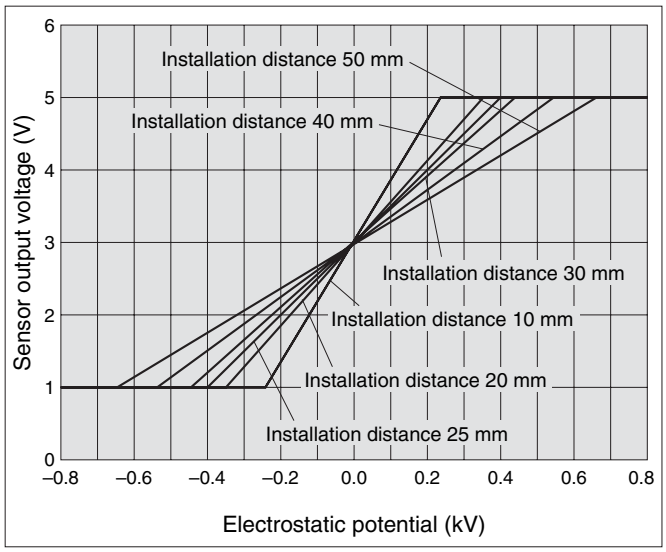
Series *IZD10*
Technical Data

Output Signal

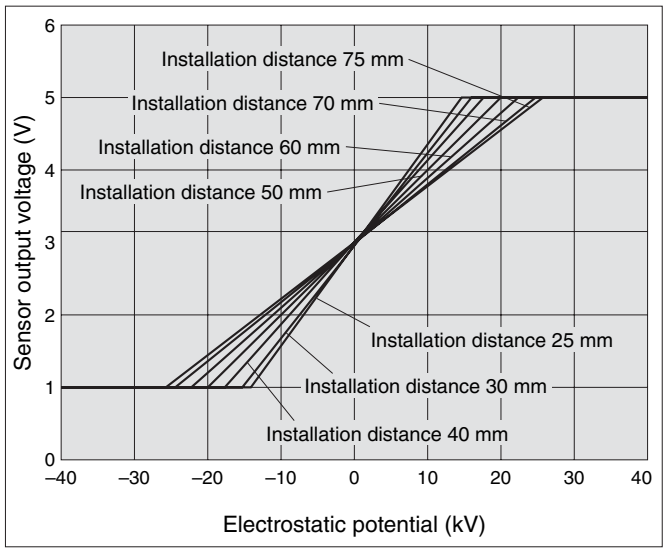
When measuring the potential of a charged object with an electrostatic sensor, the relationship between the electrostatic potential being measured and the output voltage varies depending on the sensor's installation distance. The relationship in the installation distance between the electrostatic sensor's output voltage and the detected electrostatic potential is as shown in the figure below: (The installation distance in the figure refers to the distance between the object being measured and the electrostatic sensor.)

Relationship in installation distance between electrostatic potential and sensor output voltage

IZD10-110

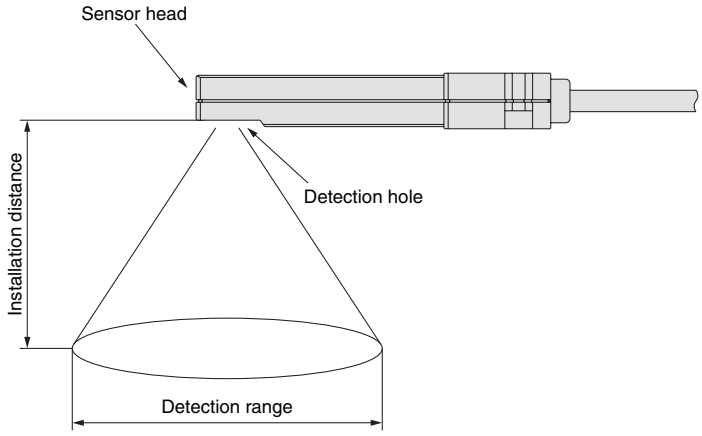


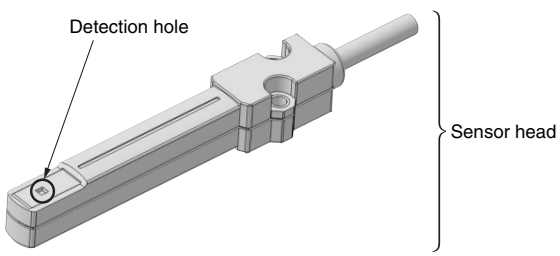
IZD10-510



Detection Range

The relationship between the electrostatic sensor's installation distance and the detection range is as follows:





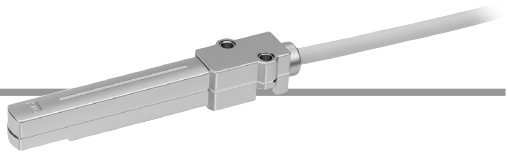
IZD10-110
(Potential measurement: ±0.4 kV)

Installation distance (mm)	Detection range (mm)
10	45
20	85
25	100
30	120
40	150
50	180

IZD10-510
(Potential measurement: ±20 kV)

Installation distance (mm)	Detection range (mm)
25	100
30	120
40	150
50	180
60	205
70	225
75	235

Electrostatic Sensor
Series IZD10



How to Order

IZD10 – 1 10

Model

10	Electrostatic sensor

Potential measurement

1	±0.4 kV
5	±20 kV

Specifications

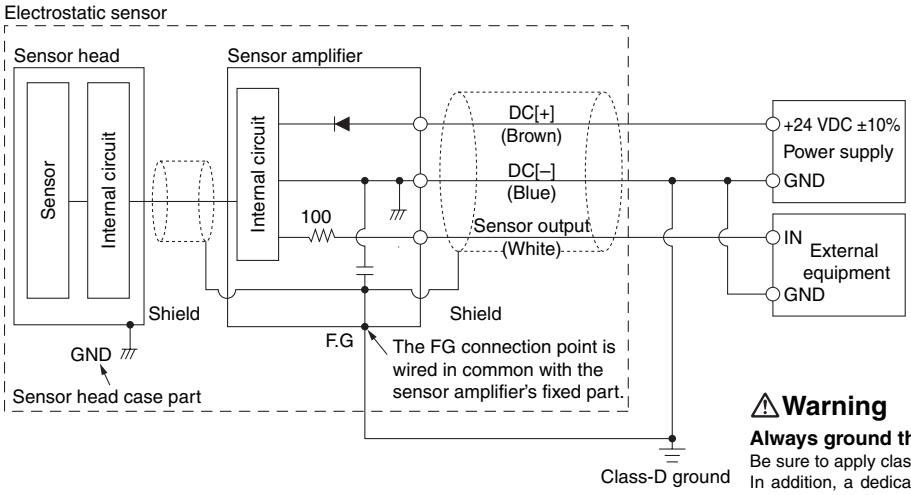
Model	IZD10-110	IZD10-510
Potential measurement	±0.4 kV (at detection distance: 25 mm)Note)	±20 kV (at detection distance: 50 mm)Note)
Output voltage	1 to 5 V (Output impedance: Approx. 100)	
Effective detection distance	10 to 50 mm	25 to 75 mm
Linearity	±5% F.S. (0 to 50ºC, at detection distance: 25 mm)	±5% F.S. (0 to 50C, at detection distance: 50 mm)
Output delay time	100 ms or less	
Power supply voltage	24 VDC ±10%	
Current consumption	40 mA or less	
Operating ambient temperature	0 to 50ºC	
Operating ambient humidity	35 to 85% Rh (with no condensation)	
Material	Head case : ABS Amplifier case : ABS	
Vibration resistance	Durability 50 Hz Amplitude 1 mm X, Y, Z each 2 hours	
Shock resistance	100 m/s^2	
Weight	185 g (including cable weight)	
Compliance with EN standards	Protective class : Class III (EN60950-1) Pollution Degree 3 CE marking : Low voltage directive : 73/23/EEC, 93/68/EEC Only when connected to a SELV-type external circuit.	
EMC directive	89/336/EEC, 92/31/EEC, 93/68/EEC, 2004/108/EC	
UL standard	UL508	

Note) The relationship between the measured potential and the output voltage varies depending on the detection distance. For details on the relationship in the detection distance between the measured potential and the output voltage, refer to the graph in “Technical Data - Output Signal” on page 1.

Connection Circuit and Wiring Table

Connect the lead wires according to the following connection circuit and wiring table.

1. Connection circuit



2. Wiring table

Lead wire color	Description	Function
Brown	DC[+]	Power supply 24 VDC
Blue	DC[–]	Power supply 0 V
White	Sensor output	Analog output 1 to 5 V

⚠Warning

Always ground the electrostatic sensor.

Be sure to apply class-D grounding to the GND terminal. In addition, a dedicated power supply is recommended for use as the sensor-driving power supply. Connecting any equipment other than the sensor to this power supply may trigger the malfunctioning or breakdown of the equipment when static electricity is discharged to the sensor head or when noise enters the GND terminal.

Note) When using the cable on the external equipment connection side after cutting it short, do not connect a shielding wire (since the shielded line is wired in common with the amplifier case, provide a frame ground on the amplifier case side).

∗ Text in ( ) refers to each lead wire coating color of the dedicated cable.

Dimensions

IZD10-110
IZD10-510