# FS100RST3 系列霍尔电流传感器

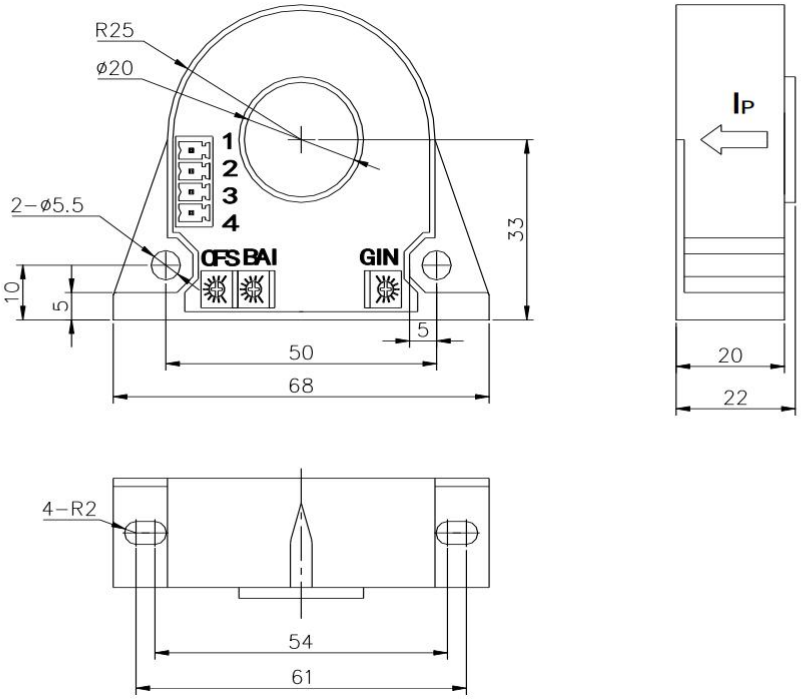
应用霍尔效应、闭环霍尔测量原理，经过 TRCSM 计算后，将被测电流转换成与原边电流成比例输出的直流电流或电压的测量模块，测量交流直流等混合电流，原副边之间高度绝缘。具有高精确度、 高线性度、高集成度、体积小结构简单、便于安装、长期工作稳定且适应各种工作环境的特点。广泛 的应用在电力、石油、煤矿、化工、铁路、通信、楼宇自控等行业的电气设备的系统控制及检测。

Applying Hall effect and closed-loop Hall measurement principle, after TRCSM calculation, the measured current is converted into a DC current or voltage measurement module proportional to the output of the primary current, and the mixed current such as AC and DC is measured, and the primary and secondary sides are highly insulated. It has the characteristics of high accuracy, high linearity, high integration, small size, simple structure, easy installation, long-term stability and adapt to various working environments. Widely used in electric power, petroleum, coal, chemical, railway, communication, building automation and other industries of electrical equipment system control and testing.

**电参数/Electrical characteristics**

| | 型号/Type | FS010RST3 | FS020RST3 | FS050RST3 | FS100RST3 | FS150RST3 | FS200RST3 | |
|---|---|---|---|---|---|---|---|---|
| $I_{PN}$ | 原边额定输入电流<br>Primary nominal input current | 0～10 | 0～20 | 0～50 | 0～100 | 0～150 | 0～200 | A |
| $I_P$ | 原边电流测量范围<br>Primary current measuring range | 0～120%$I_{PN}$ | | | | | | A |
| $I_{OUT}$ | 副边额定输出电流<br>Nominal output voltage | 4～20 | | | | | | mA |
| $R_L$ | 负载电阻<br>Load resistance | 80～350 | | | | | | Ω |
| $V_C$ | 电源电压<br>Supply voltage | +24(±5%) | | | | | | V |
| $I_C$ | 电流消耗<br>Current consumption | 20+ $I_{OUT}$ | | | | | | mA |
| $\varepsilon_L$ | 线性度<br>Linearity | <0.2 | | | | | | %FS |
| X | 精度<br>Accuracy | $T_A$=25℃ | | ±1 | | | | % |
| $I_O$ | 零点失调电流<br>Zero offset voltage | $T_A$=25℃ | | <0.08 | | | | mA |
| $I_{OT}$ | 失调电流温漂<br>Offset current temperature drift | $I_P$=0 $T_A$=-25～+85℃ | | <±0.005 | | | | mA/℃ |
| Tr | 响应时间<br>Response time | <150 | | | | | | ms |
| f | 频带宽度<br>Frequency bandwidth | DC,20～6000 | | | | | | Hz |
| $V_d$ | 绝缘电压<br>Insulation voltage | 在原边与副边电路之间3KV有效值/50Hz/1分钟<br>3KV RMS /50Hz/1 min between primary and secondary side circuits | | | | | | |
| $T_A$ | 工作环境温度<br>Ambient operating temperature | -25～+85 | | | | | | ℃ |
| $T_S$ | 贮存环境温度<br>Ambient storage temperature | -40～+100 | | | | | | ℃ |
| m | 质量(约)<br>Mass (approx.) | 93 | | | | | | g |
| | 标准<br>Standard | SJ 20790-2000；JB/T 7490-2007 | | | | | | |

**外形尺寸(mm)/Dimensions of drawing(mm)**




端子说明：1,+24V 电源　2,电流输出　3,NC　4,电源地　OFS,零点调节　BAI,误差调节　GIN,幅度调节

Elucidation：1,+24V power supply 2, current output 3,NC 4, OFS of power supply, zero adjustment BAI, error adjustment GIN, amplitude adjustment

**使用说明/Remarks**

1、错误的接线可能导致传感器损坏。传感器通电后，当被测电流从传感器穿过，即可在输出端测得比例电流值。

Incorrect wiring may cause damage to the sensor. After the sensor is powered on, when the measured current passes through the arrow direction of the sensor, the in-phase voltage value can be measured at the output end.

2、产品安装使用环境应无导电尘埃及腐蚀性，剧烈震动或高温也可能导致产品损坏，请注意使用场合。

The installation and use environment of the product should be free from conductive dust and corrosion. Severe vibration or high temperature may also cause product damage. Please pay attention to the use occasion.

3、当输入电流排完全充满原边穿孔时动态特性最佳(di/dt 和响应时间)。为了达到最佳的磁耦合，原边线匝应绕在传感器顶部。

The best dynamic characteristics (di/dt and response time) when the input current bar is completely full of the primary side perforation. For optimal magnetic coupling, the primary side turns should be wound around the top of the sensor.