

MEMS Tilt Angle Sensor

# ESC1000ZA Series

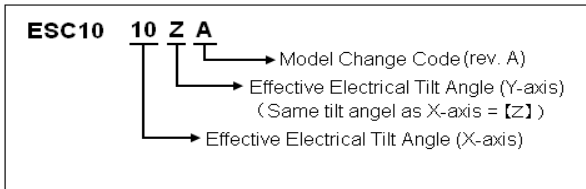


- Contactless Dual Axis Tilt Angle Sensor using MEMS technology
- Effective Electrical Tilt Angle :
  - ±10° (ESC1010ZA)
  - ±20° (ESC1020ZA)
  - ±30° (ESC1030ZA)
  - ±45° (ESC1045ZA)
- Center Based Linearity : ±0.5% ~ ±2.5%FS (X,Y axis)
- Ratio Output
- EMS 100V/m

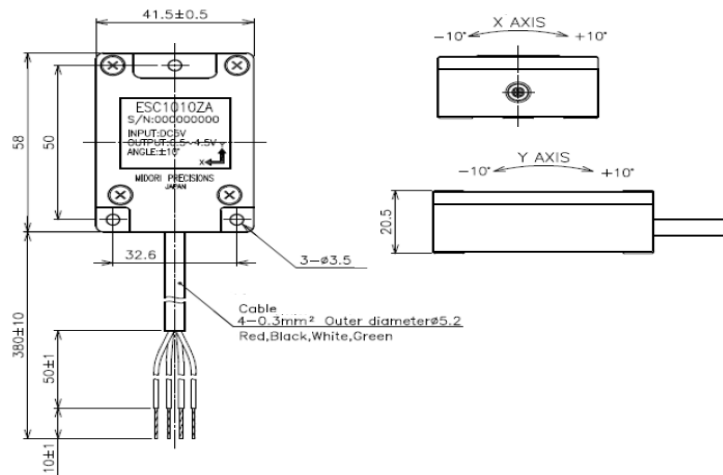
【Material】

- Housing : PBT

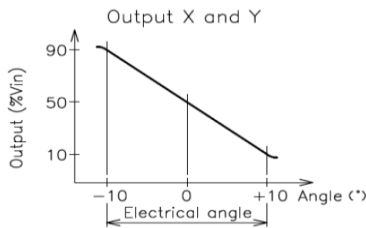
### ESC1000ZA Model Number Designation



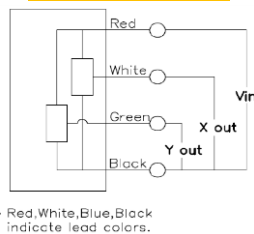
### Dimension (mm)



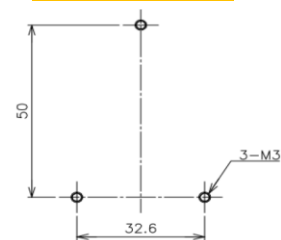
### Output Characteristics



### Schematic



### Mounting



【Model No.】	ESC1010A	ESC1020ZA	ESC1030ZA	ESC1045ZA	
<b>Electrical Specifications</b>					(X and Y axis)
Effective Electrical Tilt Angle	±10°	±20°	±30°	±45°	
Output Range	10%~90%Vin				
Index Point	50±3%Vin				
Center Based Linearity	±0.5%FS (FS=20°)	±1.0%FS (FS=40°)	±1.5%FS (FS=60°)	±2.5%FS (FS=90°)	
Input Voltage	DC5V±0.25V				
Load Resistance	100KΩ MIN.				
Supply Current	10mA MAX.				
Insulation Resistance	100MΩ/ DC50V MIN.				
Temp. Characteristics -20℃~80℃ (Reference Temp. 25℃)	±0.6°	±0.6°	±0.8°	±0.8°	
<b>Mechanical Specifications</b>					
Response Time	Approx. 0.5 Sec.				
Mass	Approx. 60g				
<b>Environmental Specifications</b>					
Category Temperature Range	-20~+80℃				
Storage Temperature Range	-40~+80℃				
Vibration	70m/S <sup>2</sup> ~ 200Hz(10min) Horizontal 2axis 2hours, Upside down 4 hours				
Shock	1000m/S <sup>2</sup> 6direction 3times				
EMS	100V/m 10M-1GHz				
ESD (Case to Each Terminal)	±12KV (IEC61000-4-2)				
ESD (Between Each Terminal)	±12KV (IEC61000-4-2)				
IP Level	IP50				

#### ■ Options

- Electrical Tilt Angle: ±60°
- Different Electrical Tilt Angle setting between X and Y axis

#### ■ Handling Instruction

- This product is impossible to measure resistance value as a variable resistor.
- As this unit is using CMOS IC, handle the lead wires at place where is protected from ESD.
- Cover fixation screws by thread-locking agent to avoid slackening of the screws