

Model ZP-LS□□C

OMRON

Sensor Head for Laser Displacement Sensor

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:
Importer in EU: Omron Europe B.V.
Wegalaan 67-69
NL-2132 JD Hoofddorp,
The Netherlands
The following notice applies only to products that carry the CE mark. Notice:
In a residential environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Manufacturer: Omron Corporation,
Shiokoji Horikawa, Shimogyo-ku,
Kyoto 600-8530 JAPAN



© OMRON Corporation 2024 All Rights Reserved.

PRECAUTIONS ON SAFETY

● Meaning of Signal Words



WARNING

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.

● Explanation of signs



● Laser beam
Cautions to indicate potential Laser beam hazard



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



WARNING

This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purpose.



To safely use laser products

Pour une utilisation des produits laser en toute sécurité



WARNING / AVERTISSEMENT

Looking into the Outgoing light continuously may cause visual impairment.
Do not look directly into the Outgoing light.
Caution-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Fixer en continu la lumière sortante peut provoquer des troubles visuels. Ne pas fixer directement la lumière sortante.
Attention-L'utilisation des commandes ou réglages ou l'exécution des procédures autres que celles spécifiées dans les présentes exigences peuvent être la cause d'une exposition à un rayonnement dangereux.



Do not disassemble this product. Doing so may cause exposure to the built-in light source which can damage eyes and skin. Never disassemble it.

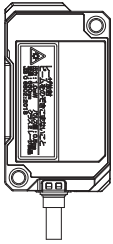
Ne pas démonter ce produit. Cela pourrait provoquer une exposition à la source lumineuse intégrée, qui peut endommager les yeux et la peau. Ne jamais le démonter.



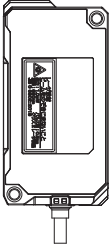
A JIS C 6802:2018, IEC 60825-1:2014 laser explanation label is attached to the side of this product.

クラス 1 レーザ製品

CLASS 1 LASER PRODUCT



ZP-LS025□C
ZP-LS050□C
ZP-LS100□C



ZP-LS300□C
ZP-LS600□C

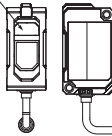
Laser safety measures for laser equipment are stipulated by the country of use. Follow the instructions described below categorized in six cases.

•Usage in Japan
The JIS C6802:2018 standard stipulates the safety precautions that users must take according to the class of the laser product. This product is classified into class 1 defined by this standard.

•Usage in U.S.
This product is subjected to the U.S. FDA (Food and Drug Administration) laser regulations. This product is classified into Class 1 by the IEC 60825-1:2014 standard according to the regulations of Laser Notice No.56 of the FDA standard. This product is already reported to CDRH (Center for Devices and Radiological Health).
Accession Number: 2420973-000
When using a device equipped with the product in the U.S., attach an FDA certification label and a Warning label near the sensor mounted on customer equipment.

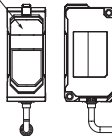
This laser product complies with 21 CFR 104.10 and 1040.11 except for conformance with IEC 60825-1 Ed.3, as described in Laser Notice No.56, dated May 8, 2019.
OMRON Corporation
Shiokoji Horikawa, Shimogyo-ku,
Kyoto 600-8530 JAPAN
Place of manufacture:
AYASE Factory, OMRON Corporation
Manufactured

Center of laser projection
Light source
Red Laser (660 nm)
Centre de la projection laser
Source lumineuse
Laser rouge (660 nm)



ZP-LS025□C
ZP-LS050□C
ZP-LS100□C

Center of laser projection
Light source
Red Laser (660 nm)
Centre de la projection laser
Source lumineuse
Laser rouge (660 nm)



ZP-LS300□C
ZP-LS600□C

Precautions for Safe Use

•Never use this product with AC power supply. Otherwise it may explode.
•Before turning on the product's power, make sure that the supply voltage does not exceed the maximum power supply voltage.
•When attaching or detaching the sensor head, amplifier slave unit, or communication unit, be sure to turn off the power to the amplifier master unit. If you do this while the power is on, it may cause a malfunction.
•Do not connect to any amplifier unit other than the dedicated amplifier unit ZP-L3□□□.
•Do not use the product if the case is damaged.
•If you notice an abnormal condition such as a strange odor, extreme heating of the unit, or smoke, immediately stop using the product, turn off the power, and consult your dealer.
•Always turn off the power of the unit before connecting or disconnecting cables.
•Burn injury may occur. The product surface temperature rises depending on application conditions, such as the ambient temperature and the power supply voltage. Attention must be paid during operation or cleaning.

Precautions for Correct Use

•Do not install in the following locations:
•Locations where the ambient temperature exceeds the rated temperature range.
•Locations subject to sudden temperature changes (where condensation will form).
•Locations where the relative humidity is below or above 35% to 85%.
•Locations where there are corrosive or flammable gases.
•Locations where there is dust, salt, or iron powder.
•Locations where the device will be subject to direct vibration or shock.
•Locations where there is strong scattered light (laser light, arc welding light, ultraviolet light, etc.)
•Locations exposed to direct sunlight or next to a heater.
•Locations where there is splashing or spraying of water, oil, or chemicals.
•Locations where there is a strong electrical or magnetic field.
•Do not pull the cord too hard.
•Tightening torque for the mounting hole is 0.5 N·m (M3 screw).
•This product cannot be used as a detection device for human body protection.
•Do not attempt to disassemble, deform by pressure, incinerate, repair, or modify this product.
•After wiring and before turning on the power, check whether the power supply is correct, whether there are any incorrect connections such as load short circuits, and whether the load current is appropriate. There is a risk of malfunction due to incorrect wiring, etc.
•When changing settings, please check safety by stopping the device, etc.
•The cables must be less than 30 m in total length for amplifier units. To extend the cable from the sensor head, an optional extension cable (XS3W-M4□-R/XS3W-M4□-PR) must be used.
•After turning on the power supply, allow to stand for at least 10 minutes before use.
The internal temperature is unstable immediately after the power supply is turned on and attempting measurement may result in inconsistent measurement values.
•Do not use organic solvents (e.g. paint thinner and alcohol) for cleaning.
Otherwise optical properties and protective structure may deteriorate.



Dispose in accordance with applicable regulations.

Package contents

Sensor Head, Instruction sheet (this sheet), Compliance sheet, FDA certification label, Sensor head fixing screw (2 pieces)*1
*1. ZP-LS025□C/ZP-LS050□C/ZP-LS100□C includes M3×30 mm, ZP-LS300□C/ZP-LS600□C includes M3×35 mm.

Environment

Ambient temperature: -10 to 50°C
Relative humidity: 35 to 85% (with no condensation)
Indoor use
Altitude: Max. 2,000 m
Pollution Degree 3
Degree of protection: IP67

Ratings

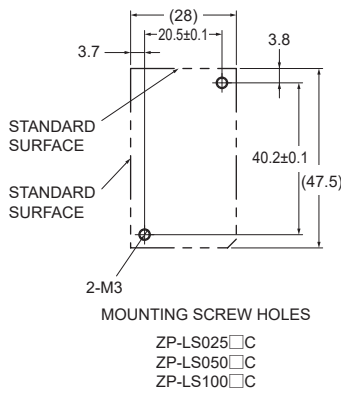
The power for this product is Supplied from an amplifier unit (ZP-L3□□□) only.
The power for amplifier unit (ZP-L3□□□), you must use DC power supplies that satisfy the “Class 2” requirements.

Connection Method

This product should be connected to an amplifier unit (ZP-L3□□□) or extension cable (XS3W-M4□-R/XS3W-M4□-PR).

Installation method

Attach slave devices with M3 screws.
Tightening torque of the screws is 0.5 N·m.
The mounting dimensions are shown below.



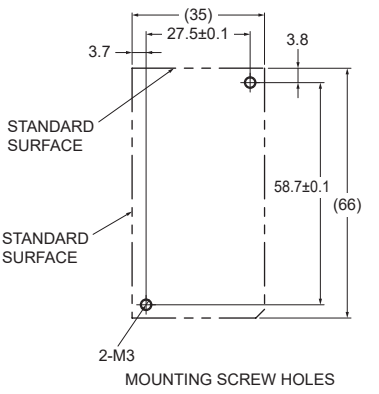
STANDARD SURFACE

STANDARD SURFACE

2-M3

MOUNTING SCREW HOLES

ZP-LS025□C
ZP-LS050□C
ZP-LS100□C



STANDARD SURFACE

STANDARD SURFACE

2-M3

MOUNTING SCREW HOLES

ZP-LS300□C
ZP-LS600□C

[mm]

Conformance to EU Directives

This sensor complies with EN standards as follows:
•EN61326-1
•Electromagnetic environment : Industrial electromagnetic environment (EN/IEC 61326-1 Table 2)
•While receiving electromagnetic interference, the voltage/current output might vary within ±3% of full scale.

Relevant Manual

Man.No.
Z495

Model
ZP-LS□□/
ZP-L3□□□

Manual name
ZP Series Laser Displacement Sensor
User's Manual

Serial number
The serial number "SSSSMYYA" on the label on the product indicates the date of manufacture.
SSSS: identification number
M: Months of production 1-9 for Jan.-Sep., X for Oct., Y for Nov., Z for Dec.
YY: Year of manufacture (last 2 digits of A.D.)
A: Our control number (A or no digit)

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.

OMRON Corporation
Kyoto, JAPAN

Industrial Automation Company
Contact: www.ia.omron.com

Regional Headquarters

■ OMRON ELECTRONICS LTD. (FOR UK)
Opal Drive, Fox Milne,
Milton Keynes, MK15 0DG, U.K.
Tel: (44) 1908-258-258/Fax: (44) 1908-258-158

■ OMRON EUROPE B.V.
Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

■ OMRON ELECTRONICS LLC
2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

■ OMRON ASIA PACIFIC PTE. LTD.
438B Alexandra Road, #08-01/02 Alexandra
Technopark, Singapore 119968
Tel: (65) 6835-3011 / Fax: (65) 6835-3011

■ OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-6023-0333 / Fax: (86) 21-5037-2388

■ OMRON Canada Inc.
1675 Trans Canada Route Suite 105,
Dorval, Quebec H9P 1J1, Canada

E ⑤ May, 2025