

Contactless Inclination Sensor

**ESC100ZA Series**

- Effective Electrical Tilt Angle :  $\pm 10^\circ$ ,  $\pm 20^\circ$ ,  $\pm 30^\circ$ ,  $\pm 45^\circ$  (X / Y axis)
- Center Based Linearity :  $\pm 0.5\%FS \sim \pm 2.5\%FS$  (X / Y axis)
- Ratio Output
- EMS 100V/m

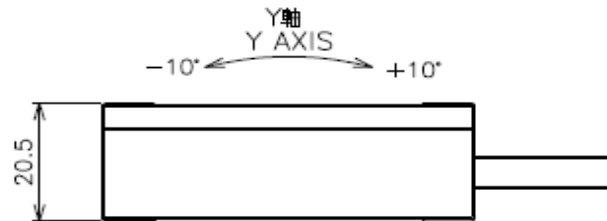
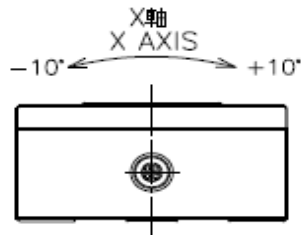
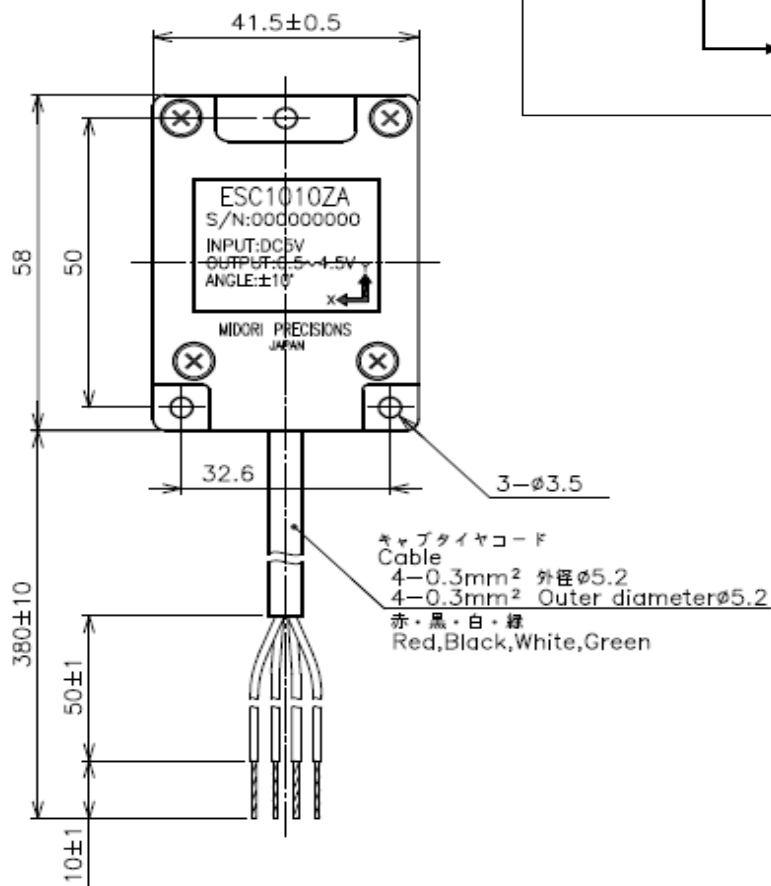
【Material】

●Housing : PBT

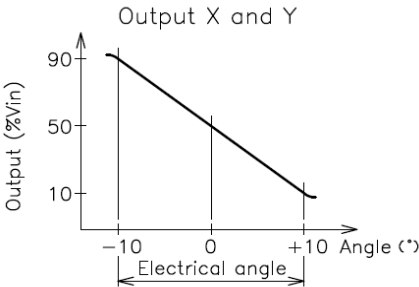
**ESC100ZA Model Number Designation**

**ESC10 10 Z A**

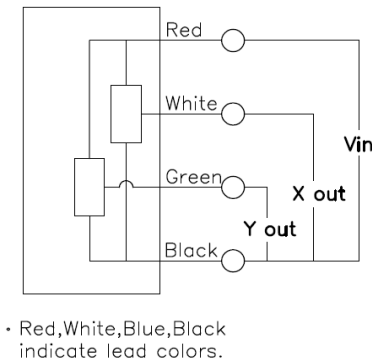
- ESC10 → Model Change Code (rev. A)
- 10 → Effective Electrical Tilt Angle (Y-axis)  
(Same tilt angle as X-axis = [Z])
- Z → Effective Electrical Tilt Angle (X-axis)

**Dimension [mm]**

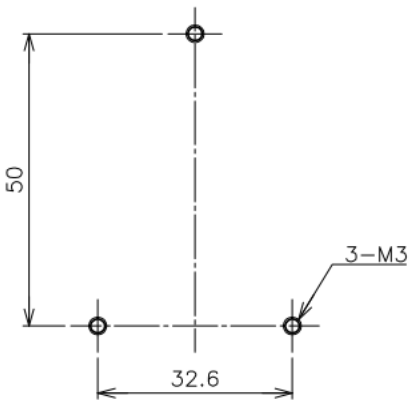
■Output Characteristics



■Schematic



■Mounting



| 【Model No.】 | ESC1010ZA | ESC1020ZA | ESC1030ZA | ESC1045ZA |
|-------------|-----------|-----------|-----------|-----------|
|-------------|-----------|-----------|-----------|-----------|

| 【Electrical Specifications】                                   | (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<br>(FS=20°) | ±1.0<br>(FS=40°) | ±1.5<br>(FS=60°) | ±2.5<br>(FS=90°) | %FS  |
| Tilt Sensitivity                                              | Max. 0.01        | MAX. 0.02        | MAX. 0.02        | MAX. 0.04        | °    |
| Input Voltage                                                 | DC 5±0.25        |                  |                  |                  | V    |
| Load Resistance                                               | MIN. 100         |                  |                  |                  | kΩ   |
| Supply Current                                                | MAX. 10          |                  |                  |                  | mA   |
| Insulation Resistance                                         | MIN. 100/DC50V   |                  |                  |                  | MΩ   |
| Temp. Characteristics<br>-20°C~80°C<br>(Reference Temp. 25°C) | ±0.6             | ±0.6             | ±0.8             | ±0.8             | °    |

【Mechanical Specifications】

|               |             |      |
|---------------|-------------|------|
| Response time | Approx. 0.5 | sec. |
| Mass          | Approx. 60  | g    |

【Environmental Specifications】

|                             |                                                                              |    |
|-----------------------------|------------------------------------------------------------------------------|----|
| Operating Temperature Range | -20 ~ +80                                                                    | °C |
| Storage Temperature Range   | -40 ~ +80                                                                    | °C |
| Vibration                   | 70m/s <sup>2</sup> 5~200Hz(10min) Horizontal(2axis)2hours、Upside down 4hours |    |
| Shock                       | 1000m/s <sup>2</sup> 6directions 3times                                      |    |
| EMS                         | 100V/m 10M - 1GHz                                                            |    |
| ESD(Case-Each Terminal)     | ±12kV (IEC61000-4-2)                                                         |    |
| ESD(Each Terminal)          | ±12kV (IEC61000-4-2)                                                         |    |
| IP Level                    | IP50                                                                         |    |

■Handling Instruction

- As this product is using "COMOS IC", handling of harness must be done under the ESD protection.
- Cover fixation screws by thread-locking agent to fix the screws.