ISen-H240 Series Laser Displacement Sensor

Datasheet

August 26, 2025
CN Rev.v2.0.0

Product Overview

The ISen-H240 series laser displacement sensors are precision measurement devices based on laser technology. They offer high cost performance and serve as an entry-level solution for ranging applications and various inspection tasks. This series features a compact size for easy installation and integration, with a clear red semiconductor laser indicator. Its circuit design is specially optimized for year-round continuous operation and can withstand unstable power supply in unattended environments. The ISen-H240 series operates on the principle of triangulation. When the target object moves, the light-receiving position on the CMOS shifts. By detecting this position change, the displacement of the object is measured.

Main Features

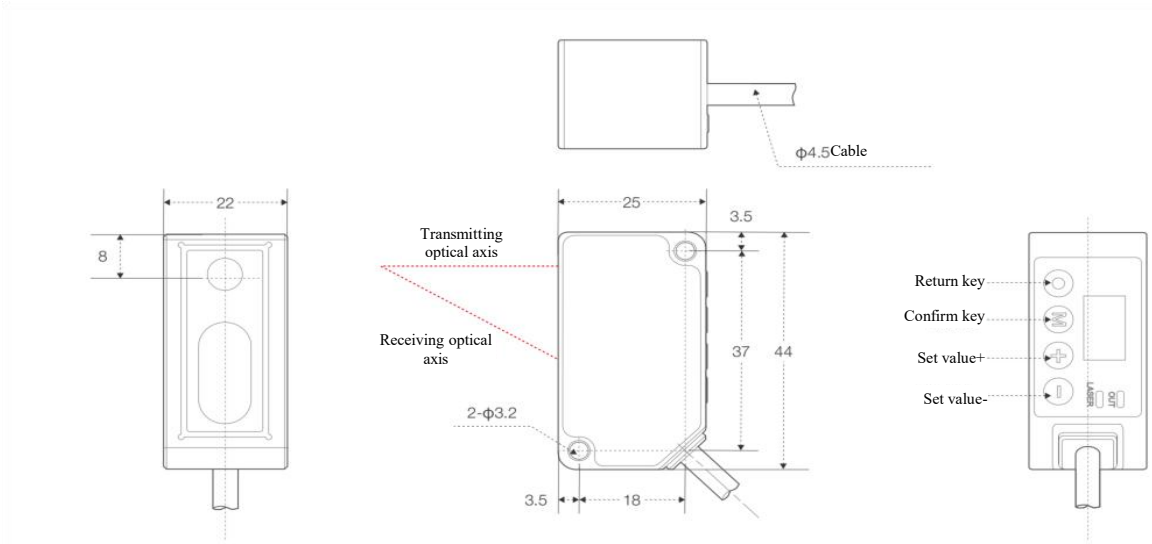
- Equipped with an extra-large CMOS element and AGC laser, improving signal resolution and further enhancing sampling accuracy.
- Remote upgrade and visual configuration; based on an innovative hardware + firmware R&D model, continuously adding new functions and algorithms to solve more industry pain points and application scenarios.
- All models are standard with 485 digital signal output, eliminating issues such as sampling accuracy loss and signal interference associated with analog output.
- Built-in AI algorithm and accelerator; supported by powerful deep learning algorithms and dedicated hardware, it adapts to changes in any material and scenario with one-key setup.

Technical Parameters

Reference distance	30mm	50mm	100mm	200mm
Measuring distance	± 5mm	± 15mm	± 35mm	±80mm
Spot size	Approx. φ50μm	Approx. φ70μm	Approx. φ140μm	Approx. φ300μm
Repeatability	1μm	2μm	4μm	10μm
Light source	Red semiconductor laser, Class 2 (IEC/GB), Class II (FDA), max output: 1 mW, peak wavelength: 655 nm			
Sampling period	1ms / 2ms / 4ms / 8ms / 16ms / AUTO			
Input/output	DC IN:12~24V/switching input Digital output/analog voltage output: 0–5V, color LCD display 4 keys/2 status indicators			

Voltage	12–24 VDC ±10%, ripple P-P ≤ 10%
Current	Below 60 mA
Operating temperature	-40℃ ~+70℃
Storage temperature	-55 ° C ~ +85° C
Relative humidity	35%RH ～85%RH (non-condensing)
Ambient light illuminance	Incandescent lamp: ≤ 3000 lux at receiver
Vibration resistance	10–55 Hz, double amplitude 1.5 mm, 2 hours each for X, Y, Z axes
Weight	85g
IP grade	IP67
Operating environment	No dust and corrosive gases

Product Dimensions and Software Settings



Dimensional drawing:

Software settings:

Setting mode

3 operating modes: Sensitivity priority, accuracy priority, photoelectric mode

Zero reset function

Reset

In measurement mode, press and hold [●] for 2 seconds or longer to execute zero reset. The current measured value will be displayed as 0.000

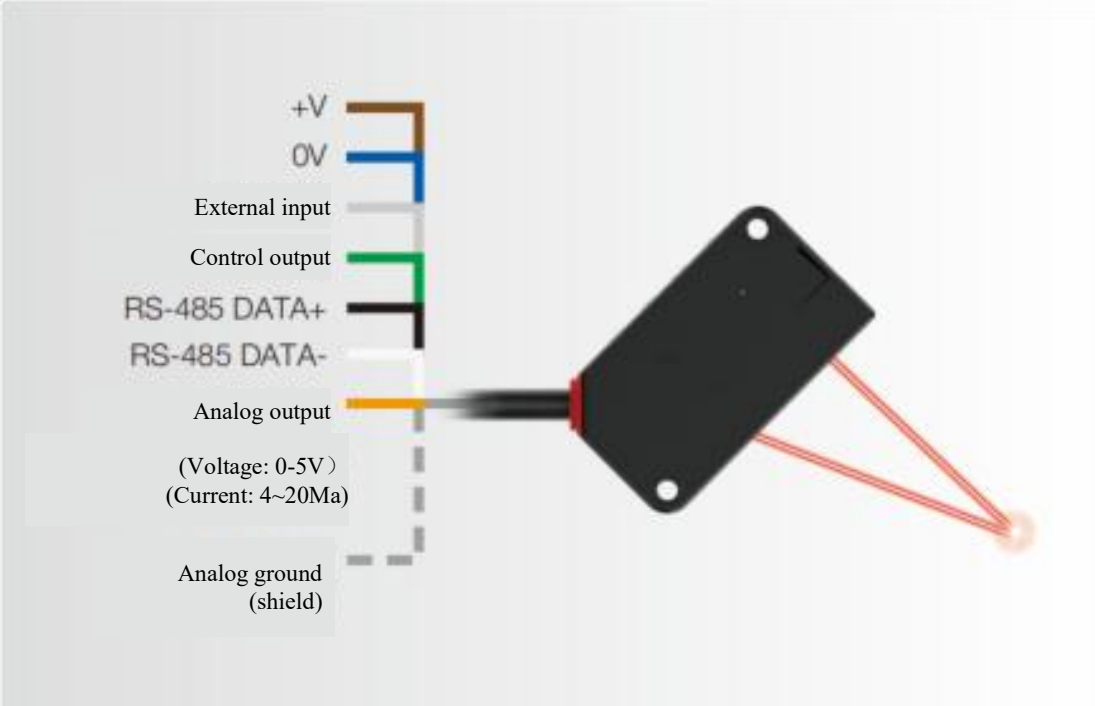
(decimal points vary by model).

Cancel reset

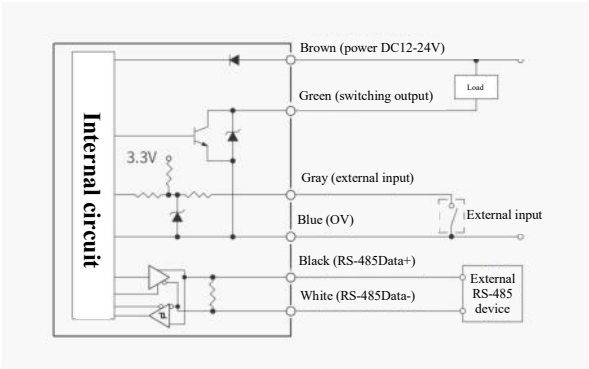
In measurement mode, press and hold [●] for 4 seconds or longer to cancel reset.

Zero setting mode

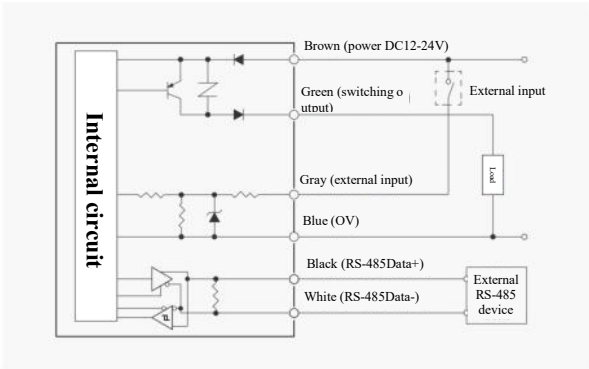
Wiring Diagram



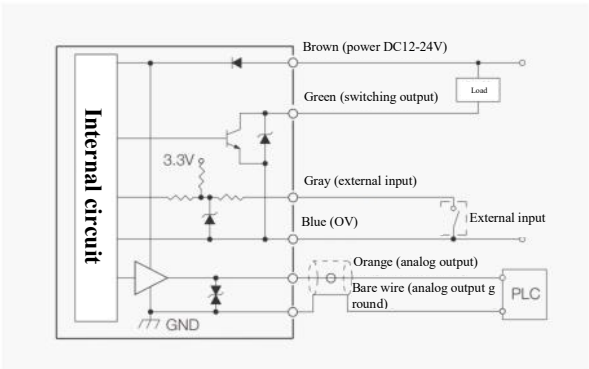
NPN output
RS-485 output type



PNP output
RS-485 output type



NPN output
Analog output type



PNP output
Analog output type