CMOS Laser Photoelectric Sensors Cable Type RedLED Light Diode Waverlength 655mm

Our Product Introduction

Basic Information

- Place of Origin: Guangdong, China
- Brand Name: KRONZ
- Certification: CE
- Model Number: KD50-30
- Minimum Order Quantity: 1
- Price: Negotiable
- Packaging Details: Polybag packing
- Delivery Time: 5-8 working days
- Payment Terms: T/T,Western Union,MoneyGram
- Supply Ability: 10000 pieces per month

Product Specification

- Output Signal: Switching Output PNP/NPN
- Connection Type: Cable
- Detection Range: 30±4mm
- Full Scale: 8mm
- Operating Temperature: -10°C - 45°C
- Response Time: High-speed Mode: Max.5ms
- Application: Industrial Automation
- IP Rating: IP67
- Highlight: **RedLED Light Photoelectric Sensors**, **CMOS Photoelectric Sensors**

Product Description

Product Description:

The housing material of these Photoelectric Sensors is constructed with high-quality Stainless Steel, ensuring durability and protection against harsh environments. This robust design makes them suitable for use in various industrial settings, providing long-lasting reliability.

What is the CMOS Laser Displacement Photoelectric Sensors?

A **CMOS laser displacement photoelectric sensor** is like a **mini laser camera** that can measure how far away an object is — without touching it.

It uses a **thin laser beam** to shine on a surface. Then, just like a camera, it captures the reflection using a **CMOS image sensor** (the same kind of sensor used in digital cameras). By analyzing where the laser spot appears on the sensor, it calculates the exact **distance or height** of the object.

It's called "photoelectric" because it works by using **light (photo)** to trigger an **electronic (electric)** response.

KRONZ

Cable Type	2CH	KD50-30N
Output Signal		Switching output: NPN (-N),
Detection Range		30±4mm
Full Scale(F.S.)		8mm
Light Source		Red Laser diode (wavelength 655nm)
IEC/JIS Rating(FDA Rating)		Class 2(Class)
Sampling Period		500(250mm:750)/1000/1500/2000μs
Spot Size (max.)	Near Range	0.15x0.15mm
	Center Range	0.1x0.1mm
	Far Range	0.15x0.15mm
Linearity Accuracy		±0.1%F.S.
Repeatability	High-speed Mode	4μm
	Other Mode	2μm
Temperature Drift		±0.08%F.S./° C
Indicator		Distance indicator: 7 bar LED display output indicator: ON state:orange Q1/Q2 indicator (orange) light
IP Rating		IP67

KD50 Series

CMOS Laser Displacement Sensor

- Built-in analog output and 2 digital outputs, operable without a controller connection.
- High-precision photosensitivity calibration auto-optimizes received light intensity.
- Digital subpixel processing technology delivers over twice the linear accuracy of conventional displacement sensors.
- Remote input (MF line) enables functions including: laser emission off, external teach-in, output hold, and single-pulse input.

Technicial Parameters

Diffuse Reflection

Cable Type	2CH	KD50-30N(P)	KD50-50N(P)	KD50-85N(P)	KD50-120N(P)	KD50-250N(P)
	2CH+Analog Current	KD50-30N(P)I	KD50-50N(P)I	KD50-85N(P)I	KD50-120N(P)I	KD50-250N(P)I
	2CH+Analog Voltage	KD50-30N(P)U	KD50-50N(P)U	KD50-85N(P)U	KD50-120N(P)U	KD50-250N(P)U
	1CH+RS422	KD50-30N(P)/R2	KD50-50N(P)/R2	KD50-85N(P)/R2	KD50-120N(P)/R2	KD50-250N(P)/R2
Plug-in Type	2CH	KD50-30N(P)-A8	KD50-50N(P)-A8	KD50-85N(P)-A8	KD50-120N(P)-A8	KD50-250N(P)-A8
	2CH+Analog Current	KD50-30N(P)I-A8	KD50-50N(P)I-A8	KD50-85N(P)I-A8	KD50-120N(P)I-A8	KD50-250N(P)I-A8
	2CH+Analog Voltage	KD50-30N(P)U-A8	KD50-50N(P)U-A8	KD50-85N(P)U-A8	KD50-120N(P)U-A8	KD50-250N(P)U-A8
	1CH+RS422	KD50-30N(P)/R2-A8	KD50-50N(P)/R2-A8	KD50-85N(P)/R2-A8	KD50-120N(P)/R2-A8	KD50-250N(P)/R2-A8
Output Signal		Switching output: NPN (-N), PNP (-P); Analog output: current 4-20mA, voltage 0-10V; Communication output: RS-422				
Detection Range		30±4mm	50±10mm	85±20mm	120±60mm	250±150mm
Full Scale (F.S.)		8mm	20mm	40mm	120mm	300mm
Light Source		Red Laser diode (wavelength 655nm)				
IEC/JIS Rating (FDA Rating)		Class 2(Class Ⅱ)				
Sampling Period		500 (250mm: 750) /1000/1500/2000μs ;factory setting: 500μs (250mm: 750μs)				
Spot Size (max.)	Near Range	0.15x0.15mm	0.6x1.2mm	0.9x1.5mm	1.2x1.8mm	1.5x2.5mm
	Center Range	0.1x0.1mm	0.5x1.0mm	0.75x1.25mm	1.0x1.5mm	1.75x3.5mm
	Far Range	0.15x0.15mm	0.4x0.9mm	0.6x1.0mm	0.5x0.8mm	2.0x4.5mm
Linearity Accuracy		±0.1%F.S.				
Repeatability	High-speed Mode	4μm	8μm	15μm	45μm	100μm
	Other Mode	2μm	5μm	10μm	30μm	75μm
Temperature Drift		±0.08%F.S./° C				
Response Time	High-speed Mode	max.5ms: sampling average x 1 (1ms) + sensitivity switch time (max.4ms)				1.5ms+6ms max. (sampling average: 1)
	Standard Mode	max.12.5ms: sample average x 16 (8.5ms) + sensitivity switch time (max.4ms)				13ms+6ms max. (sampling average: 16)
	High-resolution Mode	max.36.5ms: sampling average x 64 (32.5ms) + sensitivity switch time (max.4ms)				49ms+6ms max. (sampling average: 64)
	Sensitivity Switch Time	4ms max.				
Indicator		Distance indicator: 7 bar LED display; output indicator: ON state: orange Q1/Q2 indicator (orange) light				
IP Rating		IP67				
Operating Temp./Humidity		-10~45° C/35~85%RH(no condensation or icing)				
Storage Temp./Humidity		-20~60° C/35~95%RH(no condensation or icing)				
Ambient Illuminance		Sunlight: ≤ 10000lux, lamp: ≤ 3000lux				
Vibration Resistance		10~55Hz, double amplitude 1.5mm,X、Y、Z directions, 2 hour for each				
Shock Resistance		50G (500m/s²)				
Housing Material		Housing: PBT Lens: PMMA				
Weight		Cable type: 65g ; Plug-in type: 70g				

Output

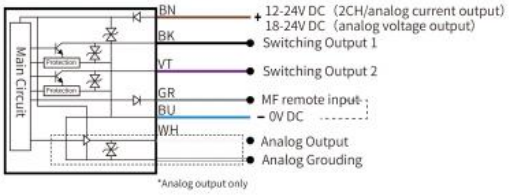
分类	2CH（Switching Output）	2CH+Analog Current Output	2CH+Analog Voltage Output	1CH+RS422
Power Supply Voltage	12-24V DC（-5%,+10%）		18-24V DC (-5%，+10%)	12-24V DC (-5%，+10%)
Current Consumption	max.55mA(24VDC)	max.85mA(24VDC)	max.55mA(24VDC)	
Switching Q1 Output	NPN or PNP open collector, ⩽ 100mA/30V DC, residual voltage ⩽ 1.8V			/
Switching Q2 Output	NPN or PNP open collector, ⩽ 100mA/30V DC, residual voltage ⩽ 1.8V			/
Analog Output	/	4-20mA	0-10V	/
Communication	/			RS422
Cable Type	Φ5mm 5-pin 2m cable	Φ5mm 6-pin 2m cable		Φ5mm 8-pin 2m cable
Plug-in Type	M12 8-pin			

Retro-reflective

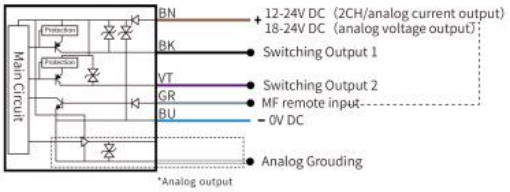
Cable Type	2CH+Analog Current	KD50-L30N(P)I	KD50-L50N(P)I	KD50-L85N(P)I
	2CH+Analog Voltage	KD50-L30N(P)U	KD50-L50N(P)U	KD50-L85N(P)U
	1CH+RS422	KD50-L30N(P)/R2	KD50-L50N(P)/R2	KD50-L85N(P)/R2
Plug-in Type	2CH+Analog Current	KD50-L30N(P)I-A8	KD50-L50N(P)I-A8	KD50-L85N(P)I-A8
	2CH+Analog Voltage	KD50-L30N(P)U-A8	KD50-L50N(P)U-A8	KD50-L85N(P)U-A8
	1CH+RS422	KD50-L30N(P)/R2-A8	KD50-L50N(P)/R2-A8	KD50-L85N(P)/R2-A8
Output Signal		Switching output: NPN (-N)、PNP (-P)		
Detection Range		26.3±2mm	47.3±5mm	82.9±10mm
Full Scale (F.S.)		4mm	10mm	20mm
Light Source		Red Laser diode (wavelength 655nm)		
激光功率		390μW max.		
IEC/JIS Rating		Class 1		
FDA Rating		Class II		
Sampling Period		500 (250mm: 750) /1000/1500/2000μs; factory setting: 500μs (250mm: 750μs)		
Spot Size	Near Range	0.15 x 0.15mm		
	Center Range	0.1x 0.1mm		
	Far Range	0.15 x 0.15 mm		
Linearity Accuracy		±0.2%F.S.		
Repeatability		1μm	2.5μm	5μm
Temperature Drift		±0.08%F.S./° C		
Response Time	High-speed Mode	max.5ms: sampling average x 1 (1ms) + sensitivity switch time (max.4ms)		
	Standard Mode	max.12.5ms: sampling average x 16 (8.5ms) + sensitivity switch time (max.4ms)		
	High-resolution Mode	max.36.5ms: sampling average x 64 (32.5ms) + sensitivity switch time (max.4ms)		
	Sensitivity Switch time	4ms max.		
Indicator				
IP Rating		IP67		
Operating Temp./Humidity		-10~45° C/35~85%RH (no condensation or icing)		
Storage Temp./Humidity		-20~60° C/35~95%RH (no condensation or icing)		
Ambient Illuminance		Lamp: ⩽ 3000lux		
Vibration Resistance		10~55Hz, double amplitude 1.5mm,X、Y、Z directions, 2 hour for each		
Shock Resistance		50G（500m/s²）X、Y、Z 3 times for each		
Housing Material		Housing: PBT Lens: PMMA		
Weight		Cable type: 65g ; Plug-in type: 70g		

Circuit Diagram

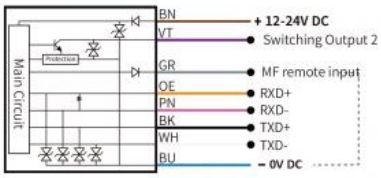
NPN (Switching/Analog Output)



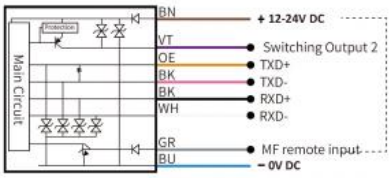
PNP (Switching/Analog Output)



NPN (RS422 communication)

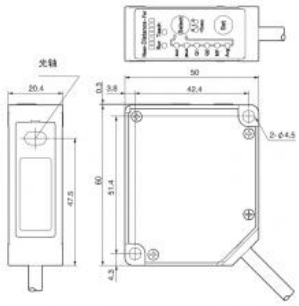


PNP (RS422 communication)

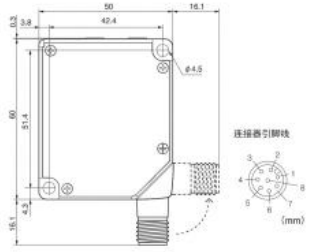


Dimension

Cable Type

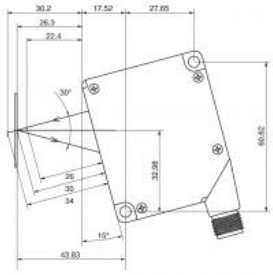


M12 Plug-in Type

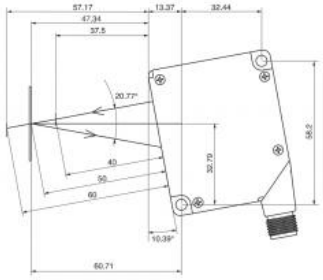


Retro-reflective Installation

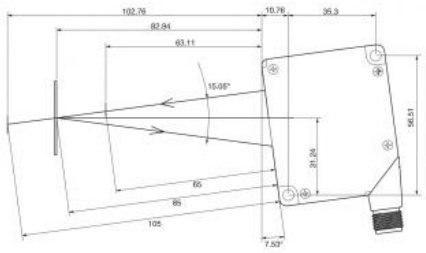
KD50-L30



KD50-L50

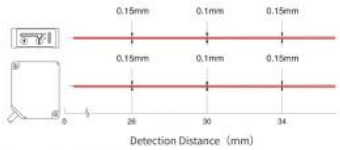


KD50-L85

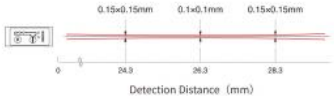


Spot Size

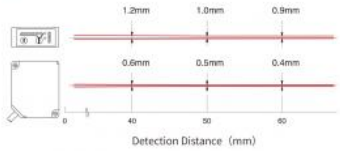
KD50-30 □



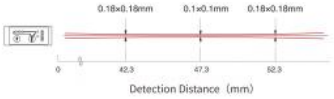
KD50-L30 □ /R2



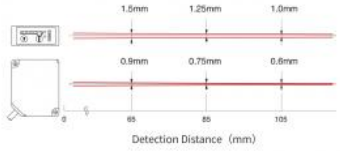
KD50-50 □



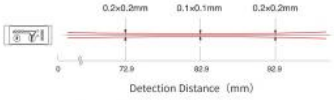
KD50-L50 □ /R2



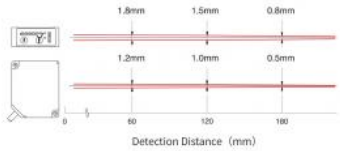
KD50-85 □



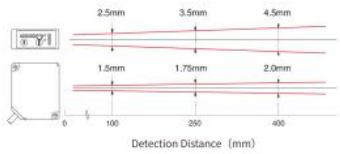
KD50-L85 □ /R2



KD50-120 □



KD50-250 □



Applications:

KRONZ LED Photoelectric Sensors are versatile devices suitable for a variety of application occasions and scenarios. With a sensing distance ranging from 20mm to 300mm and a rapid response time of 1ms, these sensors are ideal for warehouse automation systems, industrial machinery, and robotic applications.

CMOS Laser Displacement Photoelectric Sensor for Industrial Automation & Precision Manufacturing:

Robotic Z-Axis Feedback**:** Provides accurate height data to robotic arms for gripping, assembling, or machining tasks.

Inline Thickness Monitoring**:** Monitors sheet metal, plastic film, or foil thickness during production to reduce defects and waste.

Step/Flatness Measurement: Inspects surface steps or flatness on machined parts, such as metal housings or mold cavities.

Weld Seam Height and Shape Inspection: Evaluates the consistency and integrity of weld beads.

ABOUT US

KRONZ is a manufacturing enterprise located in Zengcheng District, Guangzhou City. We focus on providing customers with high-efficiency industrial automation solutions and related industrial products. After many years of innovation and development, KRONZ has complete product processing equipment and a professional team who are proficient in various automation technologies.

In order to improve the quality of products and production efficiency, we continue to introduce advanced production equipment and technology, strengthen investment in research and development. At present, our main products include Industrial Connectors、Inductive Sensors、Capacitive Sensors、Photoelectric Sensors、Ultrasonic Sensors、Industrial power supplies、Industrial fieldbus、RFID recognition systems、Industrial Ethernet Switches

We not only produce the orders of standard products, but also have ability to make customize production based on customer design drawings or samples.

Adhering to the principle of mutual benefit, we provide our customers with competitive prices , and perfect after-sales service. Kronz's products have been sold in multiple countries, have won the trust and praise of customers. KRONZ expect to collaborate with you.

OUR FACTORY

Certifications

Logistics and Payment

PayPal WESTERN UNION VISA T/T

TNT UPS SF EXPRESS 顺丰速运

FedEx Express EMS DHL

1. Samples and small orders can be shipped with fast shippment method, by air and by express. Bulk order will ship by sea,by air,by train,by truck etc.

2.We also can send the goods to your agent warehouse.

3. If you need any more shipping method, please feel free to contact with us.

Note:

Due to the wide range of our products, we cannot list all product pictures and corresponding product parameters. If you have other needs, please communicate with me. We can provide supplementary information and technical support.
We Are Happy to Serve You.

CONTACT US

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