接触头，可以联系我们

If you need to customize other specifications of contact heads, you can contact us.

变送模块 Transmitter Module

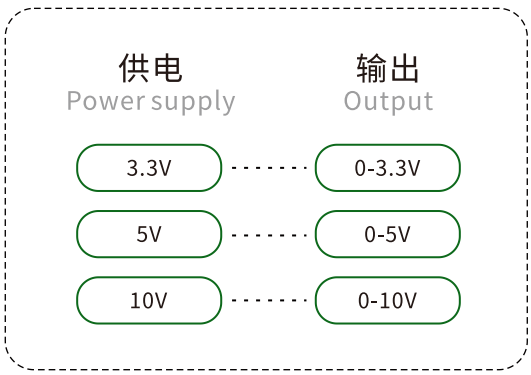
产品说明 Description Of Products

普通的电子尺和拉绳尺，电阻式的，都是电位计原理的位移传感器，实际上就相当于一个电位器，通俗点讲也叫：滑动变阻器，供电多少V电压，输出就是0~多少V电压；即，客户如果供电电压是5V，那输出直接就是0~5V。如果供电电压是10V，那输出就是0~10V。如果供电3.3V，那输出就是0~3.3V。 如果供电3.6V，那输出就是0~3.6V。如果供电电压是24V，那输出就是0~24V。如果客户问我们电子尺是什么信号输出的，可以直接回答是电压输出，因为原则上是根本没有电阻输出这一说法的，电阻根本是无法被输出的。

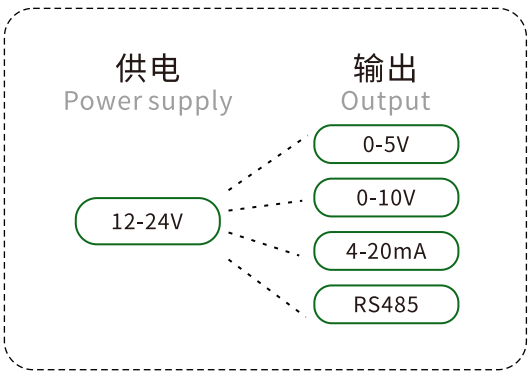
如果客户供电电压只有24V的，没有5V或者是10V的电源，但是输出却想要0~5V或者0~10V，那就需要配我们的模块即可。如果客户需要4-20mA或者RS485信号输出的，就必须配模块才行。模块可以内置在传感器内部，也可以外置插头模块、或单独的铝合金或塑胶壳的模块，此时直接给模块供电电压12~24V均可以，输出可以是0~5V，0~10V，4~20mA，RS485其中一种。如果选择的是四线制模块，那么供电电压为18~36V。

Ordinary electronic ruler and rope ruler, resistance type, are the displacement sensor of the principle of potentiom-eter, in fact, it is equivalent to a potentiometer, popular point also called: sliding rheostat, power supply how many V voltage, the output is 0~ how many V voltage; That is, if the customer supply voltage is 5V, the output is directly 0~5V. If the supply voltage is 10V, the output is 0~10V. If the power supply is 3.3V, the output is 0~3.3V. If the power supply is 3.6V, the output is 0~3.6V. If the supply voltage is 24V, the output is 0~24V. If the customer asks us what signal output electronic ruler, you can directly answer is the voltage output, because in principle there is no resista-nce output of this statement, resistance can not be output at all.

If the customer supply voltage is only 24V, there is no 5V or 10V power supply, but the output wants 0~5V or 0~10V, it needs to be equipped with our module. If the customer needs 4-20mA or RS485 signal output, it must be equipped with a module. Module can be built in the sensor, can also be external plug module, or a separate aluminum alloy or plastic shell module, at this time directly to the module power supply voltage 12~24V can be, the output can be 0~5V, 0~10V, 4~20mA, one of the RS485. If you choose a four-wire molding block, then the supply voltage is 18~36V.



电子尺不配模块
Electronic ruler without module



电子尺搭配模块
Electronic ruler with module

内置变送模块 Built-in transmitter module

产品概述 Product Overview

LS2、LF、LM、LR2均可定制内置式变送模块，此时模块直接嵌入到电子尺壳体中，整个电子尺、长度在准长度的情况下要加长33～50mm左右（视不同型号略有差别），可以让电子尺直接输出标准4～20mA电流、0～5V或0～10V或-5～5V或-10～10V电压、RS485等信号。

LS2、LF、LM、LR2 can be customized built-in transmission module, then the module is directly embedded in the electronic ruler housing, The entire length of the electronic ruler in the case of standard length should be extended by 33 ~ 50mm or so (depending on the different models slightly different), so that the electronic ruler can directly output the standard 4 ~ 20mA current, 0 ~ 5V or 0 ~ 10V or -5 ~ 5V or -10 ~ 10V voltage, RS485 and other signals.







部分内置模块案例
Some built-in module cases

部分产品内部加入内置模块后的产品尺寸 Product Dimensions of Selected Models with Built-in Module

现将内置式变送模块铝管加长尺寸做统一标准，具体尺寸如下表，如客户安装空间受限，内置式电流模块铝管尺寸最短可加长33mm（下单需备注），无备注默认为标准尺寸铝管加长50mm。若有老客户返单或者要求与原来尺寸一致的务必在备注用老尺寸。

The extension size of the aluminum tube of the built-in transmission module is now a unified standard, the specific size is as follows: If the customer's installation space is limited, the minimum extension size of the aluminum tube of the built-in current module can be 33mm (note to order), and the default is 50mm extension of the standard size aluminum tube without remarks. If an old customer returns an order or requires the same size as the original, be sure to use the old size in the remarks.

电子尺内置模块
Electronic ruler built-in module

产品型号 Product model	铝管长度 Aluminum tube length	内置模块铝管加长尺寸 The built-in module aluminum tube is extended in size
LS2	型号量程+48 Range+48	内置电流、电压、485、本安（电流/485），统一加长50mm Built-in current, voltage, 485, Intrinsically safe (current/485), unified extension 50mm
LF	型号量程+118.5 Range+118.5	内置电流、电压、485、本安（电流/485），统一加长50mm Built-in current, voltage, 485, Intrinsically safe (current/485), unified extension 50mm
LM	型号量程+32.5 Range+32.5	内置电流、电压、本安（电流），统一加长50mm Built-in current, voltage, Intrinsically safe (current), unified extension 50mm
LR2	型号量程+30.5 Range+30.5	内置电流、电压、本安（电流），统一加长50mm Built-in current, voltage, Intrinsically safe (current), unified extension 50mm

LR11、LR12不可内置模块
LR11 and LR12 are not built-in modules

内置、外置变送模块 Built-in and External transmitter modules

产品概述 Product Overview

可方便与任意一款电子尺相连接，分为航空插头和防水接头两种出线方式。大部分外置式变送模块外壳防水，防尘，结构紧凑，美观大方。多种外观尺寸可供客户选择，信号变送输出：0～5V、0～10V、-5～5V、-10～10V、4～20mA、RS485；电流模块：将电压信号直接转换成4～20mA的电流信号，分二线制和三线制；电压模块：将12～24V工作电压稳压并输出成0～5V或0～10V等电压信号；RS485模块：将模拟信号转成RS485数字信号。

Can be easily connected with any electronic ruler, divided into aviation plug and waterproof connector two ways of wire. Most of the external transmission modules are waterproof, dust-proof, compact and beautiful. A variety of sizes are available for customers to choose, signal transmission output: 0 ~ 5V, 0 ~ 10V, -5 ~ 5V, -10 ~ 10V, 4 ~ 20mA, RS485; Current module: the voltage signal is directly converted into 4 ~ 20mA current signal, divided into two wire system and three wire system; Voltage module: the 12 ~ 24V working voltage regulator and output into 0 ~ 5V or 0 ~ 10V equal voltage signal; RS485 module: Converts analog signals into RS485 digital signals.

产品选型 Product Types Choosing

MO □□ □□ □

模块外壳选择：
Module housing selection:

MN:内置模块
MN:Built-in Module

MO:外置式铝合金外壳
MO: External aluminum alloy housing

MO1:外置式塑胶外壳
MO1: External plastic shell

MO2:外置式黑色小塑胶外壳
MO2: External small black plastic case

MO3:外置式塑胶小圆管外壳
MO3: External plastic cylindrical tube shell

MO4:固定式安装电子仓
MO4: Fixed installation electronic bin

MO5:标准35mm导轨式安装电子仓
MO5: Standard 35mm rail mounted electronic bin

输出信号方式：
Output signal mode:

V1：0-5V　V2：0-10V

V3：-5~5V　V4：-10~10V

A1：4-20mA 三线制
A1:4-20mA three-wire system

A2：4-20mA 二线制
A2:4-20mA two-wire system

RS：RS485(MODBUS-RTU) 12位分辨率
RS: RS485(MODBUS-RTU) 12-bit resolution

RSG：RS485(MODBUS-RTU) 16位高分辨率
RSG: RS485(MODBUS-RTU) 16-bit high resolution

GLV3：-5~5V 隔离四线制
GLV3:-5~5V isolated four-wire

GLV4：-10~10V 隔离四线制
GLV4:-10~10V isolated four-wire

GLV5：0~5V 隔离四线制
GLV5:0~5V isolated four-wire

GLV6：0~10V 隔离四线制
GLV6:0~10V isolated four-wire

GLA4：4-20mA 隔离四线制
GLA4:4-20mA isolated four-wire system

FGV3：-5~5V 非隔离四线制
FGV3:-5~5V non-isolated four-wire system

FGV4：-10~10V 非隔离四线制
FGV4:-10~10V non-isolated four-wire system

FGV5：0~5V 非隔离四线制
FGV5:0~5V non-isolated four-wire system

FGV6：0~10V 非隔离四线制
FGV6:0~10V non-isolated four-wire system

FGA4：4-20mA 非隔离四线制
FGA4:4-20mA non-isolated four-wire system

信号输出逻辑大小方向
Signal output logical size direction

N:电子尺拉杆拉出数值增大(默认)
N: electronic ruler rod pull out value increased (default)

S:电子尺拉杆拉出数值减小
S: The pull-out value of the electronic ruler rod decreases

结构选配
Structure selection

空白:默认标准
Blank: Default standard

K:卡扣式安装(限MO系列)
K: Snap mounting (MO series only)

R:耳式安装(限MO系列)
R: Ear mounting (MO series only)

R1:小耳式安装(MO(A1/A2))
本安(BAMO)A2
R1: Small ear mounting (MO (A1/A2))
Intrinsic safety(BAMO)A2

例:MOV2N表示外置式铝合金外壳,0-10V信号输出,电子尺拉杆拉出数值增大。
MOA2NK表示外置式铝合金外壳,4-20mA二线制信号输出,电子尺拉杆拉出数值增大,卡扣式安装。

Example: MOV2N represents the external aluminum alloy shell, 0-10V signal output, and the value of the electronic ruler pull rod is increased.
MOA2NK indicates external aluminum alloy shell, 4-20mA two-wire signal output, electronic ruler rod pull out value increases, snap installation.

注1：V3：-5~5V、V4：-10-10V、GLV3：-5~5V隔离四线制、FGV3：-5~5V非隔离四线制、GLV4：-10~10V隔离四线制、FGV4：-10~10V非隔离四线制限MO外壳模块可做。

Note 1: V3:-5~5V,V4: -10-10V, GLV3: -5~5V isolated four-wire system, FGV3: -5~5V non-isolated four-wire system,GLV4: -10~10V isolation four-wire system, FGV4: -10~10V non-isolated four-wire limited MO housing modules can be done.

注2：其他隔离四线制限MO，MO-R外壳模块可做，这种型号是变送模块中包含电源隔离模块，抗干扰能力比较强，该模块可以内置在传感器内部(部分产品可内置)也可以通过外置单独模块，将其与传感器连接。 RS485信号输出限MO，MO-R，MO1，MO4，MO5外壳可做,MO-R外壳仅可做电流信号输出。

Note 2: Other isolated four-wire system limited MO, MO-R shell module can be done, this model is the transmission module contains the power isolation module, anti-interference ability is relatively strong, the module can be built in the sensor (some products can be built in) can also be external separate module, it is connected with the sensor. RS485 signal output limit MO, MO-R, MO1, MO4, MO5 enclosures can do, MO-R enclosures can only do current signal output.

注3：拉杆式电子尺默认拉杆未拉出时数值为最小值，完全拉出时数值为最大值；弹簧自复位式电子尺默认测杆完全向内压缩为最小值，未压缩状态为最大值；滑块式电子尺默认接线端为最小值，向另一端移动数值变大(既此时的信号输出逻辑大小方向为N，如需改变信号输出逻辑大小方向请选S)

Note 3: The default value is the minimum value when the rod is not pulled out, and the maximum value when the rod is completely pulled out. The default value of the spring self-resetting electronic ruler is the minimum value when the measuring rod is completely compressed inward, and the maximum value when it is uncompressed. The default terminal of the slider electronic ruler is the minimum value, and the moving value to the other end becomes larger (at this time, the signal output logical size direction is N, if you need to change the signal .output logical size direction, please select S).

电位器转RS485信号变送模块

Potentiometer To RS485 Signal Transmission Module

产品概述 Product overview

电位器转换RS485信号变送器是一款工业级电位器转数字信号输出产品，采用12位/16位ADC精准采样，经过内部高性能MCU处理输出RS485信号，并遵循标准工业协议MODBUS-RTU，适用于各种工业场合及自动化控制系统。模块配套米朗公司PC端上位机软件，更方便客户进行数据测试及现场调试工作。

Potentiometer conversion RS485 signal transmitter is an industrial-grade potentiometer to digital signal output product, using 12 bit /16 bit ADC precision sampling, through the internal high-performance MCU processing output RS485 signal, and follow the standard industrial protocol MODBUS-RTU, suitable for various industrial occasions and automatic control systems. The module is compatible with the PC software of Milang Company, which is more convenient for customers to carry out data testing and field debugging.

技术参数 Technical parameters

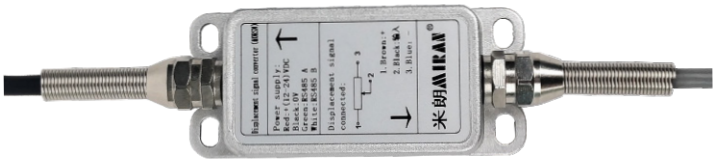
工作电压 Operating voltage	+12V~+28VDC
工作电流 Operating current	≤25mA(供电24VDC)
输入信号 Input signal	电位器 Potentiometer
输出信号 Output signal	RS-485
采样基准电压 Sampling reference voltage	2.5V基准源 2.5V reference source
采样分辨率 Sampling resolution	12位/16位ADC(可选) 12-bit / 16-bit ADC(optional)
通信协议 Communication protocol	MODBUS-RTU
通信波特率 Communication baud rate	2400~115200bps
通信距离 Communication distance	RS-485通信距离＜1200m RS-485 communication distance < 1200m
工作环境 Work environment	温度-30~+85℃，湿度0~85%不结露 Temperature -30~+85℃, humidity 0~85% no condensation
接线端子说明(输入端) Terminal description (input)	棕色：电位器1号线 Brown: Potentiometer line 1
	蓝色：电位器3号线 Blue: Potentiometer line 3
	黑色：电位器2号线(信号线) Black: Potentiometer Line 2 (signal line)
接线端子说明(输出端) Terminal description (output)	棕色：电源+12V~+28VDC Brown: Power supply +12V to +28VDC
	黑色：电源GND Black: GND of the power supply
	绿色：RS485　A信号 Green: indicates RS485 A signal
	白色：RS485　B信号 White: Signals of Rs485 B
	黑色环状端子：屏蔽线 Black ring terminal: shielded cable

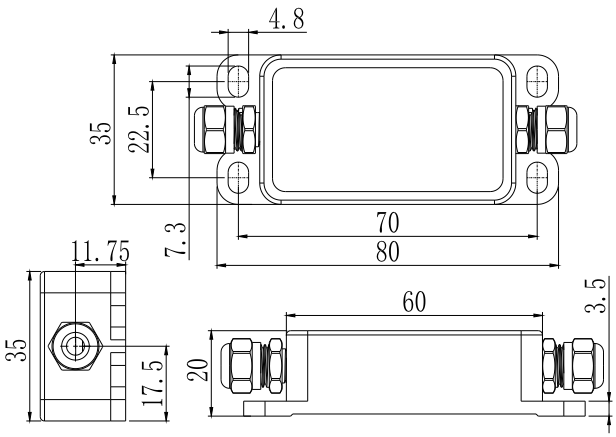
安装尺寸图 Installation Size Chart

单位 units:mm

MO

外置式铝合金外壳 External aluminum alloy housing

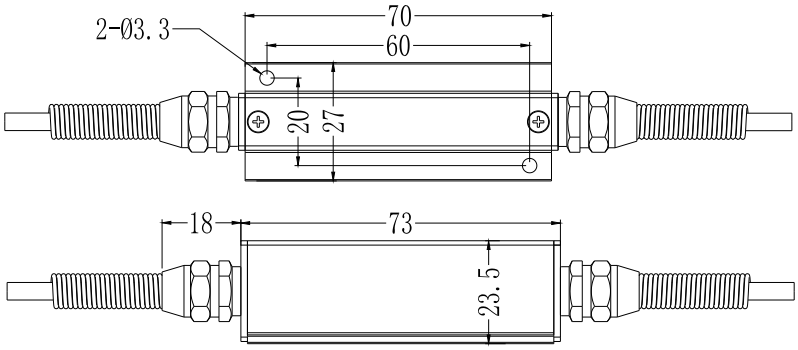




MO-R1

小耳式安装 Small ear mounting

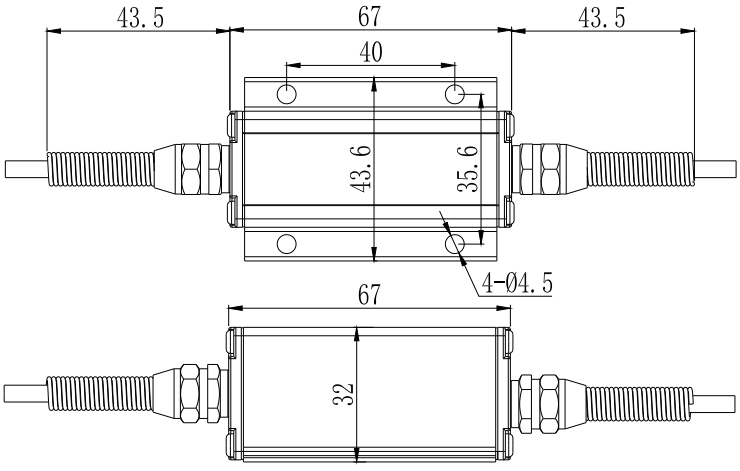




MO-R

耳式安装 Ear mounting

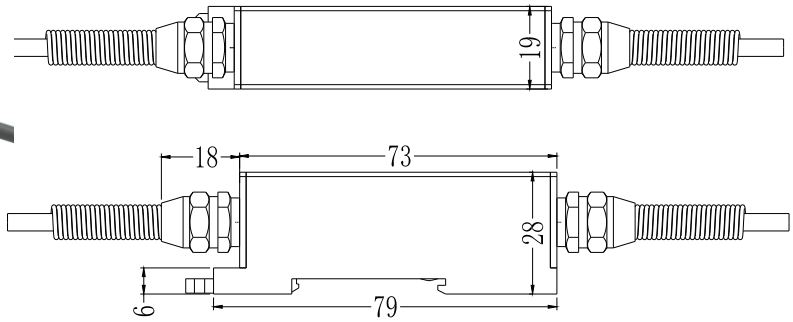




MO-K

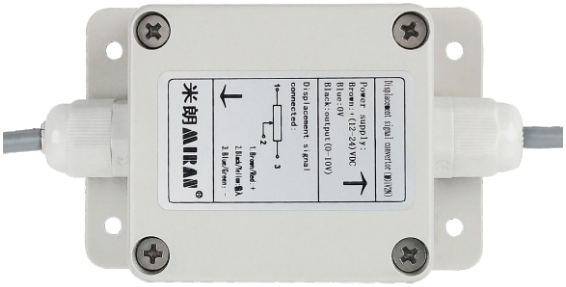
导轨卡扣式安装 Guide rail snap mounting

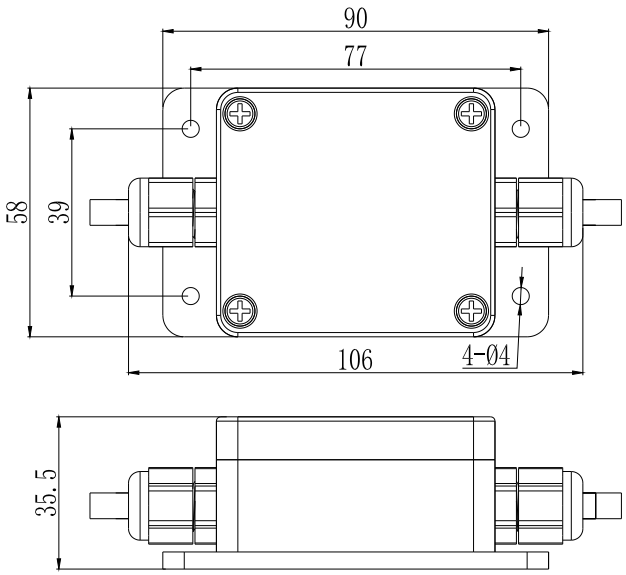




MO1

外置式塑胶外壳 External plastic housing

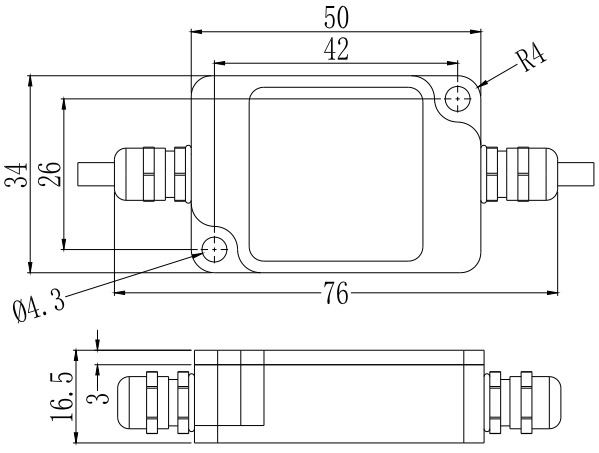




MO2

外置式黑色小塑料外壳 Small black plastic external housing

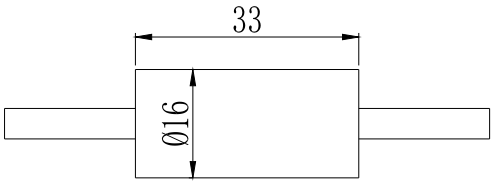




MO3

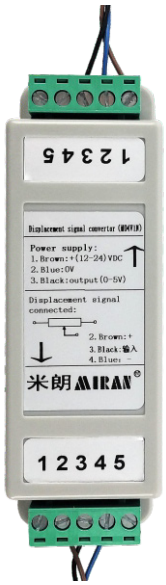
外置式塑料小圆管外壳 External plastic cylindrical tube shell



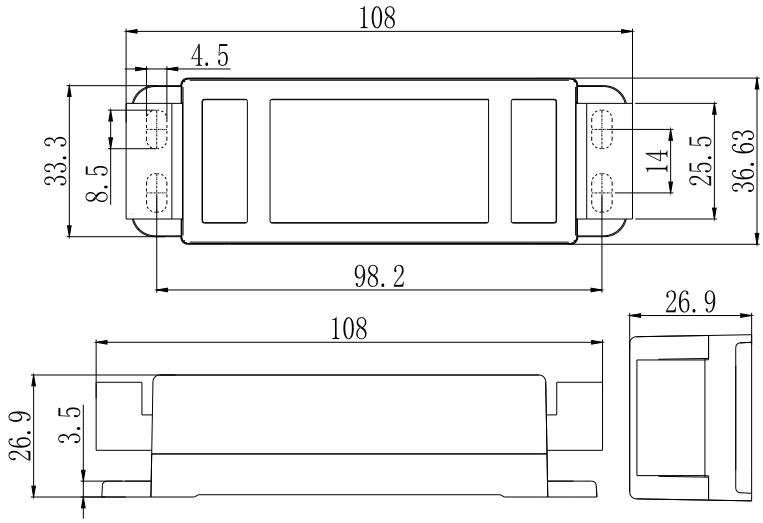


MO4

固定式安装电子仓 Fixed mounting electronic bin





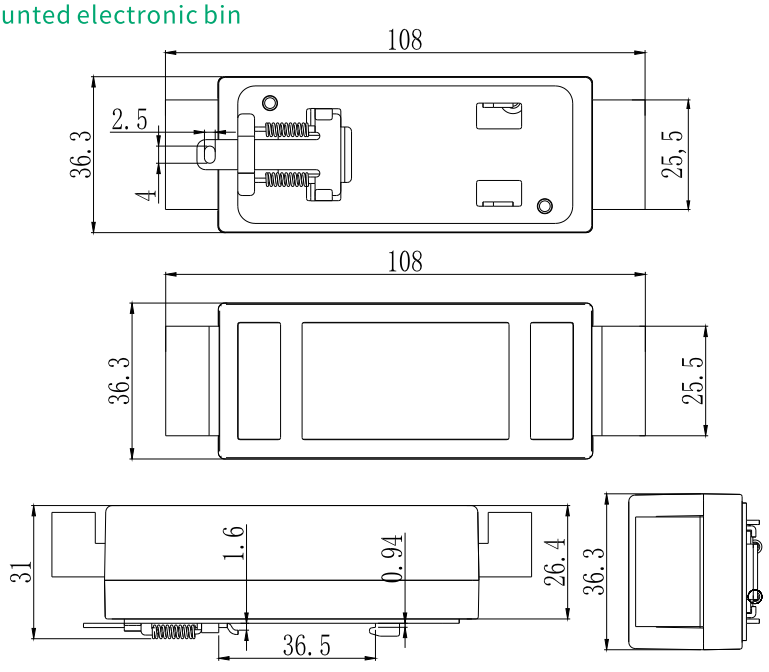


MO5

标准35mm导轨式安装电子仓 Standard 35mm rail mounted electronic bin







插头式变送模块 Plug type transmitter module



插头式模块实物图(标配线长默认1米)
Photo of Plug-in Module (Default standard cable length: 1m)

产品概述 Product Overview

可方便与LS2、LF电子尺相接。

信号变送输出：0～5V；0～10V；4～20mA

电流模块：将电压信号直接转换成4～20mA的电流信号，分二线制和三线制

电压模块：将12～24V工作电压稳压并输出成0～5V或0～10V等电压信号

It can be easily connected with LS2、LF electronic ruler.

Signal transmission output: 0 ~ 5V; 0 ~ 10V; 4 to 20mA

Current module: The voltage signal is directly converted into 4 ~ 20mA current signal, divided into two wire system and three wire systemVoltage module: The operating voltage of 12 ~ 24V is regulated and output into 0 ~ 5V or 0 ~ 10V equal voltage signals

产品选型 Product Types Choosing

MP □□ □□

模块外壳选择：
Module housing selection:

MP：插头式变送模块
MP: Plug transmitter module

输出信号方式：
Output signal mode:

V1：0-5V

V2：0-10V

A1：4-20mA三线制
A1:4-20mA three-wire system

A2：4-20mA二线制
A2:4-20mA two-wire system

信号输出逻辑大小方向
Signal output logical size direction

N：电子尺拉杆拉出数值增大（默认）
N: electronic ruler rod pull out value increased (default)

S：电子尺拉杆拉出数值减小
S: The pull-out value of the electronic ruler rod decreases

例：MPV2N表示外置插头式变送模块，0-10V信号输出，电子尺拉杆拉出数值增大。
Example:
MPV2N indicates an external plug type transmitter module, 0-10V signal output, and the value of the electronic ruler pull rod is increased.

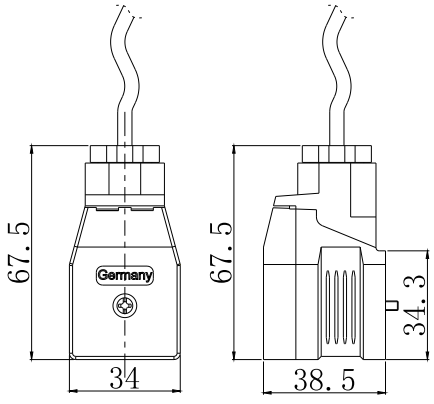
注：拉杆式电子尺默认拉杆未拉出时数值为最小值，完全拉出时数值为最大值；滑块式电子尺默认接线端为最小值，向另一端移动数值变大(既此时的信号输出逻辑大小方向为N，如需改变信号输出逻辑大小方向请选S)
Note: The default value is the minimum value when the rod is not pulled out, and the maximum value when the rod is completely pulled out. The default terminal of the slider electronic ruler is the minimum value, and the moving value to the other end becomes larger (at this time, the signal output logical size direction is N, if you need to change the signal output logical size direction, please select S)..

安装尺寸图 Installation Size Chart

单位 units:mm



装配好电子尺的效果图
Rendering of Assembled Linear Displacement Sensor



本安防爆模块 Intrinsically safe explosion-proof module

产品概述 Product Overview

外置式本安防爆变送模块，可方便与任意一款电子尺相接，分航空插头和防水接头两种出线方式。
外壳：防水，防尘，结构紧凑，美观大方。
信号变送输出：4-20mA二线制；RS485

External intrinsic safety explosion-proof transmission module, can be easily connected with any electronic ruler, divided into aviation plug and waterproof joint two ways.
Shell: waterproof, dust-proof, compact structure, beautiful and generous.
Signal transmission output: 4-20mAtwo-wire system; Rs485

注:用于防爆场合的时候,此类模块也可以内置或外置在直线位移传感器中,配套所有电位计原理的电子尺/位移传感器和角度尺/角度位移传感器使用,供电电压为12-24V。此类模块外置时,模块与传感器需单独各自列出相应型号。如:直线位移传感器KTC1-50mm、外置本安防爆模块BAMOA2N,具体型号可参考产品选型。本安防爆模块内置时,产品名称型号命名/型号贴标或者打标为:BAMO+电子尺/位移传感器或角度尺/角度位移传感器的具体型号+EX防爆型后缀,例如:BAMO-KTC1-50mm-A2-EX。

Record:When used in explosion-proof scenarios, such modules can also be built or extraposition into linear displacement sensors and are compatible with all potentiometer-based electronic rulers/displacement sensors and angle rulers/angle displacement sensors. The supply voltage is 12-24V. When such modules are external, the module and sensor need to be listed separately with their respective models. For example: Linear displacement sensor KTC1-50mm, external intrinsically safe explosion-proof module BAMOA2N. For specific models, please refer to the product selection.When the intrinsically safe module is installed internally,The product name, model designation, or marking is named as BAMO + the specific model of the electronic ruler/displacement sensor or angle ruler/angle displacement sensor + the EX explosionproof suffix. For example: BAMO-KTC1-50mm-A2-EX.

产品选型 Product Types Choosing

BAMO □□ □ □

本安防爆型
Intrinsically safe explosion-proof type

输出信号方式:
Output signal mode:

A2：4-20mA二线制
A2:4-20mA two-wire syste

RS：RS485(MODBUS-RTU)12位分辨率
RS:RS485(MODBUS-RTU)12-bit resolution

RSG：RS485(MODBUS-RTU)16位高分辨率
RSG:RS485(MODBUS-RTU)16 bit high resolution

RS485信号输出限MO，MO-R外壳可做。
RS485 signal output limit MO, MO-R housing can do.

信号输出逻辑大小方向
Signal output logical size direction

N:传感器拉杆拉出数值增大(默认标准)
N: Sensor rod pull-out value increased (default standard)

S:传感器拉杆拉出数值减小
S: Sensor rod pull-out value reduction

结构选配
Structure selection

空白:默认标准
Blank: Default standard

R1:小耳式安装
R1: Small ear mounting

本安限(BAMO)A2
Intrinsic safety limit (BAMO)A2

R:耳式安装(限MO系列)
R:Ear mounting (MO series only)

K:卡扣式安装(限MO系列)
K:Snap mounting (MO series only)

例:BAMOA2NR表示本安防爆型变送模块,4-20mA二线制信号输出,传感器拉杆拉出数值增大,耳式安装。

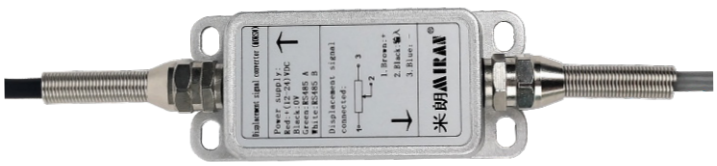
Example: BAMOA2NR indicates the intrinsically safe explosion-proof transmitter module, 4-20mA two-wire signal output, sensor pull rod pull out value increases, ear mounted.

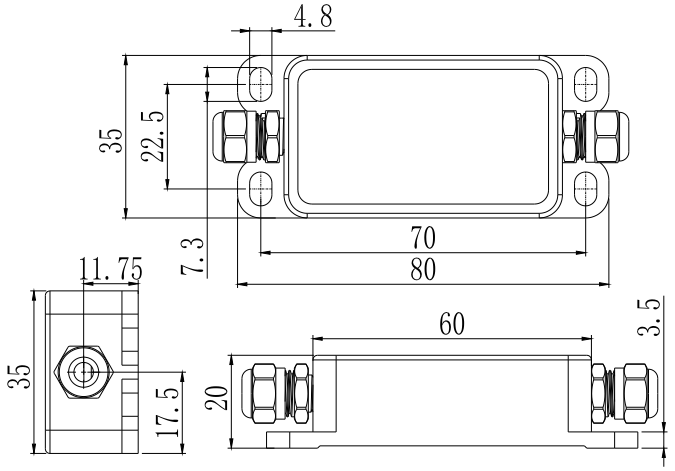
安装尺寸图 Installation Size Chart

单位 units:mm

MO

外置式铝合金外壳 External aluminum alloy housing

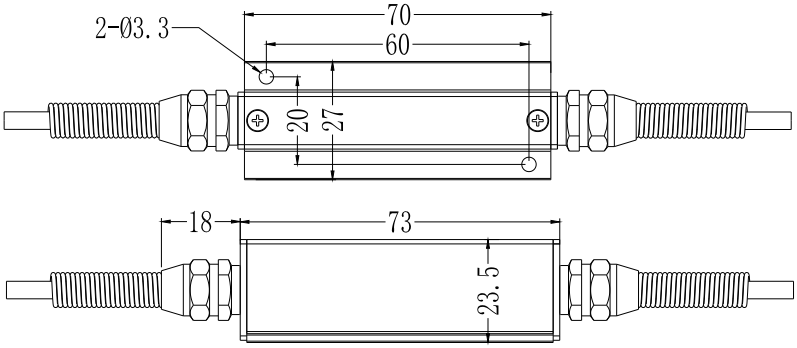




MO-R1

小耳式安装 Small ear mounting

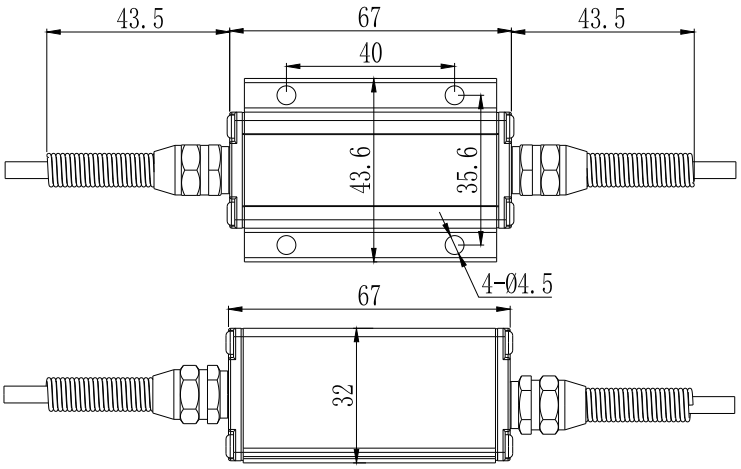




MO-R

耳式安装 Ear mounting

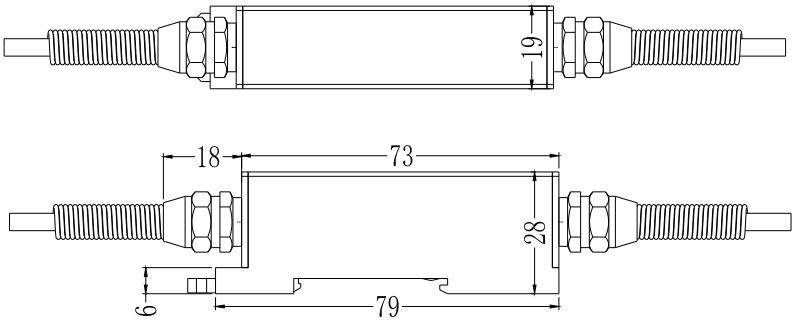




MO-K

导轨卡扣式安装 Guide rail snap mounting





产品证书 Product Certificate



CNEX 国家防爆

编号：CNEx21.2288X

防爆合格证

制造单位	枣阳市米朗科技有限公司 地址：湖北省枣阳市建设西路 112 号（米朗工业园）
产品名称	直线位移传感器
型号规格	BAMO　24VDC
防爆标志	Ex ia IIB T6 Ga
产品标准	Q/MLKJ03-2021
总装图号	BAMO .00

经对上述产品图样及技术文件的审查和样品检验,确认符合下列标准：
GB3836.1－2010《爆炸性环境 第 1 部分：设备 通用要求》
GB3836.4－2010《爆炸性环境 第 4 部分：由本质安全型“i”保护的设备》
GB3836.20-2010《爆炸性环境 第 20 部分：设备保护级别（EPL）为 Ga 的设备》

记事：
1.本产品用在 0 区时，应采取措施防止由于冲击或摩擦引起的点燃危险！
2.本产品由安全栅供电，本安参数 Ui= 28VDC，Ii=93mA，Pi=0.65W，Ci=0.044 μ F，Li=0mH。
3.环境温度-30~+60℃。

中心主任

颁发日期　2021 年 7 月 13 日

本证有效期　2021 年 7 月 13 日至 2026 年 7 月 12 日

Ex CQST 国家防爆电气产品质量监督检验中心 南阳防爆电气研究所

地址：中国河南省南阳市仲景北路20号
邮政编码：473008
电话：0377-63258564
传真：0377-63208175
网址：www.china-ex.com

公众号

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隔离电源模块 Isolating power module

产品概述 Product Overview

在有复杂的电气干扰环境下，将有干扰信号的直流电源隔离并且稳压成标准稳定的直流电源，然后再给模块或者传感器供电，从而实现传感器信号的稳定输入和输出。可以将该模块单独封装在MO，MO-R，MO1，MO2等模块外壳内部，也可以与变送模块一起封装在一个外壳里面，也可以直接内置在传感器电子仓内部。在下单时候要备注清楚封装形式。在生产和销售过程中，该电源模块不论是单独封装还是与变送模块一起封装，或者是封装在传感器内部，都要将该电源模块型号单独列出来，电源模块和变送模块的型号、数量和价格都需要分别单独列出，以方便生产和销售。

In a complex electrical interference environment, the DC power supply with interference signals is isolated and stabilized into a standard stable DC power supply, and then the module or sensor is powered to achieve stable input and output of sensor signals. The module can be individually packaged inside the module housing of MO, MO-R, MO1, MO2, etc. It can also be packaged in a housing together with the transmitter module, or it can be built directly inside the sensor electronics compartment. Note the packaging form clearly when placing the order. In the production and sales process, whether the power module is packaged separately or packaged with the transmitter module, or packaged inside the sensor, the power module model should be listed separately, and the model, quantity and price of the power module and the transmitter module need to be listed separately to facilitate production and sales.

产品选型 Product Types Choosing

MGV

米朗隔离电源模块
Miran isolated power module

□□

模块外壳选择：
Module housing selection:

O:外置式铝合金外壳
O:External aluminum alloy housing

O1:外置式塑胶外壳
O1: External plastic shell

□□

供电电压及输出电压：
Supply voltage and output voltage:

V183624:
将供电电压18-36V隔离稳压为24V(常用，有库存)
Supply voltage 18-36V isolation voltage regulator 24V(commonly used, in stock)

V091824:
将供电电压9-18V隔离稳压为24V
Set the supply voltage 9-18V to 24V

V183612:
将供电电压18-36V隔离稳压为12V
Set the power supply voltage from 18-36V to 12V

V183609:
将供电电压18-36V隔离稳压为9V
Set the power supply voltage from 18-36V to 9V

V183605:
将供电电压18-36V隔离稳压为5V
Set the power supply voltage from 18-36V to 5V

□□

电源能提供的总功率:
The total power supply can provide:

W3：3W(常用，有库存)
W3:3W (commonly used, in stock)

W1：1W

W2：2W

□

结构选配
Structure selection

空白：默认标准
Blank: Default standard

R:耳式安装（限MO系列）
R:Ear mounting(MO series only)

例：MGVOV183624W3 表示米朗隔离电源模块，外置式铝合金外壳，将供电电压18-36V隔离稳压为24V，总功率为3W。
Example: MGVOV183624W3 represents the Millan isolated power module, external aluminum alloy shell, the power supply voltage 18-36V isolated voltage regulator 24V, the total power is 3W.

注：拉杆式电子尺默认拉杆未拉出时数值为最小值，完全拉出时数值为最大值；弹簧自复位式电子尺默认测杆完全向内压缩为最小值，未压缩状态为最大值；滑块式电子尺默认接线端为最小值，向另一端移动数值变大(既此时的信号输出逻辑大小方向为N，如需改变信号输出逻辑大小方向请选S)
Note: The default value is the minimum value when the rod is not pulled out, and the maximum value when the rod is completely pulled out. The default value of the spring self-resetting electronic ruler is the minimum value when the measuring rod is completely compressed inward, and the maximum value when it is uncompressed. The default terminal of the slider electronic ruler is the minimum value, and the moving value to the other end becomes larger (at this time, the signal output logical size direction is N, if you need to change the signal. output logical size direction, please select S).

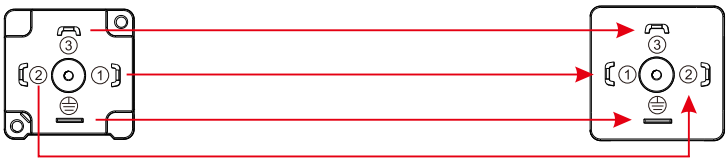
变送模块接线方式 Wiring Mode Of The Transmitter Module

传感器赫斯曼插座
Sensor Hermann socket

（LS2、LF等型号标配）
(LS2、LF and other models come standard)



赫斯曼插头/插头式模块
Hermann plug/plug type module





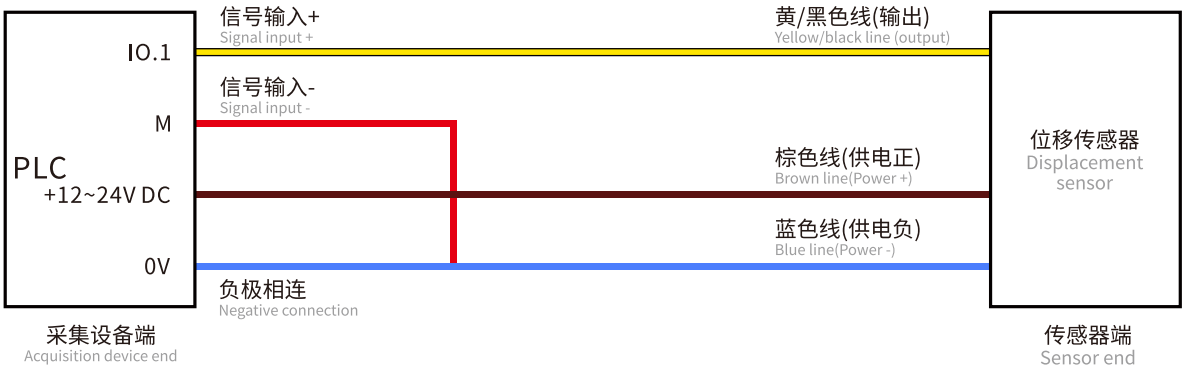
温馨提示：

★ 建议传感器供电电压为DC5V-24V，严禁接220V电源。

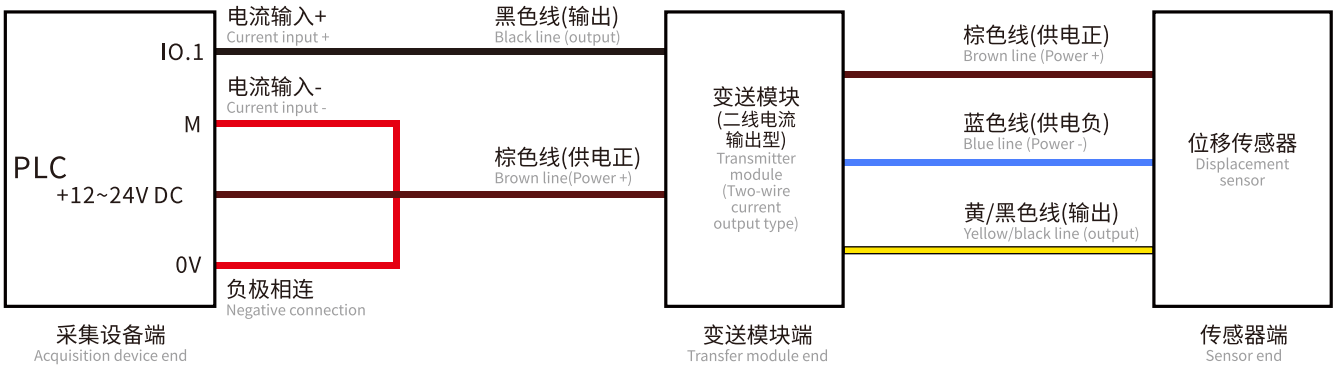
★ 为避免新手因接错线导致传感器短路烧坏，建议在接线之前将电子尺拉杆拉出一些，这样如果1和2或者2和3不小心接到了电源正负极，不至于会导致短路，传感器也就不会因接错线而轻易烧掉了。

Kind reminder:
It is recommended that the sensor supply voltage is DC5V-24V, and it is strictly prohibited to connect to a 220V power supply.To prevent beginners from short circuiting and burning out the sensor due to incorrect wiring, it is recommended to pull out the electronic ruler rod before wiring. This way, if 1 and 2 or 2 and 3 are accidentally connected to the positive and negative poles of the power supply, it will not cause a short circuit, and the sensor will not be easily burned out due to incorrect wiring.

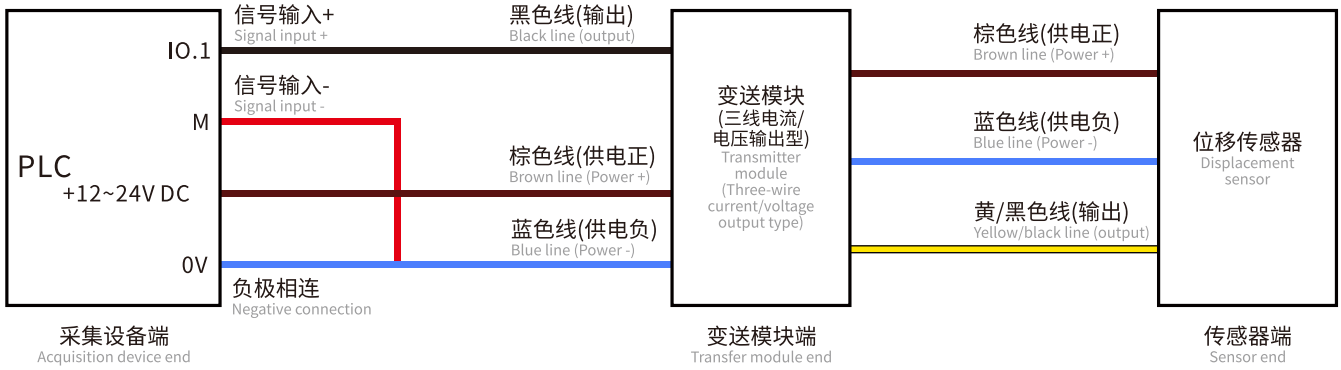
电位器原理传感器PLC接入型接线图
Potentiometer principle sensor PLC access wiring diagram



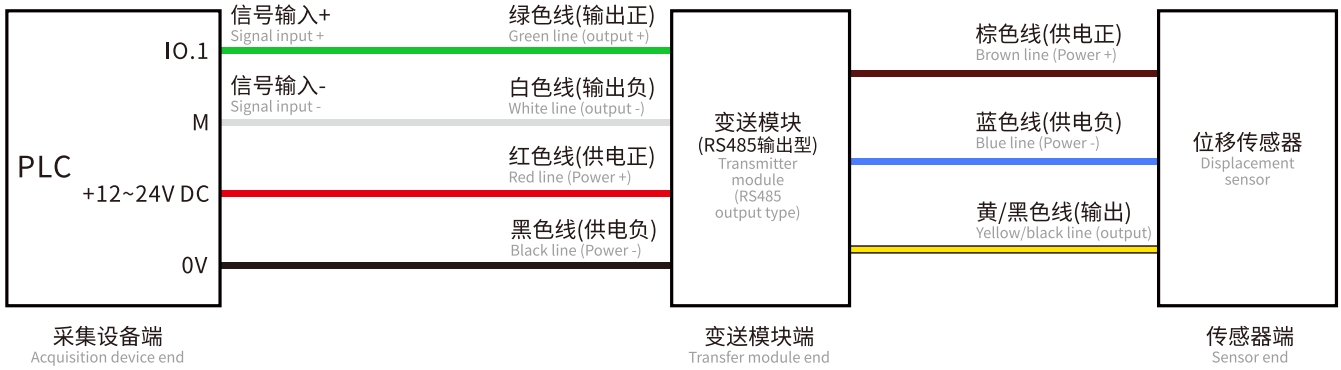
二线电流输出PLC接入型接线图
Two wire current output PLC access wiring diagram



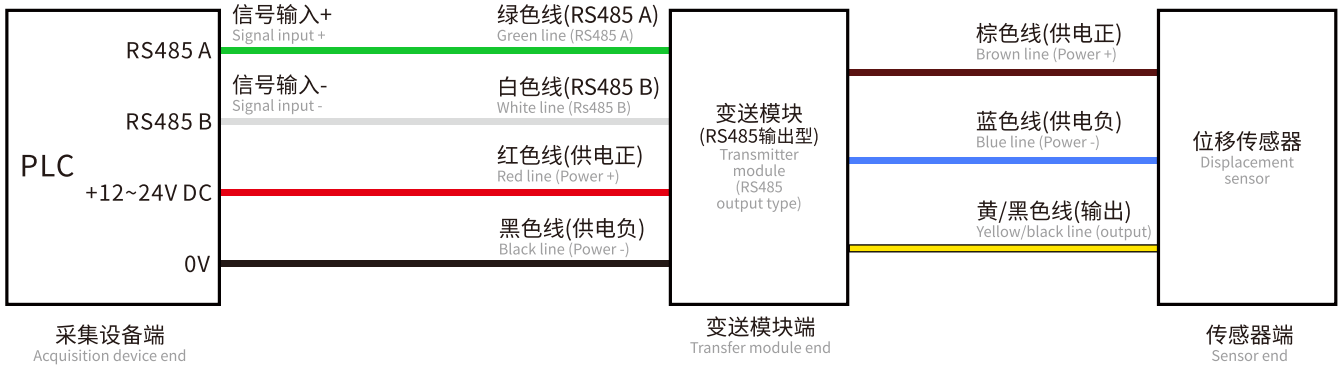
三线电流/电压输出PLC接入型接线图
Three-wire current/voltage output PLC access wiring diagram



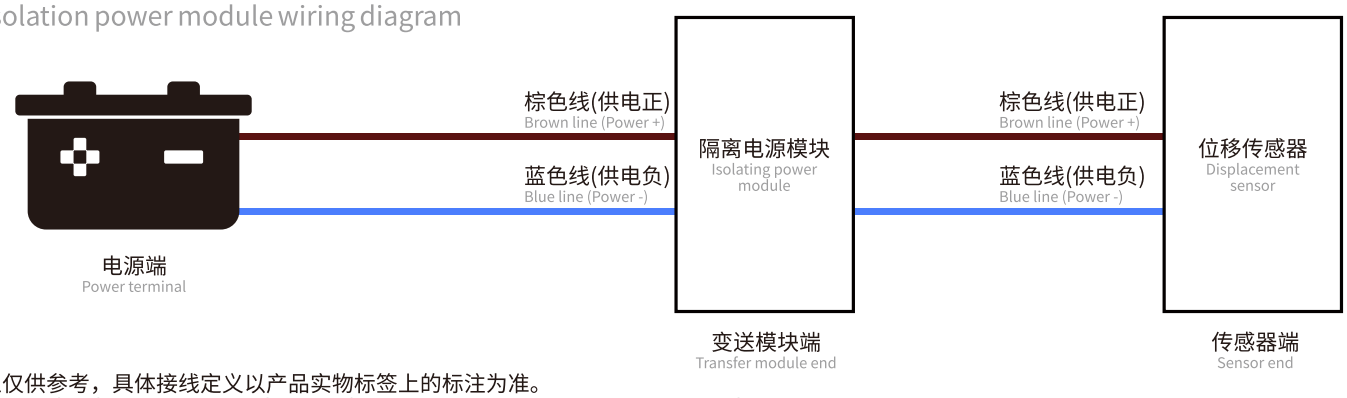
四线电流/电压输出PLC接入型接线图
Four-wire current/voltage output PLC access wiring diagram



RS485输出PLC接入型接线图
RS485 output PLC access wiring diagram



隔离电源模块接线图
Isolation power module wiring diagram



以上仅供参考，具体接线定义以产品实物标签上的标注为准。
The above is for reference only. The specific cable definition is subject to the mark on the physical label of the product.

应用范围 Application Scope



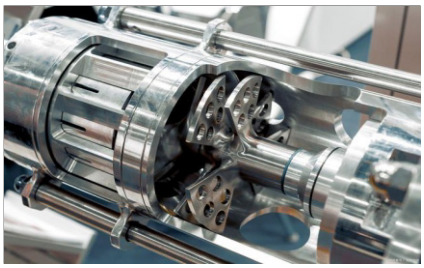
● 机械/机器设备
Machinery/machine equipment



● 机床设备
Machine tool equipment



● 气压传动设备
Pneumatic transmission equipment



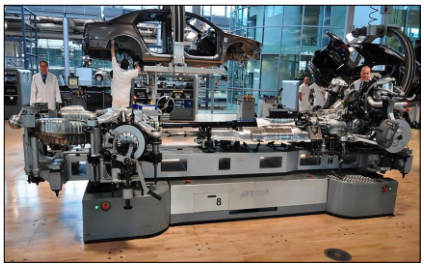
● 液压传动设备
Hydraulic transmission equipment



● 建筑设备
Construction equipment



● 机器人
Robot



● 自动化加工设备
Automatic processing equipment



● 工程机械
Engineering machinery

●●●

广泛应用于机械/机器设备，机床设备，液、气压传动设备，工程机械，建筑设备，机器人，自动化加工设备等，进行工程控制、自动调节、反馈控制系统等。

Widely used in machinery/machine equipment, machine tool equipment, hydraulic, pneumatic transmission equipment, construction machinery, construction equipment, robots, automatic processing equipment, engineering control, automatic regulation, feedback control system, etc.

荣誉证书 Certificate Of Honor





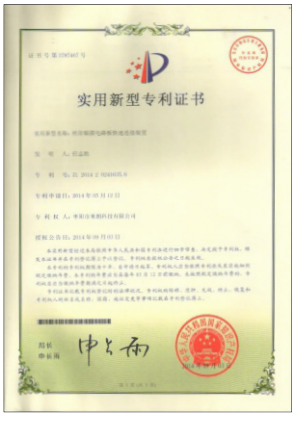




专利证书 Letters Patent















辐射全国 放眼世界

Radiate to the whole country and see the world

质量第一 Quality First

用户至上 Customer First

诚信为本 Credit First

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（尤其是在尺寸方面要求特别严格的，或者在产品实物没收到之前，就要先在自己设备上加工做好安装孔位和确定安装空间位置的，要特别注意,要在购买前3天内与我们书面再次确认好产品的实际尺寸，以免造成不必要的返工等损失，若没有在购买前3天内与我们书面确认尺寸而造成后续安装困难等损失，我司不予承担，最终尺寸要以产品实物为准。）

将致力于位移、物位、角度等测控领域

Will be committed to the field of displacement, level, angle measurement and control

为客户提供一站式解决方案的产品与服务

Products and services that provide one-stop solutions for our customers

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20261001-LINECSKI electronic ruler leaflet

主要著作人：李工
Main author: Engineer Li

2026年10月出品
Produced in Octobert 2026