

## 霍尔电流传感器 Hall Current Sensor

### 一、概述 General

霍尔电流传感器广泛应用于逆变装置、UPS 电源、通信电源、电焊机、电力机车、变电站、数控机床、电解电镀、微机监测、电网监控等需要隔离检测电流的设施中。

Hall current sensor is widely used in inverter equipment, UPS power supply, communication power supply, welding machine, electric locomotive, substation, CNC machine tools, electrolytic plating, computer monitoring, power grid monitoring and other facilities need to isolate the detection of current.

### 二、电气参数 Electrical data

| 型号<br>Model                                  | 额定输入电流(rms)<br>Rated Input Current | 最大输入电流<br>Maximum input current |
|--|------------------------------------|---------------------------------|
| YDBF64-HSD-2000                              | ±2000                              | ±4000                           |
| 工作电源 Supply voltage $U_c$ :                  | ±15V±5%                            |                                 |
| 电流消耗 Current consumption:                    | +15V≤30mA<br>-15V≤15mA             |                                 |
| 输出电压 Output voltage@ $R_L=10k\Omega$ , 25°C: | 0~±4V                              |                                 |
| 输出内阻 Output internal resistance:             | 100Ω                               |                                 |
| 负载电阻 Load resistance( $R_L$ ):               | >10kΩ                              |                                 |

### 三、精度及动态性能数据 Accuracy and Dynamic performance data

- ◇ 精度等级 Accuracy @ $I_{PN}$ , 25°C: ≤±1.0% of  $I_{PN}$
- ◇ 线性度 linearity(0~ $I_{PN}$ ): ≤±1.0% of  $I_{PN}$
- ◇ 零点失调 Electrical offset voltage@25°C: <20mV
- ◇ 温度系数 Temperature coefficient: <±1mV/K
- ◇ 磁滞影响 Hysteresis effect: <20mV
- ◇ 响应时间 Step response time to 90% of  $I_{PN}$ : ≤5μs
- ◇ 频带宽度 Frequency bandwidth (-3db): DC~25kHz

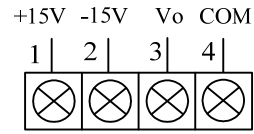
### 四、通用数据 General data

- ◇ 执行标准 Standard: JB/T 7490-2007
- ◇ 工频耐压 Working frequency withstand voltage: AC5kV/min.1mA
- ◇ 爬电距离 Creepage distance: 10.0mm
- ◇ 电气间隙 Clearance: 10.0mm
- ◇ 绝缘电阻 Insulation resistance@500VDC: >1000MΩ
- ◇ 工作环境 Working condition: 温度 Temperature -25°C~85°C, 湿度 Humidity 20%RH~95%RH (无凝露 without condensation)
- ◇ 贮存环境 Storage condition: 温度 Temperature -25°C~85°C, 湿度 Humidity 20%RH~95%RH (无凝露 without condensation)
- ◇ 外形尺寸 External dimensions: 144.0mm×53.0mm×62.0mm
- ◇ 重量 weight: 约 about 430g

## 五、接线图 Connecting diagram

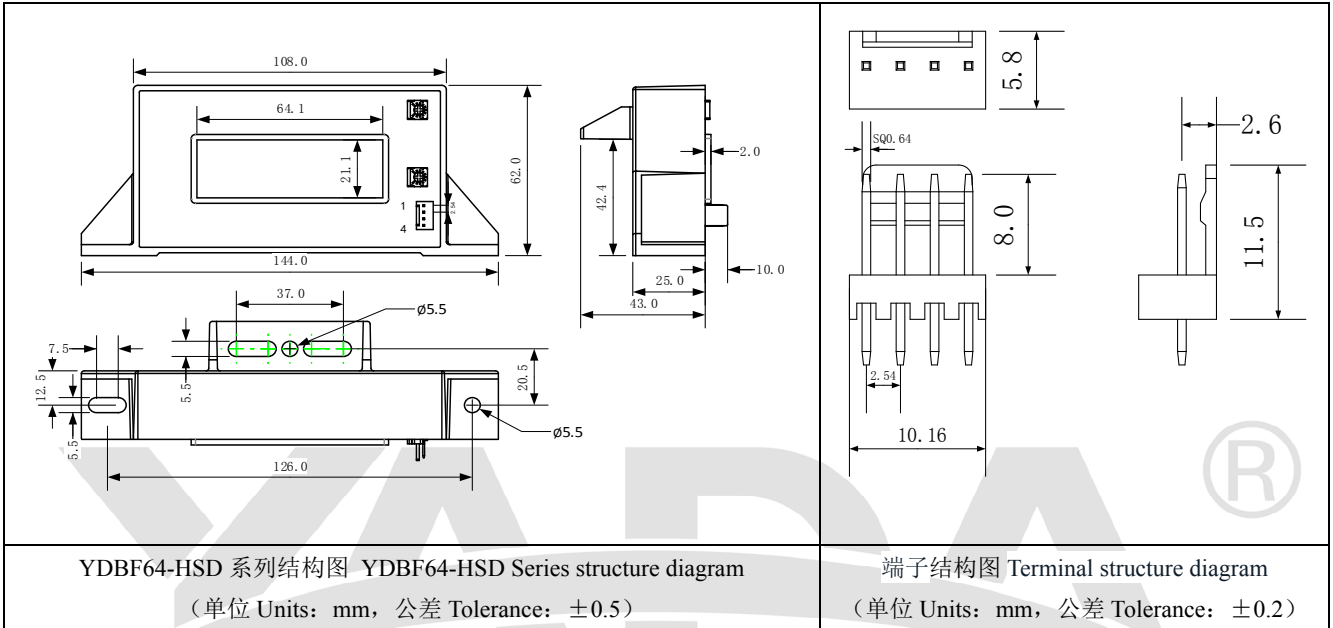
端子定义 Terminal definition

- 1、工作正电源端 Power supply anode
- 2、工作负电源端 Power supply anode
- 3、测量输出端 Terminal for measuring output
- 4、电源（输出）公共端 Common terminal for power supplier(output)



接线图 Connecting Diagram

## 六、产品结构图 External Dimensions



## 七、安装 Installation

- ◇ 螺钉安装方式，螺钉大小为 M5。  
Setscrew installation modes, screw size M5.

## 八、注意事项 Notice

- ◇ 工作电源、输出端必须正确连接，不能错接；  
Power supply and output terminals should be connected correctly;
- ◇ 当电流母线填满原边穿线孔时，获得最佳的测量精度；  
The best measuring precision is obtained when the ary hole is full of current generatrix.
- ◇ 铜排或导线必须居中安装，满足测量精度；  
Copper bars or wires must be installed in the center to meet the measurement accuracy.
- ◇ 使用环境应无导电尘埃和无腐蚀金属和破坏绝缘的气体存在，海拔高度小于 2500 米。  
The operating environment allows no electric dust or gases that corrodes metal or destroys insulation. The altitude is less than 2500m.

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