

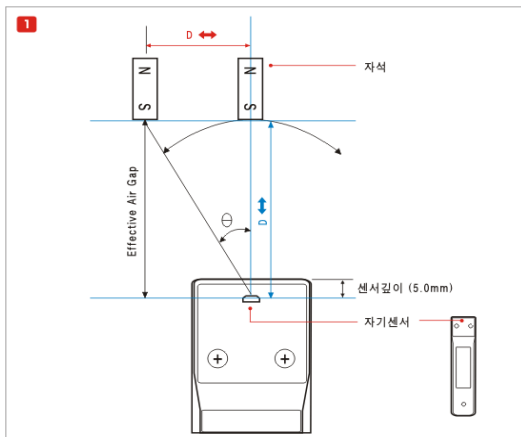
Magnetic Field Sensor (KDS-1007)



Magnetic Field Sensor
Order number : KDS-1007

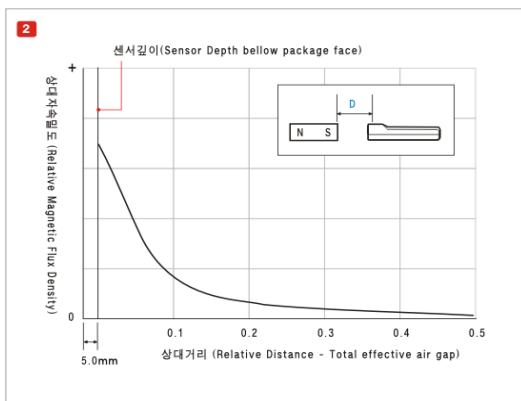
- ① Range : -50 ~ +50 Gauss
- ② Resolution : 0.024G (12 bit)
- ③ Sensor depth : 5.0 mm
- ④ Sensor type : Radiometric, Linear Hall Effect Sensor
- ⑤ Strobe Timing : changes according to interface (Max. 0.1ms)

Gauge range for Magnetic Field Sensor

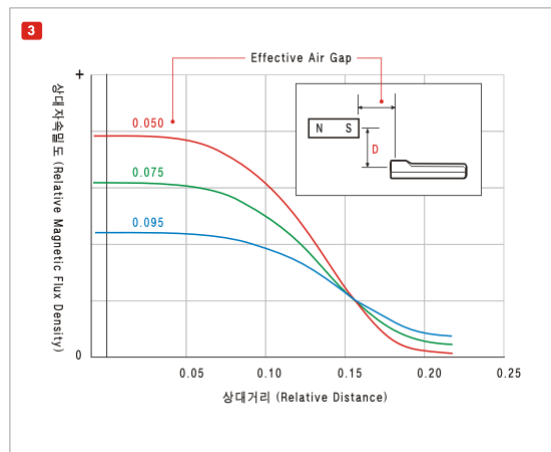


Characteristic Curve according to Sensor Position 1 (Typical Position Sensing Application)

Magnetic Field Sensor has characteristics as shown in graph below ($B \propto 1/D^3$), when regarding S pole as the base. Sensor depth includes the thickness of sensor - Hall effect and the thickness of the exterior of the sensor probe.



Characteristic Curve according to Sensor Position 2 (Typical Position Sensing Application)



Safety Restrictions

- ① Do not place objects that are influenced by magnetic fields created by magnets or coils near the sensor.
- ② When the magnetic field is created through an electric current, caution against the power resource in order to avoid dangers such as injuries created by electrocution or fire hazards due to a short circuit..

Sensor usage and gauge

Magnetic Field Sensor is sunken inside the probe, the tip being as deep inside the probe as 5.0 mm from the surface. The depth of this sensor may differ depending on the exterior(design) of the probe or the probe thickness. The gauged value will differ according to the distance from the magnetic field, thus, the value is gauged in relative distance. The absolute value will depend on the depth of the sensor. Therefore, this distance must be considered.

- ① If you bring the S pole of the magnet close to the sensor, the value will be shown as a [+] value.
- ② The value will be influenced by geomagnetic field and surrounding objects. If you wish to obtain an absolute value, experiment should be executed in a space shielded from magnetic forces.

Experimenting

Make sure the magnetic field in use is in line with the sensor axis. Consider the influence of surrounding objects when constructing experiment. Follow safety restrictions during all experiments. When constructing an experiment, always keep within the tolerance limit of both voltage and current in mind. Take absolute caution against safety hazards during experiments