

OMRON

Model **ZS-LD**

Sensor Head for Smart Sensor ZS-LDC

INSTRUCTION SHEET

Thank you for selecting OMRON product. This sheet primarily describes precautions required in installing and operating the product.

Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the sheet at your disposal.

TRACEABILITY INFORMATION:

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The following notice applies only to products that carry the CE mark:

Notice:
This is a class A product. In residential areas it may cause radio interference, in which case the user may be required to take adequate measures to reduce interference.

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Precautions for Correct Use

- Do not install the product in locations subjected to the following conditions:
 - Reflection of intense light (such as other laser beams or electric arc-welding machines)
 - Presence of dust, oil droplets or spray on the filter on the front of the Sensor Head
 - Presence of corrosive or flammable gases
 - Direct vibration or shock
- Pre-installation Checks
 - The product cannot accurately measure the following types of objects: (transparent objects, objects having an extremely low reflection factor, objects smaller than the spot diameter, objects with a large curvature, excessively inclined objects, etc.)
- Wiring
 - Avoid wiring the cable between the Sensor Head and Sensor Controller including this product near high voltage lines and power lines. Wiring them together or placing them in the same duct may cause induction, resulting in malfunction or damage.
 - Before connecting/disconnecting the Sensor Head, make sure that the Smart Sensor is turned OFF. The Smart Sensor may break down if the Sensor Head is connected or disconnected while the power is ON.
- Cleaning
 - Do not use paint thinner, benzene, acetone or kerosene to clean the Sensor Head. Doing so will melt the surface of the Sensor Head.
 - To remove dust particles, use a blower brush.
 - To remove stubborn dirt, wipe gently with a soft cloth moistened with a small amount of alcohol.
- Compatibility
 - The Sensor Head is compatible with the Sensor Controller, and can be used if purchased separately.

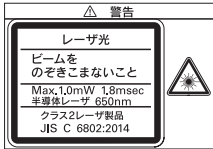
Laser Safety

■ Handling Precautions

- The ZS-LD emits a visible laser beam. Do not stare directly into the laser. Make sure that the laser beam path is terminated.
- A non-reflective matte painted surface is ideal at the end of the laser beam path. If specular objects are present in the laser beam path, make sure that they are prevented from reflecting the laser beam. When used without an enclosure, make sure the laser path from eye level is avoided.

- Laser safety measures for laser devices are stipulated both in Japan and overseas. Here, four cases are described.

- Usage in Japan
The JIS C6802:2014 standard stipulates the safety precautions that users must take according to the class of the laser product. The ZS-LD50/80/200/130 is classified into class 2 defined by this standard.

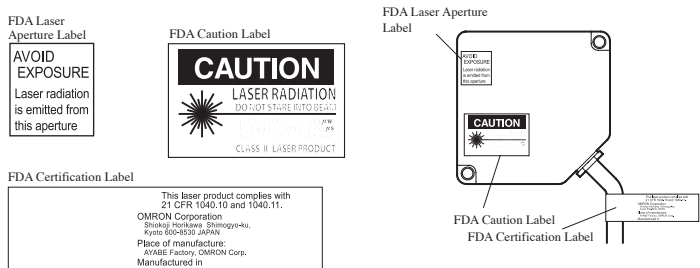


- USA
When a laser device is exported to the USA, it falls under the laser regulations of the FDA (Food and Drug Administration). The ZS-LD50/80/200/130 is classified as a class-II laser by 21CFR1040, and it has already been registered with the CDRH (Center for Devices and Radiological Health). Ask your OMRON representative for details.

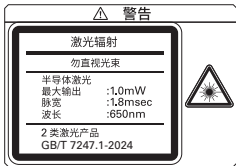
Technical standards have been provided with the ZS-LD50/80/200/130. When exporting to the USA, refer to the following illustration and replace the label with the caution label.

It is assumed that the ZS-LD50/80/200/130 will be incorporated into a final system device. When incorporating the ZS-LD50/80/200/130, comply with the following technical standards:

US Federal Law 21 CFR 1040.10 and 1040.11.



- China
The ZS-LD50/80/200/130 is classified into Class 2 by the GB/T 7247.1-2024 standard. When using in China, warning labels must be replaced by Chinese ones supplied with the product.



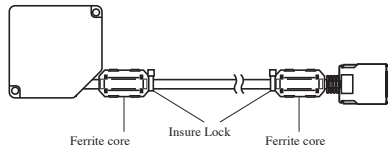
- For countries other than Japan, U.S. and China
When usage in countries other than Japan, U.S. and China, labels must be replaced by suitable for the area ones supplied with the ZS-LD50/80/200/130. When exporting to Europe, labels fall under EU standard EN 60825-1:2014+A11:2021. The ZS-LD50/80/200/130 is classified into Class 2 by the IEC 60825-1:2014 / EN 60825-1:2014+A11:2021 standard.



■ Attaching the ferrite core

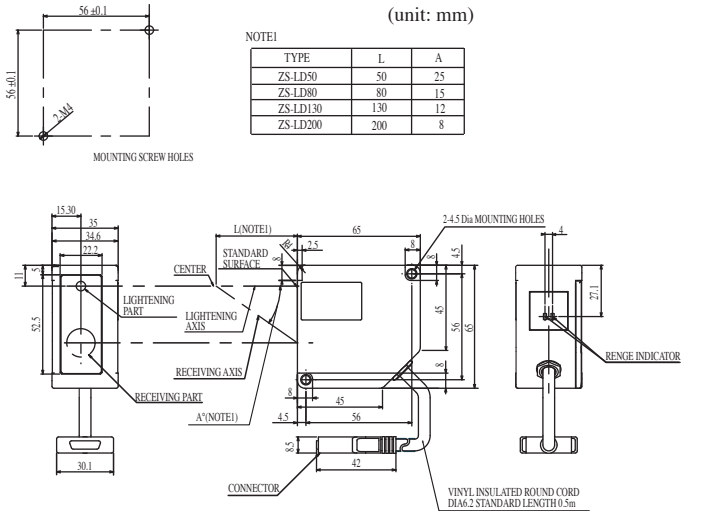
Attach the ferrite core (provided with the Sensor Head) to both ends of the Sensor Head cable.

If the ferrite core comes loose from the cable, fasten the ferrite core in place with the Insure Lock (supplied).



■ Dimensions

ZS-LD50/LD80/LD200/LD130



Suitability for Use

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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D U Dec, 2024

Precautions on Safety

● Meanings of Signal Words

	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally, there may be significant property damage.
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● Meaning of Alert Symbols

	Indicates the possibility of laser radiation.
	Indicates prohibition when there is a risk of minor injury from electrical shock or other source if the product is disassembled.

● Alert Statements in this Sheet

WARNING	
Never look into the laser beam. Doing so continuously will result in visual impairment.	
Do not disassemble the product. Doing so may cause the laser beam to leak, resulting in the danger of visual impairment.	

Precautions for Safe Use

Please observe the following precautions for safe use of the product:

- Do not use the product in environments where it can be exposed to inflammable/explosive gas.
- Do not disassemble, repair or modify this product.
- Be sure to make sure that locking mechanisms are locked before use.
- Dispose of this product as industrial waste.

*1 Defined as 1/e² (13.5%) of the center optical intensity in the measurement center distance (effective value). The beam diameter is sometimes influenced by the ambient conditions of the workpiece such as leaked light from the main beam.

*2 This is the error on the measured value with respect to an ideal straight line. The standard workpiece is white aluminum ceramics. (In the regular reflection mode on ZS-LD50, the standard workpiece is glass.) Linearity may change according to the workpiece.

*3 This is the "peak-to-peak" displacement conversion value of the displacement output in the measuring center distance when the number of samples to average is set to 128, and the measuring mode is set to the high-resolution mode. The standard workpiece is white aluminum ceramics. (In the regular reflection mode on ZS-LD50, the standard workpiece is glass.)

*4 This is the typical value obtained in the measuring center distance when the sensor and workpiece are fixed by an aluminum tool.

*5 This value is obtained when the measuring mode is set to the high speed mode.