

## KS90 Draw Wire Position Sensor (Digital Pulse Output)

KS90 draw wire position sensor, its max measurement stroke is 5000mm, and circumference of measurement wheel is 300mm. It is the classic draw wire position sensor of KAISI, and has been applied for many situation after 5 year test by market. It includes two patents of KAISI, and imitation is not permitted.



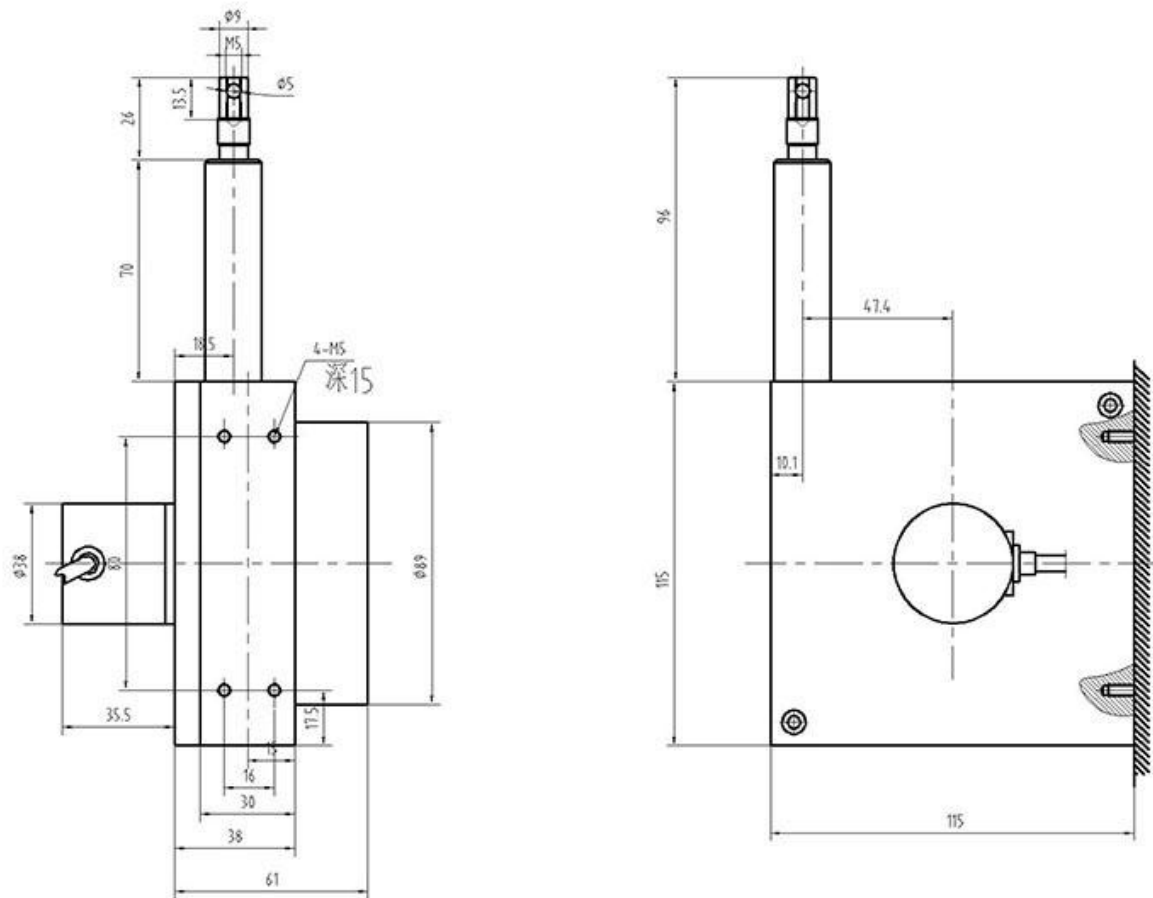
### Connection Diagram (used for KAISI encoders only)

Output	Color of Cable and Definition							
	White	Black	Red	Green	Yellow	Pink	Blue	Orange
Line Driver	VCC	0V	A	B	Z	A-	B-	Z-
Open Collector, Push and Pull	VCC	0V	A	B	Z	--	--	--

### Technical Data

<b>Stroke Range</b>	0-5000mm	<b>Steel Rope</b>	High flexibility rope with plastic coating
<b>Output Signal</b>	Line Driver, Push-pull, Open Collector NPN/PNP, RS485/232	<b>Pulling Power</b>	20N
<b>Resolution</b>	0.04/0.05/0.1etc.	<b>Life</b>	2 millions to 10 millions
<b>Linearity</b>	0.05%FS	<b>Working Voltage</b>	5V,5-24V,10-30V
<b>Repeatability</b>	0.01%	<b>Working Temperature</b>	-25-85℃
<b>Max Speed</b>	2000mm/s	<b>Hell Material</b>	Aluminium Alloy with antistatic and nonconducting surface
<b>Cable Length</b>	4M(standard) or customized	<b>Protection Ingress</b>	IP54(standard), IP65

## Installation Diagram



### Cautions

1. As draw wire position sensor is high precision instrument, please no knocking when install, otherwise it will influence the quality and service life.
2. Make sure the connection is absolutely right, otherwise it will destroy the inner electric circuit.
3. Make sure the signal output and power supply cable is separated, also it is not suitable to use aside the distribution board.
4. Make sure the pulling end is vertical to the outlet, and keep the angle degree no more than 3°.
5. Make sure the distance and measurement stroke is no more than the measurement range of sensor from fixed pulling end to the initial position of movement components.
6. As it will break the wire and sensor itself, please do not let go the rope when it is pulled out by hand or machine.
7. Make sure the steel rope not destroyed by outside force.
8. Please insult KAISI protection outlet and housing, if working environment is outdoor or too bad(have dust or water).

### Extension Plan

If measurement distance is small while the installation distance is very large, we can provide you draw wire position sensor with extension line. Because the installation distance is not included in the measurement distance, it is no need to choose larger stroke sensors. This plan can increase the test accuracy of sensor but reduce the cost. For technical details, you can insult our consumer managers before order, and we will solve it in production process.

### Guide Wheel Installation Plan

The installation of guide wheel is a character in draw wire position sensor use. As Kaisi use the most flexible plastic-coated steel rope, this makes the guide wheel installation plan possible. It satisfies the larger installation angle, limited installation space and other necessary installation environment. It used a guide wheel with slot in the middle of measurement steel rope to change the direction of rope. This does not influence the test accuracy and service life of sensor. For more details, please consult our technicians or sales.

### Protection Outlet and Housing Plan

If work environment is dusty or rainy often, please choose Kaisi protection outlet to induce dust and fluid into the sensor. The outlet has wool with oil inside. When the steel rope moves inside the oily wool, the dust will be getting rid. Also as the existence of oil and tension force of fluid, it is difficult for the fluid to get into the oily space, therefore, this protects the sensor itself. Protection housing is mainly applied for long rainy and outdoor environment, because the sensor is sealed inside. And it will work much better if used with protection outlet.

### Service Guarantee

1. The warranty period of the products produced is 12 months;
2. Under the condition that the user obeys the rules of storage and use of the instrument, the company will repair for free due to poor manufacturing quality or failure to work normally, except for the following cases:
  - A malfunction caused by improper use or non-compliance with the conditions of use;
  - B Demolition of the sensor by itself, affecting the performance of the product;
3. When the product has problems in use, the company promises to solve the problem first, then solve the cost involved and satisfy the customer;
4. Return the product within 24 hours.

### Type Explanation

#### KS90-5000-04-F

<b>KS90</b>	<b>Product Series</b>	<b>KS90 Draw Wire Position Sensor</b>
<b>5000</b>	<b>Measurement Stroke</b>	<b>Measurement Stroke 5000mm</b>
<b>04</b>	<b>Resolution</b>	<b>0.04mm/pulse(quadruple)</b>
<b>F</b>	<b>Signal Output</b>	<b>Push Pull</b>



- Do not loosen or bounce back when the slider is pulled out, which will damage the sensor
- The measurement distance cannot exceed the measurement range
- Before powering on, please confirm the connection is correct
- Provide the power supply required for the sensor.