

- *1:Resolution: The resolution is the deviation ($\pm 3\sigma$) in the linear output when connected to the ZX-EDA Amplifier Unit. The above values indicate the deviations observed 30 minutes after the power is turned ON.
(The resolution is measured with OMRON's standard reference object at 1/2 of the measurement range with the ZX-EDA set for the maximum average count of 4,096 per period.)
The resolution is given at the repeat accuracy for a stationary workpiece, and is not an indication of the distance accuracy. The resolution may be adversely affected under strong electromagnetic fields.
- *2: Linearity: The linearity is given as the error in an ideal straight line displacement output when measuring the standard reference object. The linearity and measurement values vary with the object being measured.
- *3: Temperature characteristic: The temperature characteristic is measured with OMRON's standard reference object at 1/2 of the measurement range.
- *4: The ambient temperature given is only for the sensor head. It is -10 to 60°C for the preamp.
- *5: The value given is for an ambient temperature of 25°C.
- *6: Do not use in moist environments because the case is not waterproof.

■ Amplifier Units

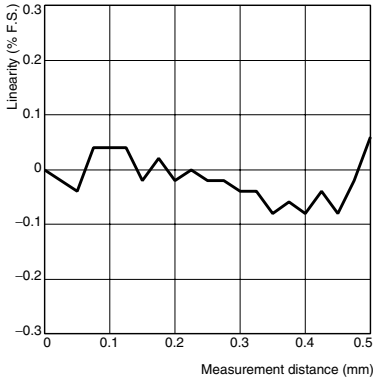
Model	ZX-EDA11	ZX-EDA41
Measurement period *1	150 μ s	
Possible average count settings	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1,024, 2,048, or 4,096	
Linear output *2	Current output: 4 to 20 mA/F.S., Max. load resistance: 300 Ω Voltage output: ± 4 V (± 5 V, 1 to 5 V *3), Output impedance: 100 Ω	
Judgement outputs (3 outputs: HIGH/PASS/LOW)	NPN open-collector outputs, 30 VDC, 50 mA max. Residual voltage: 1.2 V max.	PNP open-collector outputs, 30 VDC, 50 mA max. Residual voltage: 2 V max.
Zero reset input, timing input, reset input, judgement output hold input	ON: Short-circuited with 0-V terminal or 1.5 V or less OFF: Open (leakage current: 0.1 mA max.)	ON: Supply voltage short-circuited or supply voltage within 1.5 V OFF: Open (leakage current: 0.1 mA max.)
Function	<ul style="list-style-type: none"> <li style="width: 33%;">- Measurement value display <li style="width: 33%;">- Set value/output value/resolution display <li style="width: 33%;">- Linearity adjustment (materials selection) <li style="width: 33%;">- Scaling <li style="width: 33%;">- Display reverse <li style="width: 33%;">- Display OFF mode <li style="width: 33%;">- ECO mode <li style="width: 33%;">- Number of display digit changes <li style="width: 33%;">- Sample hold <li style="width: 33%;">- Peak hold <li style="width: 33%;">- Bottom hold, peak-to-peak hold <li style="width: 33%;">- Self-peak hold <li style="width: 33%;">- Self-bottom hold <li style="width: 33%;">- Average hold <li style="width: 33%;">- Delay hold <li style="width: 33%;">- Zero reset <li style="width: 33%;">- Initial reset <li style="width: 33%;">- Linearity initialization <li style="width: 33%;">- ON-delay timer <li style="width: 33%;">- OFF-delay timer <li style="width: 33%;">- One-shot timer <li style="width: 33%;">- Previous value comparison <li style="width: 33%;">- Non-measurement setting <li style="width: 33%;">- Direct threshold value setting <li style="width: 33%;">- Position teaching <li style="width: 33%;">- Automatic teaching <li style="width: 33%;">- Hysteresis width setting <li style="width: 33%;">- Timing inputs <li style="width: 33%;">- Reset input <li style="width: 33%;">- Judgement output hold input <li style="width: 33%;">- Monitor focus <li style="width: 33%;">- Linear output correction <li style="width: 33%;">- (A-B) calculations *4 <li style="width: 33%;">- (A+B) calculations *4 <li style="width: 33%;">- K-(A+B) calculation *4 <li style="width: 33%;">- Mutual interference prevention *4 <li style="width: 33%;">- Sensor disconnection detection <li style="width: 33%;">- Zero reset memory <li style="width: 33%;">- Zero reset indicator <li style="width: 33%;">- Key lock 	
Indications	Judgement indicators: High (orange), pass (green), low (yellow), 7-segment main digital display (red), 7-segment sub-digital display (yellow), power ON (green), zero reset (green), enable (green)	
Voltage influence (including Sensor)	0.5% F.S. of linear output value at $\pm 20\%$ of power supply voltage	
Power supply voltage	12 to 24 VDC $\pm 10\%$, Ripple (p-p): 10% max.	
Current consumption	140 mA max. with power supply voltage of 24 VDC (with Sensor connected)	
Ambient temperature	Operating and storage: 0 to 50°C (with no icing or condensation)	
Ambient humidity	Operating and storage: 35% to 85% (with no condensation)	
Insulation resistance	20 M Ω min. (at 500 DC)	
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min	
Vibration resistance (destruction)	10 to 150 Hz with 0.7-mm double amplitude for 80 min each in X, Y, and Z directions	
Shock resistance (destruction)	300 m/s ² , 3 times each in 6 directions (up, down, left, right, forward, backward)	
Connection method	Prewired (standard cable length: 2 m)	
Weight (packed state)	Approx. 350 g	
Materials	Case: PBT (polybutylene terephthalate), Cover: Polycarbonate	
Accessories	Instruction Manual	

- *1:The response time for the first linear output or judgment output is calculated as follows (with fixed sensitivity): Measurement period \times (Average count setting + 1). The response time for the second and later outputs is the measurement period specified in the table.
- *2: The output can be switched between a current output and voltage output using a switch on the bottom of the Amplifier Unit.
- *3: Setting is possible via the monitor focus function.
- *4: A Calculating Unit (ZX-CAL2) is required.

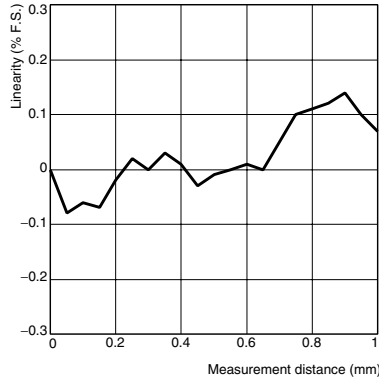
Engineering Data (Reference Value)

Measurement Distance vs. Linearity (with Linearity Adjusted for Standard Sensing Object)

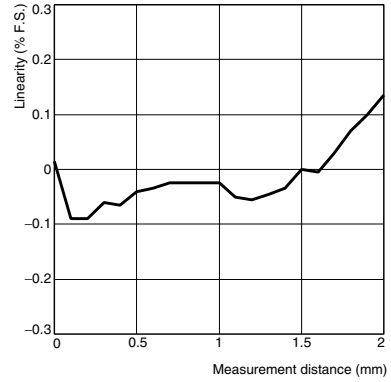
ZX-EDR5T



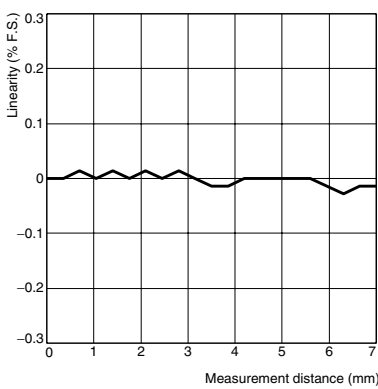
ZX-ED01T



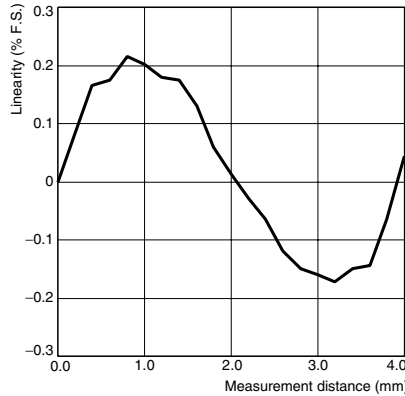
ZX-ED02T/ZX-EM02T



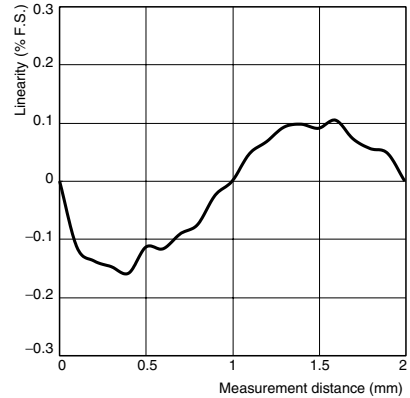
ZX-EM07MT



ZX-EV04T

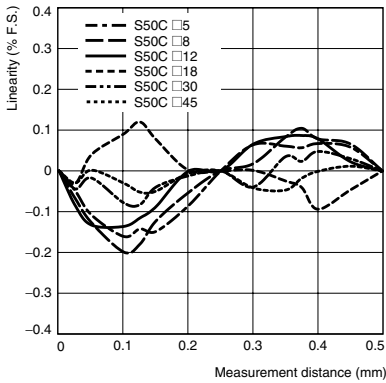


ZX-EM02HT

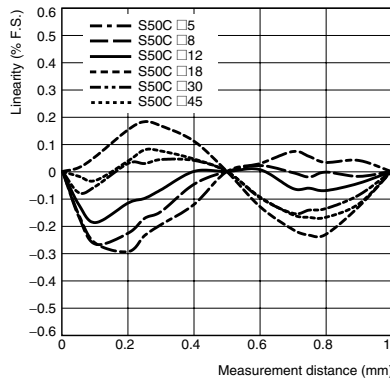


Size of Sensing Object vs. Linearity (with Linearity Adjusted for Each Sensing Object)

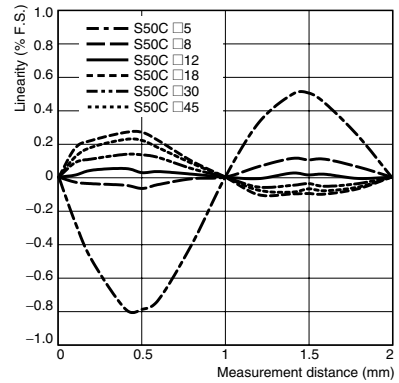
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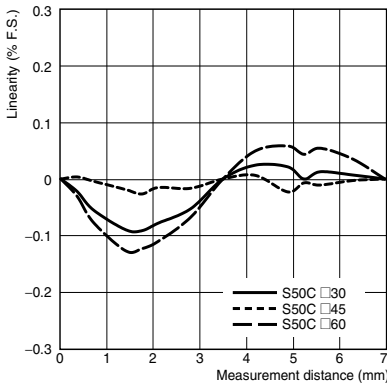
ZX-ED01T



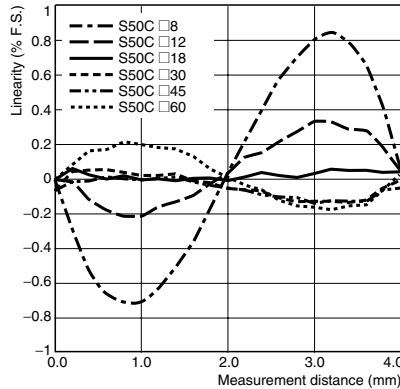
ZX-ED02T/ZX-EM02T



ZX-EM07MT



ZX-EV04T



ZX-EM02HT

