CDP-1T1A Solar Power System

For weather automation applications

Features

- Controller automatic identification 12VDC/24VDC
- Key operation, automatic save settings parameters, low standby power consumption
- High charging efficiency
- 4 work modes optional: normally open, light mode, light and time mode, manual mode
- Fault code instructions
- Waterproof grade IP67

Solar power supply system consists of solar panel, solar controller, battery and the inverter (optional). Solar energy is a clean renewable new energy, has no moving parts, no noise, no pollution, high reliability. It can provide reliable power to sensors or weather stations, mainly used for wireless sensor, automatic test station, automatic weather stations and other power supply.

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.

Technical data

Measurement performance, models CDP-1T1A

Item	Technical parameters	
Rated current	10A	
Rated voltage(self-adaption)	12V	24V
Solar panel voltage	18V	36V
Start voltage	7V	14V
Shutoff voltage	3V	6V
Float charging voltage	13.8V	27.6V
Boost charging voltage	14.8V	29.6V
Equalizing charging voltage	14.4V	28.8V
Over voltage protection	16.5V	33.0V
Over voltage recovery	15.0V	30.0V
Under voltage protection	10.8V	21.6V
Under voltage recovery	12.8V	25.6V
Commercial power start voltage①	≤10.8V	≤21.6V
Commercial power shutoff voltage	≥12.8V	≥25.6V
Circuit protection	Overload, short protection	
No-load current	≤12mA@12V	
Ingress Protection	IP67	
Working temperature	-40℃～+70℃	
Dimension	81.0*62.0*20.0mm	

Technical data

Measurement performance, models CDP-1T1A

Application scope	Single	CDF-26B	CDQ-T0C
Solar panel	5Wp@18V	10Wp@18V	50Wp@18V
	240*230*17mm	295*295*20mm	540*520*25mm
Controller	10A@12V/24V	10A@12V/24V	10A@12V/24V
	81*62*20mm	81*62*20mm	81*62*20mm
Lead-acid battery	7AH@12V	12AH@12V	20AH@12V
	151*65*94mm	151*98*95mm	181*76*165mm
Protection box	Customized	Customized	Customized
Cable	RVV2*0.5	RVV2*0.75	RVV2*0.75

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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