

# TECHNICAL DATA SHEET

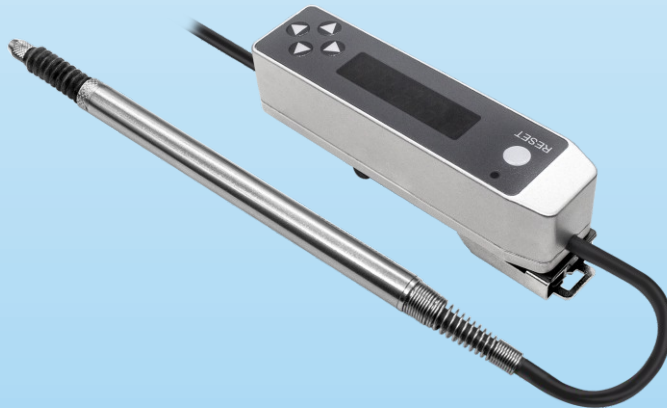
## Contact Digital Displacement Sensor DK-GFK & DK-GFW series

### Contents

- Product Features
- Technical Parameters
- Size Parameter
- Circuit Wiring Diagram
- Model Selection



DK-GFW series (Thousand)



DK-GFK series (The thousand)

Figure can vary

## Performance characteristics

- ⊙ Working temperature: -10~40°C
- ⊙ Humidity: ≤80%RH
- ⊙ Absolute measurement (using grating absolute encoding)
- ⊙ Waterproof: IP65
- ⊙ Built-in upper tolerance and lower tolerance output (PNP)  
Communication output: RS485, I/O: 2PNP



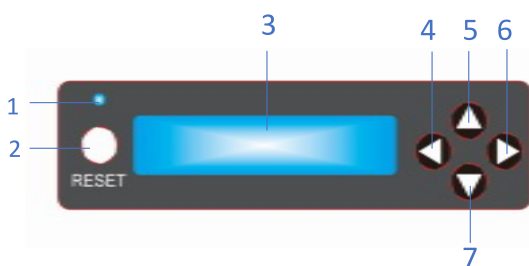
### Product introduction

Digital integrated contact displacement sensor can be used for measurements such as displacement, vibration, thickness and runout. The sensor data can be displayed on the screen in real time. It is standardly equipped with MODBUS protocol RS485 interface and IO interface.

### Technical Parameters

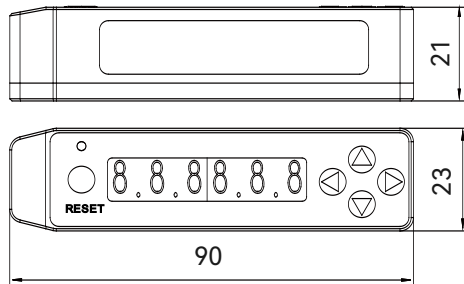
Product type	DK-GFK Series	DK-GFW Series
Digit	Thousandths	Ten thousandths
Can be matched with sensor range	Rebound type 2mm/ 5mm/10mm/air push type 10mm, reed type, etc.	
Resolution	0.1μm	
Repeat accuracy	< 1μm	
Supply voltage	DC12V	
Operating temperature	-10~60°C	
Storage temperature	-20~70°C	
Product size	90x23x21(mm)	
Wire length	2m+1m(output line 1m)	
Installation method	Standard DIN rail	
Remarks	If you need other range sensors, please communicate with sales in advance	

### Controller Panel

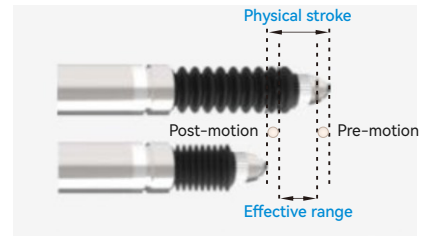


1. Status light: Displays the detection status;
2. RESET key: Sensor data reset/upper and lower tolerance and correction value settings and save/measurement function switching;
3. Data window: Displays the measured value or set value (in μm);
4. Left key: Set the digit to shift left/turn on the out-of-tolerance buzzer alarm;
5. Up key: Upper tolerance setting mode/tolerance increment, plus 1 each time;
6. Right key: Set the digit to shift right/turn off the out-of-tolerance buzzer alarm;
7. Down key: Lower tolerance setting mode/tolerance decrement, minus 1 each time.

## Product size



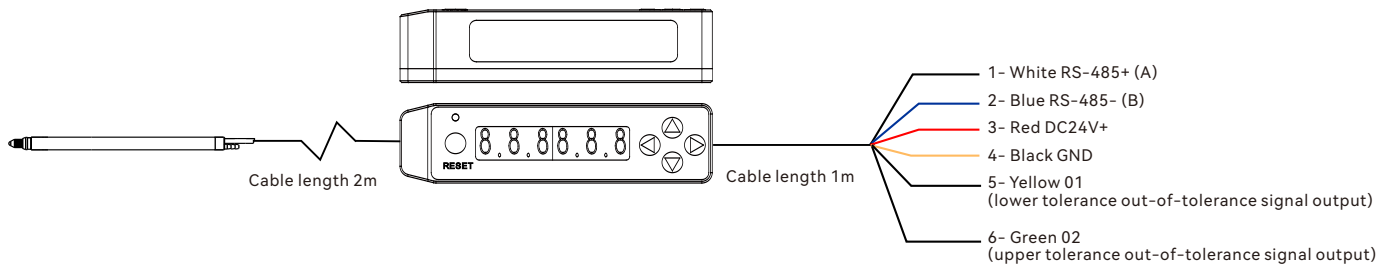
Display box size



Sensor stroke size

Select the appropriate range according to the tolerance of the workpiece being measured. The physical travel of the sensor has specifications such as 2mm, 5mm, and 10mm, among which the 10mm pre-travel is 0.5mm and the post-travel is 0.3mm.

## Wiring Instructions



### ● RS-485 Signal and Pin Description

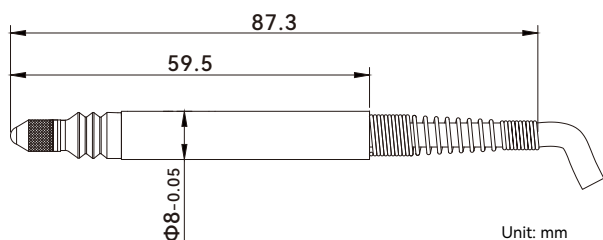
1-white	RS-485+(A)
2-blue	RS-485-(B)
3-red	Power positive (24V+)
4-black	Negative power supply (GND)
5-yellow	01 (Lower tolerance out-of-tolerance signal output)
6-green	02 (Upper tolerance out-of-tolerance signal output)

### ● Serial port settings

Baud rate: 9600 (factory default configuration)  
 Data bits: 8  
 Stop bits: 1  
 Parity check: None

## Inductive Displacement Model Dimensions

## DK-GFK/W-01 1mm rebound sensor



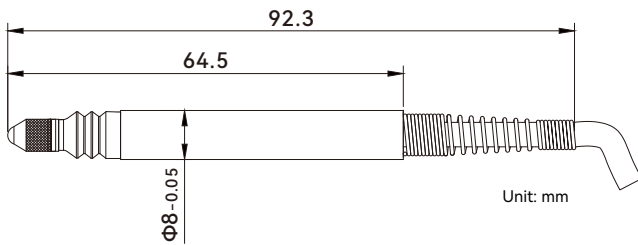
## Product Introduction and Features

1mm rebound inductive displacement sensor is a high-precision sensor that can quickly measure small dimensional changes. It can be used to measure form and position tolerances such as displacement, vibration, inner diameter, outer diameter, verticality, roundness, straightness, etc., as well as online detection of automotive parts, bearings, gears, electronic product housings, glass, etc.

- Ultra-short length, high precision, long mechanical life
- Standard  $\phi 8$  diameter, easy installation in a small space
- Magnetic shielding structure and materials, strong anti-interference ability

## Main technical parameters

Range	1mm( $\pm 0.5$ mm)	Working temperature	-10~80°C
Coil type	Half-bridge	Protection level	IP65
Drive mode	Rebound type	Case hardness	HR15N80
Excitation frequency	13kHz	Fatigue life	15 million times
Resolution	Minimum 0.1 $\mu$ m	Probe	Standard probe (optional)
Repeat accuracy	0.2 $\mu$ m	Guide device	Ball bearing
Linearity	$\pm 0.3\%$ FS	Case material	Stainless steel
Temperature coefficient	0.01% F.S./°C	Protective rubber sleeve	Fluoroelastomer
Measurement force	1.2N (middle position)	Line length	2m (customizable)

**DK-GFK/W-02 2mm rebound sensor****Product Introduction and Features**

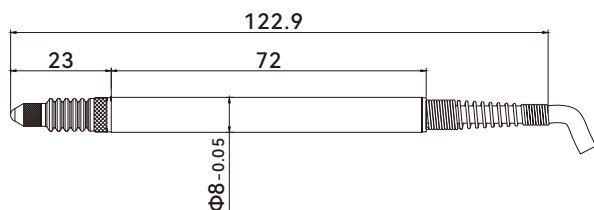
2mm rebound inductive displacement sensor is a high-precision sensor that can quickly measure small dimensional changes. It can be used to measure form and position tolerances such as displacement, vibration, inner diameter, outer diameter, verticality, roundness, straightness, etc., as well as online detection of automotive parts, bearings, gears, electronic product housings, glass, etc.

- Ultra-short length, high precision, long mechanical life
- Standard  $\Phi 8$  diameter, easy installation in a small space
- Magnetic shielding structure and materials, strong anti-interference ability

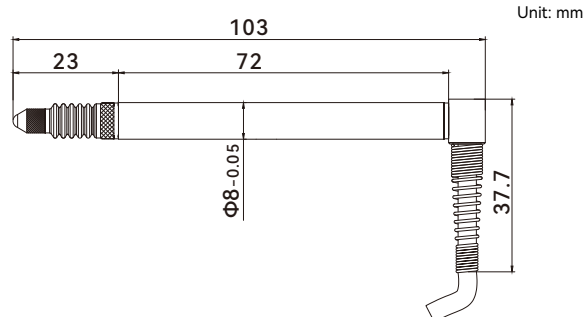
**Main technical parameters**

Range	2mm( $\pm 1$ mm)	Working temperature	-10~80°C
Coil type	Full bridge	Protection level	IP65
Drive mode	Rebound type	Case hardness	HR15N80
Excitation frequency	13kHz	Fatigue life	15 million times
Resolution	Minimum 0.1 $\mu$ m	Probe	Standard probe (optional)
Repeat accuracy	0.3 $\mu$ m	Guide device	Ball bearing
Linearity	$\pm 0.1\%$ F.S	Case material	Stainless steel
Temperature coefficient	0.01% F.S./°C	Protective rubber sleeve	Fluoroelastomer
Measurement force	0.9N (middle position)	Line length	2m (customizable)

DK-GFK/W-05L 5mm Rebound sensor (straight line)



DK-GFK/W-05S 5mm Rebound sensor (side outlet)



## Product Introduction and Features

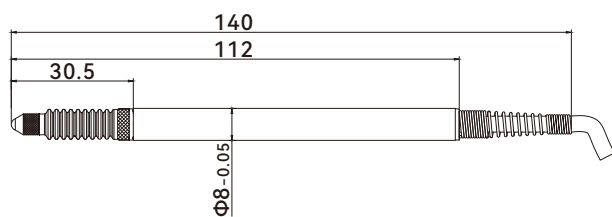
The 5mm rebound inductive displacement sensor can be divided into straight-outlet type and side-outlet type according to the outlet direction. It is a high-precision sensor that can quickly measure small dimensional changes. It can be used for the measurement of form and position tolerances such as displacement, vibration, inner diameter, outer diameter, verticality, roundness, straightness, etc., as well as online detection of automotive parts, bearings, gears, electronic product housings, glass, etc.

- Small size, high precision, long mechanical life
- Standard  $\phi 8$  diameter
- Direct or side outlet can be selected according to the installation space
- Magnetic shielding structure and material, strong anti-interference ability

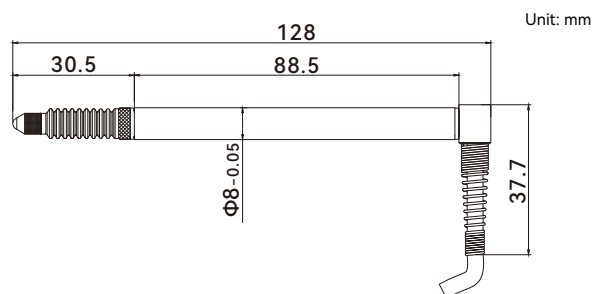
### Main technical parameters

Range	5mm( $\pm 2.5$ mm)	Working temperature	-10~80°C
Coil type	Full bridge	Protection level	IP65
Drive mode	Rebound type	Case hardness	HR15N80
Excitation frequency	13kHz	Fatigue life	15 million times
Resolution	Minimum 0.1 $\mu$ m	Probe	Standard probe (optional)
Repeat accuracy	0.5 $\mu$ m	Guide device	Ball bearing
Linearity	$\pm 0.3\%$ F.S	Case material	Stainless steel
Temperature coefficient	0.01% F.S./°C	Protective rubber sleeve	Fluoroelastomer
Measurement force	0.6N (middle position)	Line length	2m (customizable)

DK-GFK/W-10L 10mm Rebound sensor (straight line)



DK-GFK/W-10S 10mm Rebound sensor (side outlet)



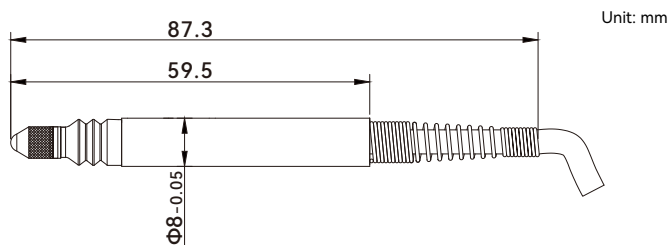
## Product Introduction and Features

The 10mm rebound inductive displacement sensor can be divided into straight-outlet type and side-outlet type according to the outlet direction. It is a high-precision sensor that can quickly measure small dimensional changes. It can be used for the measurement of form and position tolerances such as displacement, vibration, inner diameter, outer diameter, verticality, roundness, straightness, etc., as well as online detection of automotive parts, bearings, gears, electronic product housings, glass, etc.

- Small size, high precision, long mechanical life
- Standard  $\phi 8$  diameter
- Direct or side outlet can be selected according to the installation space
- Magnetic shielding structure and material, strong anti-interference ability

### Main technical parameters

Range	10mm( $\pm 5$ mm)	Working temperature	-10~80°C
Coil type	Full bridge	Protection level	IP65
Drive mode	Rebound type	Case hardness	HR15N80
Excitation frequency	13kHz	Fatigue life	15 million times
Resolution	Minimum 0.1 $\mu$ m	Probe	Standard probe (optional)
Repeat accuracy	1 $\mu$ m	Guide device	Ball bearing
Linearity	$\pm 0.4\%$ F.S	Case material	Stainless steel
Temperature coefficient	0.01% F.S./°C	Protective rubber sleeve	Fluoroelastomer
Measurement force	0.8N (middle position)	Line length	2m (customizable)

**DK-GFK/W-10P 10mm Air push sensor****Product Introduction and Features**

10mm air-push inductive displacement sensor can be used for measurement of form and position tolerances such as displacement, vibration, inner diameter, outer diameter, verticality, roundness, straightness, etc., as well as online detection of automotive parts, bearings, gears, electronic product housings, glass, etc.

- Small size, high precision, long mechanical life
- Standard  $\phi 8$  diameter
- Light measurement force is not easy to scratch the surface of parts
- Magnetic shielding structure and material, strong anti-interference ability

Main technical parameters			
Range	10mm( $\pm 5$ mm)	Working temperature	-10~80°C
Coil type	Full bridge	Protection level	IP50
Drive mode	Air push	Case hardness	HR15N80
Excitation frequency	13kHz	Fatigue life	15 million times
Resolution	Minimum 0.1 $\mu$ m	Probe	Standard probe (optional)
Repeat accuracy	1 $\mu$ m	Guide device	Ball bearing
Linearity	$\pm 0.4\%$ F.S	Case material	Stainless steel
Temperature coefficient	0.01% F.S./°C	Air pressure	0.05MPa (recommended value)
Measurement force	min 0.2N	Line length	2m (customizable)