CDP-1T0A Hall Current Sensor & DC Voltage

For weather automation applications

Features

- Uninterruptible power supply
- Variable-frequency and variable-speed motor
- Inverter systems
- Industrial citation

Hall current sensor is based on the magnetically balanced Hall principle, according to the Hall effect principle,.When the primary side current (Ip) passes through a wire, a magnetic field will be generated around the wire, and the size of this magnetic field is proportional to the current flowing through the wire, which can be induced by the core aggregation to the Hall device and make it have a signal output. The signal is amplified by the signal amplifier and output directly. The output signal of the Hall device accurately reflects the output of the primary current.

Typical installation locations

- Electrical power system
- Solar energy
- Open areas
- Battery management system

Design structure

The working principle of Hall current sensors is based on the Hall effect. Hall effect is a magnetically sensitive effect, which means that when the current passes through a conductor material located in a magnetic field, the magnetic field will produce a force perpendicular to the direction of the electron movement in the conductor, resulting in a potential difference in two directions perpendicular to the conductor and the magnetic inductance line, called Hall potential difference.

Easy installation

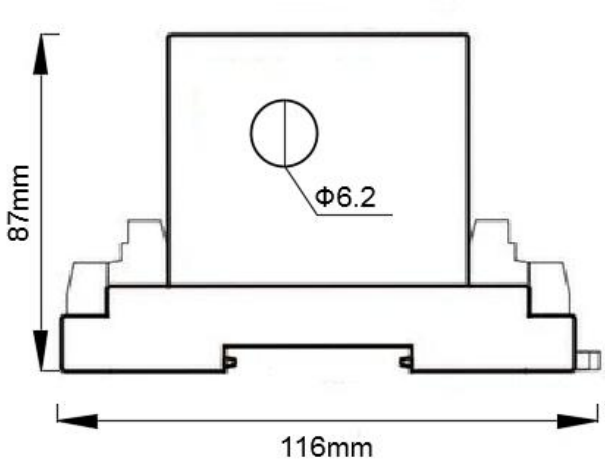
The installation location of the Hall current sensor should be selected near the conductor of the measured current so that the current can be accurately measured. In general, the sensor should be installed on the straight section of the conductor, avoiding the installation of bends or branches.
The installation location should be far away from magnetic field interference sources, such as transformers, motors, and generators. These devices generate magnetic fields that can affect the measurement accuracy of Hall current sensors.

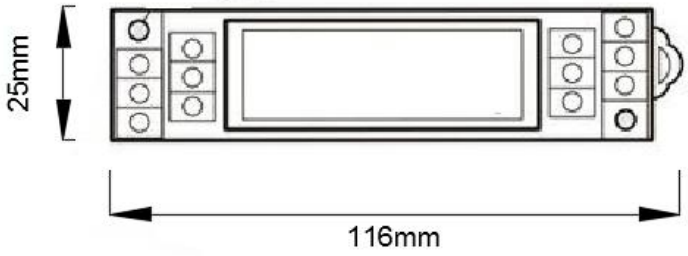
Reliable operation

High Quality materials: Hall current sensors are usually made of high quality materials, such as Hall components, magnetic cores, housings, etc. These materials have good electrical properties, mechanical properties and corrosion resistance, which can ensure the normal operation of the sensor in a variety of harsh environments.

Dimensions

CDP-1T0A connector dimension





Installing

Fixed sensor

The Hall current sensor is fixed to the installation position according to the installation method selected. Common installation methods include screw fixation, rail installation, clamping installation, etc.

When fixing the sensor, ensure that it is firm and reliable to avoid loosening or displacement during use.

Connecting cable

Connect the cable of the Hall current sensor to the measuring device or control system. The cable connection should be firm and reliable to avoid loose or poor contact.

When connecting the cable, pay attention to the cable length and specifications to ensure that the cable can meet the measurement requirements. At the same time, attention should also be paid to the protection of the cable to avoid cable damage.

Adjusting sensor position

After installation, it may be necessary to adjust the position of the Hall current sensor to ensure that it can accurately measure the current. When adjusting the position of the sensor, professional measuring tools should be used, such as ammeter, oscilloscope, etc., to ensure the accuracy of adjustment

Technical data

Measurement performance, models CDP-1T0A

Item	Technical parameters
Supply Voltage	12VDC,24VDC
Range	DC0-150A DC0-500V
Output	4-20mA, RS485
Accuracy	±0.5%
Response Time	<300ms
Temperature Drift	300ppm/℃
Installation	35mm guide rail or screw
Operating Temperature	-10℃-+60℃

Model number	Type	Output	Special features
CDF-10A	Wind speed	Pulses(PNP) RS485 4-20MA 0-5V	Three cup plastic wind speed
CDF-11A	Wind direction	RS485 4-20MA 0-5V	Plastic wind direction sensor
CDF-20B	Combined Wind Speed & Direction	RS485 4-20MA 0-5V 0-10V	Integrated wind speed and direction
CDF-21A	Ultrasonic Wind Speed & Direction	RS232/RS485(Modbus/NMEA-0183), Voltage(0-5V),Current(4-20mA) optional	Ultrasonic principle
CDW-33A	Atmospheric Temperature,Humidity & Pressure	RS485	Shelter installation
CDQ-T6A	Miniature Ultrasonic Automatic Weather	RS485	Wind speed & direction temp & humidity &pressure
CDY-12A	Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 271mm
CDG-10B	Solar Radiation	0-5V,4-20mA,RS485	Spectral range:300～1100nm
CDG-11B	Pyranometer	0-20mV,RS485	Spectral range:300～3000nm Class one
CDG-12B	PAR sensor	0-5V 4-20mA RS485	Spectral range:400～700nm
CDG-13B	Ultraviolet(UV) Radiation	0-5V 0-10V 4-20mA RS485	Spectral range:280～400nm
CDG-14A	Illuminance Sensor	0-5V 0-10V 4-20mA RS485	Spectral range:380～780nm
CDG-17B	Scattering Radiometer	RS485	Spectral range:280～3000nm
CDP-10A	Multi-Plate Radiation Shield	4 -20 plates optional	Inner diameter:44mm, Outer diameter:140mm
CDP-11A-12A	Lighter Multi-Plate Radiation Shield	ABA material	Inner diameter:30mm or 22mm, Outer diameter:130mm or 79mm Internal height:135mm or 80mm
CDP-18A	Multi-Plate Radiation Shield	9 -18 plates optional	Inner diameter:130mm, Outer diameter:220mm
CDP-1T0A	Hall Current Sensor & DC Voltage	4-20mA, RS485	Range DC0-150A DC0-500V
CDP-1T1A	Solar Power system	Rated current 10A	No-load current ≤12mA@12V

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