

**◆ Precautions and Considerations When Using Current Sensors**

1. The contents of this website are subject to change without notice due to improvements or other reasons, so please make sure to check the latest information when using it.
2. Our products are designed and manufactured for use in general-purpose equipment (such as industrial devices, measuring instruments, home appliances, office equipment, etc.) and is not intended for use in equipment that operates in life-critical situations (such as medical devices, transportation equipment, nuclear-related equipment, automotive applications, and various safety devices). When using current sensors, please ensure that your design takes adequate safety precautions to prevent any harm to life, body, or property in the event of a malfunction or failure of the current sensor.
3. Our products are designed and manufactured for environments where general electronic devices are typically installed.

Our products are not designed for use in special environments such as those listed below. If our products are used in special environments, please ensure that adequate reliability and safety checks are conducted under the user's responsibility.

- 3-1 Use in corrosive gas environments (such as H<sub>2</sub>S, Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>2</sub>, sea breeze, etc.)
- 3-2 Use in environments with static electricity or strong electric fields
- 3-3 Use in environments or conditions involving liquids such as water, oil, or organic solvents
- 3-4 Use in locations where condensation may occur
- 3-5 Storage in high-temperature and high-humidity environments
- 3-6 Use in direct sunlight, outdoor exposure, or dusty environments
- 3-7 Use of flux or water washing

**4. About the Foreign Exchange and Foreign Trade Control Act**

Our products are not classified as a controlled item; however, under the Foreign Exchange and Foreign Trade Control Act and catch-all regulations, if it is deemed to fall under strategic materials, export permission from the Japanese government will be required for exporting it outside Japan.

**5. Request Regarding Safety Design**

Our company is committed to improving quality and reliability; however, current sensors may experience failures or malfunctions. When using current sensors, please ensure that adequate safety precautions are taken under the user's responsibility to prevent any incidents that could result in harm to life, body, property, or social damage due to failures or malfunctions of the current sensors.

**◆ Precautions and Considerations When Using Current Sensors**

## 1. About the Heating of Magnetic Cores

When the input current of the HCT is alternating or pulsed, the frequency may cause the magnetic core, which contains magnetic materials, to generate heat due to magnetic losses. This can result in an increase in the temperature of the HCT.

The degree of heating depends on the frequency components and current values of the input current, so it is necessary to verify this under the actual conditions of use.

## 2. About Static Electricity and Surge Voltage

Please be aware that the offset voltage may change when static electricity or surge voltage is applied.

**◆ Precautions and Considerations When Using Non-Through Type Current Sensors**

## 1. About Continuous DC Current

The non-through type current sensor has its continuous DC current limited by the wire diameter of the primary winding.

Typically, the continuous DC current is set at  $1/\sqrt{2}$  of the rated current. However, since the heating of the wire varies with the current value, it is necessary to verify this under the actual conditions of use.

**◆ Precautions and Considerations When Using Closed Loop Type**

1. Please select a load resistor with good temperature characteristics for connection to the current output type.
2. Please use a control power supply with a capacity of at least twice the output current corresponding to the input current. It increases or decreases in proportion to the input current.
3. When connecting or disconnecting the connector while the control power supply is applied, the offset current may shift. (Due to timing discrepancies in power supply application, residual magnetism may occur in the core, leading to shifts in the offset current.) Additionally, please ensure that the power is turned on and off while the connector is connected, and use a power supply that synchronizes the timing of the positive and negative sides of the power application.
4. If current (especially high-frequency current) flows while the connector is not inserted, it may damage the internal circuit.
5. When inputting a current that exceeds the nominal input current, please pay attention to the duration of the current flow. If used beyond this duration of current flow, the internal circuit may be damaged. (The duration of current flow for the maximum current (saturation current) should be within 1 second, The duration of current flow at 1.5 times the rated continuous (nominal output current) DC current should be within 1 minute.)
6. If a current exceeding the maximum current (saturation current) is input, the magnetic compensation will cease to function, resulting in a shift in the offset current. Therefore, please ensure that the maximum current is not exceeded under any circumstances.

7. When demagnetizing, please ensure that the control power supply is not applied.
8. Please ensure that the cable or busbar carrying the primary current is installed at the center of the through hole when in use.

◆ **Precautions and Considerations for Handling 3D Data**

1. The 3D data serves as a reference material; in case of any discrepancies, the physical object takes precedence.
2. The provided 3D data will be in the file format ".STEP".