

■ Characteristics (Ta = -10°C to 65°C)

Object: N8.5 Munsell paper with a reflection factor of 70%.

Item	Value
Operating area (see note 1)	6.5 ±1 mm
Sensitivity variation (see note 2)	-1.4 mV/μm ±10% max.
Resolution (see note 3)	±10 μm max. (Ta = 25°C)
Linearity (see note 4)	2% F.S. (full scale) max.

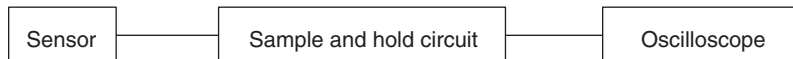
Note: 1. Distance from the mounting reference plane.

2. "Sensitivity" is defined as "inclination of divided output line" and the variation value between individual products of fluctuating divided output voltage per unit length.

$$\text{Sensitivity} = \frac{V_2 - V_0}{2000} \quad (\text{mV/mm})$$

Where V0: Output voltage when d = 5.5 mm
 V2: Output voltage when d = 7.5 mm
 d: Distance from reference mounting plane to an object.

3. Value of electrical noise range of divided output signal converted to distance under the following conditions.



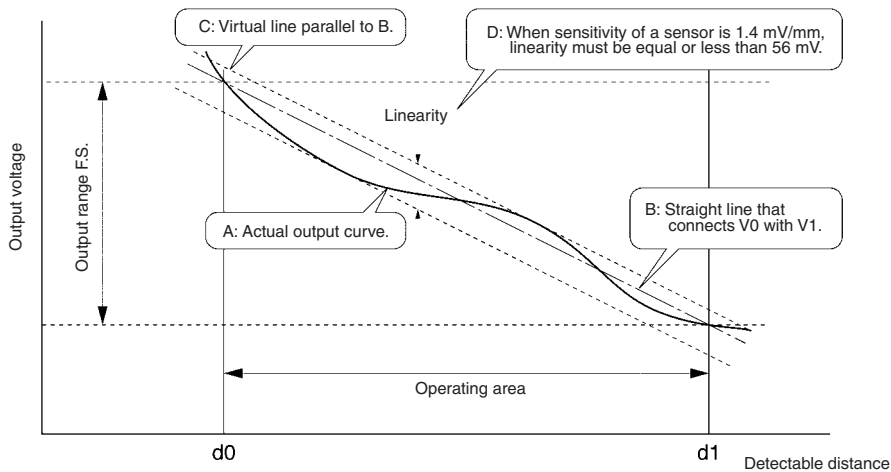
- (1) Ripple noise of power supply: 10 mV p-p max.
- (2) Sampling time of the sample and hold circuit: 50 μsec
- (3) Distance to object: Distance from the reference mounting plane is 6.5 mm ±1 mm.

** When the testing conditions are deviated from the above conditions, resolution changes. For details, please consult OMRON sales representative.

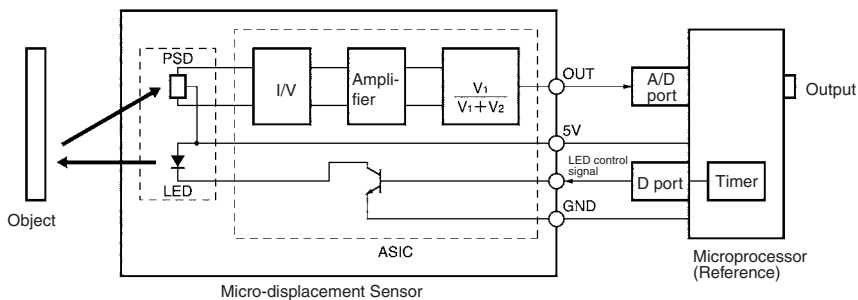
4. The peak-to-peak value of the output error from the ideal line.

Calculation, based on a linearity of 2% F.S., is as follows:

- (1) The conversion value based on the full scale distance: 2 mm × 0.02 = 0.04 mm (40 μm)
- (2) The conversion value based on the output voltage: 1.4 mV/μm × 40 μm = 56 mV
 (When the product sensitivity variation is 1.4 mV/μm.)

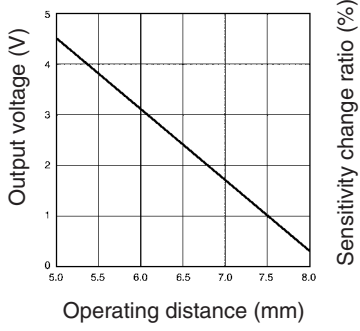


■ Circuit Diagram

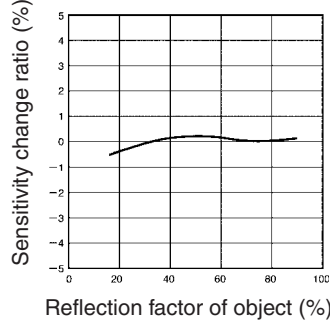


■ Engineering Data

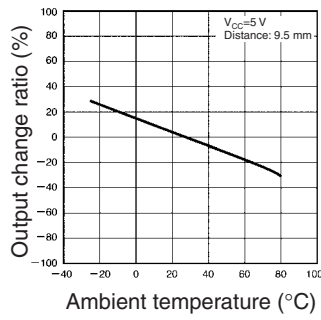
Operating Distance Characteristics (Typical)



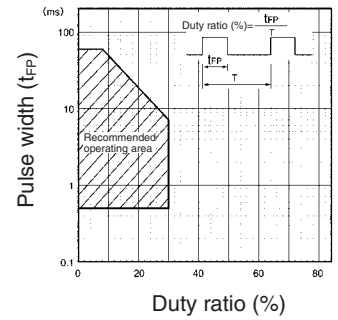
Dependency of Object on Reflection Factor (Typical)



Temperature Characteristics (Typical)

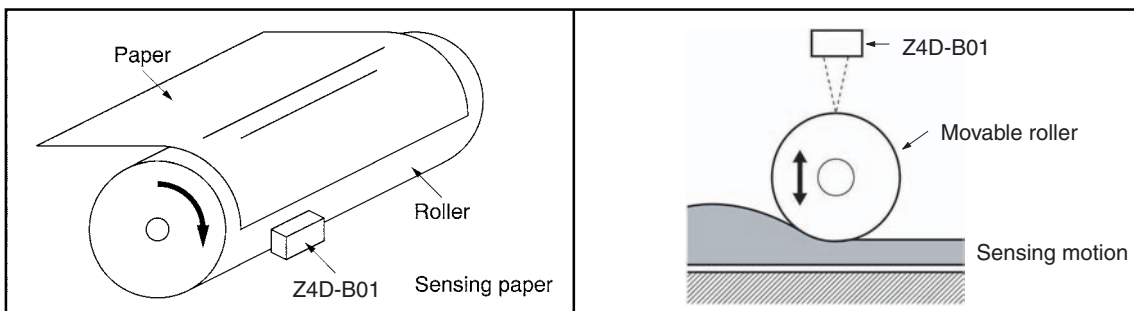


Pulsed Forward Current Rated Curve



■ Typical Application

Paper thickness detection for printers



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