Ratings and Specifications of Sensors with Class 1 lasers (ZX1-LD□L)

The ratings and specifications that are different from those of the Sensors with Class 2 lasers are given below.

Item \ Model	ZX1-LD50A61L/ZX1-LD50A81L ZX1-LD100A61L/ZX1-LD100A81L	ZX1-LD300A61L/ZX1-LD300A81L ZX1-LD600A61L/ZX1-LD600A81L
FDA Class	Class1 0.24mW max.	
IEC/EN Class	Class1 0.24mW max.	
Functions	No scaling setting, no hysteresis width setting	
Ambient illumination	Illumination on received light surface 5,000 lx or less (incandescent light)	Illumination on received light surface 2,500 lx or less (incandescent light)
Connection method	Pre-wired model (2 m)	
Accessories	Instruction sheet and Explanatory label (English), FDA certification label	

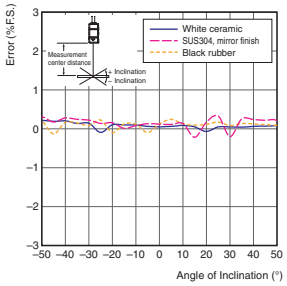
Accession Number: 1210041

Engineering Data (Typical)

Angle Characteristic

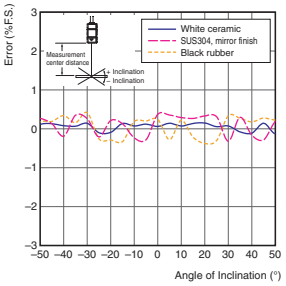
ZX1-LD50□

Side-to-side Inclination



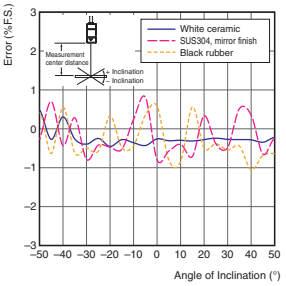
ZX1-LD100□

Side-to-side Inclination



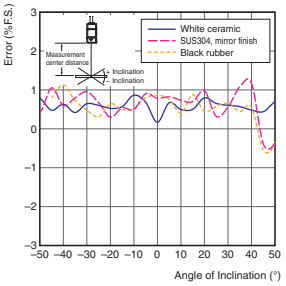
ZX1-LD300□

Side-to-side Inclination



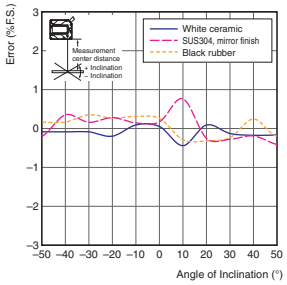
ZX1-LD600□

Side-to-side Inclination



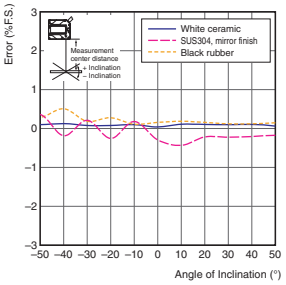
ZX1-LD50□

Front-to-back Inclination



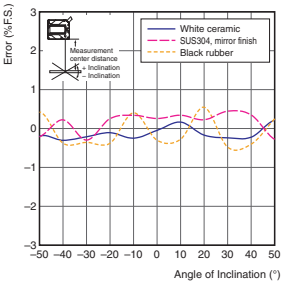
ZX1-LD100□

Front-to-back Inclination



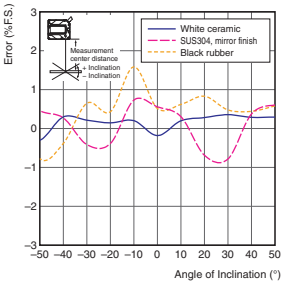
ZX1-LD300□

Front-to-back Inclination



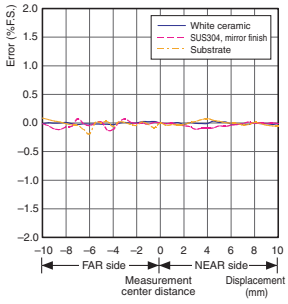
ZX1-LD600□

Front-to-back Inclination

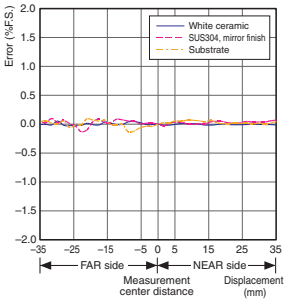


Linearity Characteristic for Different Materials

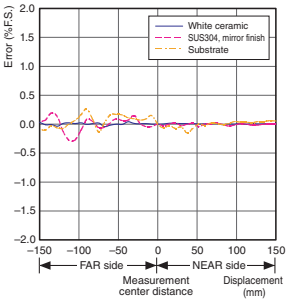
ZX1-LD50□



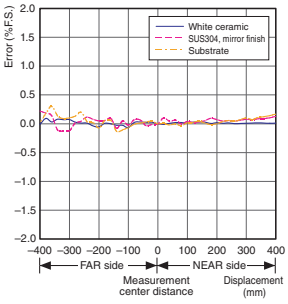
ZX1-LD100□



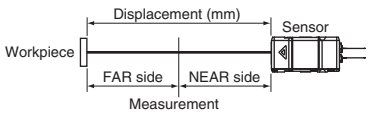
ZX1-LD300□



ZX1-LD600□



Measurement diagram

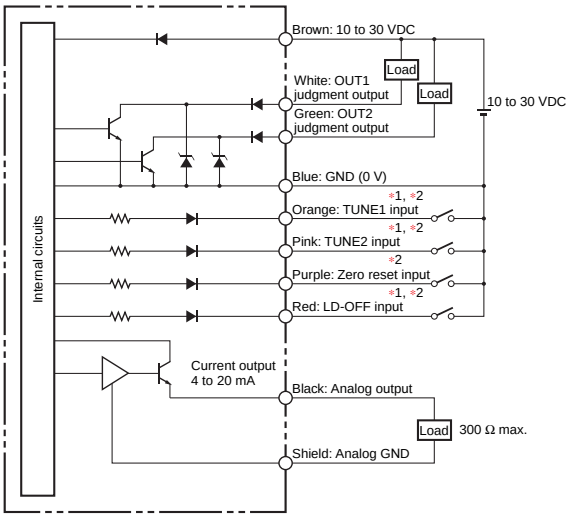


Note: 1. Measurement conditions for the ZX1-LD□□: Ambient temperature of 25°C in Standard Mode after executing Smart Tuning.
2. The ambient conditions or workpiece may adversely affect the engineering data of the ZX1-LD□L.
3. The X-axis displacement indicates the measurement distance displayed on a digital display.
The measurement distance displayed on a digital display takes the measurement center distance as 0 and displays the near side of the Sensor as positive and the far side as negative.

I/O Circuit Diagrams

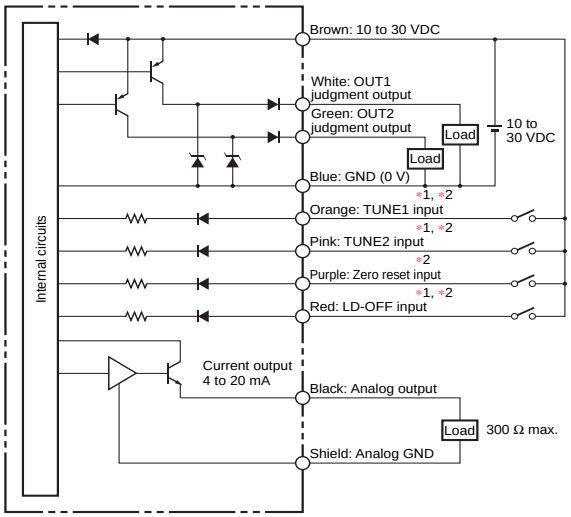
NPN Output Model (Negative Common)

ZX1-LD50A61(L) /ZX1-LD50A66
ZX1-LD100A61(L) /ZX1-LD100A66
ZX1-LD300A61(L) /ZX1-LD300A66
ZX1-LD600A61(L) /ZX1-LD600A66



PNP Output Model (Positive Common)

ZX1-LD50A81(L) /ZX1-LD50A86
ZX1-LD100A81(L) /ZX1-LD100A86
ZX1-LD300A81(L) /ZX1-LD300A86
ZX1-LD600A81(L) /ZX1-LD600A86



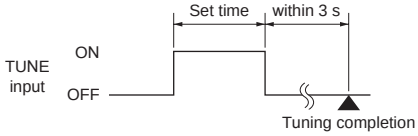
∗1. TUNE1 input: tuning external input for channel 1
TUNE2 input: tuning external input for channel 2
LD-OFF input: Laser OFF input
∗2. The input specification is as follows:

	NPN Output Model	PNP Output Model
ON	Short-circuited with 0-V terminal or 1.5 V max.	Supply voltage short-circuited or supply voltage within -1.5 V
OFF	Open (leakage current: 0.1 mA max.)	Open (leakage current: 0.1 mA max.)

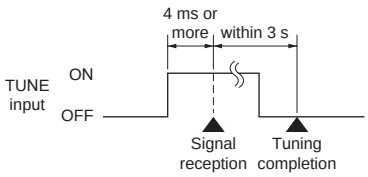
Timing Charts

TUNE1 Input / TUNE2 Input

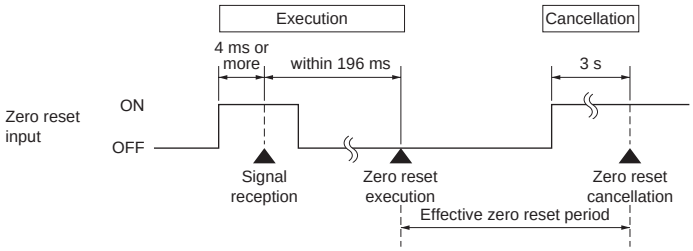
(1) Time identification tuning type



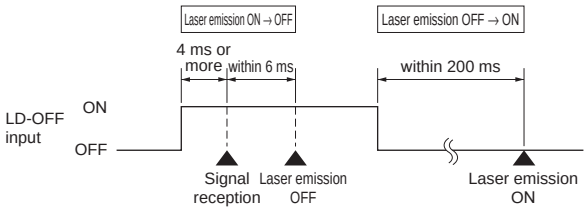
(2) Tuning type other than time identification



Zero Reset Input



LD-OFF Input



Safety Precautions

This datasheet contains information only for selecting the appropriate model.
Be sure to read the Instruction Sheet for usage precautions prior to using the product.

Laser Safety

⚠ WARNING

ZX1-LD□□□: Class 2, ZX1-LD□□□L: Class1

Do not expose your eyes to the laser radiation either directly or indirectly (i.e., after reflection from a mirror or shiny surface).
The laser radiation has a high power density and exposure may result in loss of sight.

Do not disassemble the product.
Doing so may cause the laser beam to leak, resulting in the danger of visual impairment.

Note: For Precautions for safe use and Precautions for correct use, refer to the Instruction Sheet supplied with the product.