

闭环高精度霍尔电流传感器 FSM4005 系列产品

$I_p=400\ldots4000A$



产品特点 Products Features

精度高
Excellent accuracy
良好的线性度
Very good linearity
高带宽
Wide frequency bandwidth
无插入损耗
No insertion losses
抗干扰能力强
High immunity to external interference

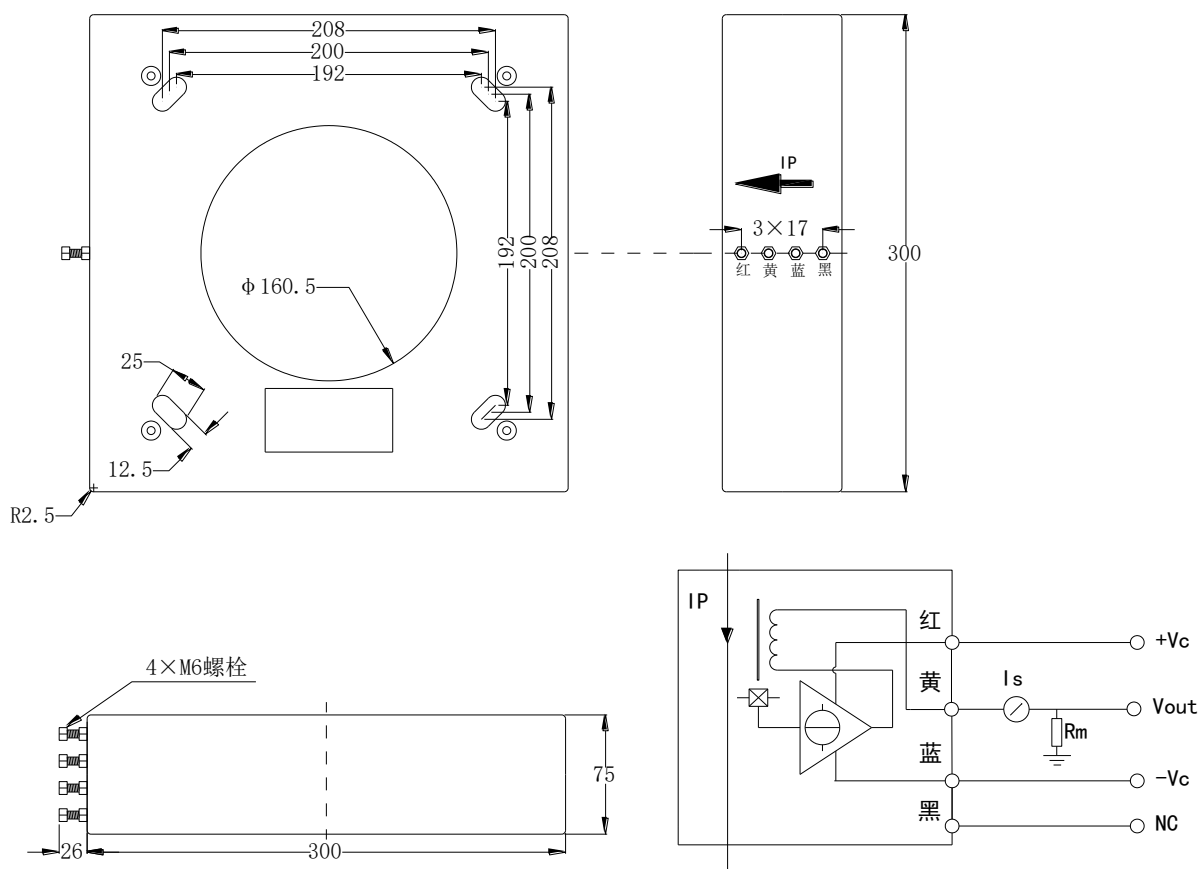
应用领域 Applications

交流变速驱动器
AC variable speed drives
直流电机驱动静态转换器
Static converters for DC motor drives
通讯电源
Battery supplied applications
不间断电源 (UPS)
Uninterruptible Power Supplies
开关电源 (SMPS)
SWITCHED Mode Power Supplies
电焊机
Power supplies for welding applications

注意 Remarks

错误的接线可能导致传感器损坏。
The false wiring may result in the damage of the sensor.
 I_p 方向与产品箭头方向一致时，输出电压为正极。
VOUT is positive when I_P flows in the direction of the arrow.
当初级导体完全充满初级孔径时动态表现 (di/dt 和响应时间) 为最佳效果。
Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.
初级导体的温度不应超过 $100^{\circ}C$ 。
Temperature of the primary conductor should not exceed $100^{\circ}C$.
这是一个标准的产品，需要其他规格 (测量电流、电源电压、输出电压、连接器、转换比率等) 请联系我们。
This is a standard model. For different versions (I_P , supply voltages, output voltages, connection of secondary, turns ratios...), please contact us.

机械尺寸 Mechanical dimension



机械特性 Mechanical characteristics

一般公差

General tolerance

$\pm 2\text{mm}$

其它公差执行

Other tolerance execution

GB/T 1804-2000-M

固定孔尺

寸 Fixing hole size

$\Phi 12.5\text{mm}(\times 4)$

紧固螺丝

fastening steel screw

M12

建议紧固扭矩

Recommended fastening torque

10Nm ($\pm 10\%$)

连接器

Connection of secondary

M6 $\times$ 26mm($\times 4$)

连接器推荐扭矩

Connection recommended torque

0.75Nm ($\pm 10\%$)

电气参数 Electrical data FSM4005(I_P=4000A)

除非另有说明，否则环境参数均为@ T_A = 25 °C

型号 Type	FSM4005		
额定测量电流 I _P Rated input	±4000A		
测量范围 I _{PM} Measure range	±6000A		
额定输出电流 I _S Rated output current	±800mA		
转换比率 K _N Conversion ratio	1:5000		
测量电阻范围 R _M Measure resister range	With±24V With±36V	@I _P 0~±4000A,max 4Ω;@I _{PM} 0~±4800A,max 1Ω @I _P 0~±4000A,max 13Ω;@I _{PM} 0~±6000A,max 3Ω	
次级线圈电阻 Secondary coil resistance	@TA=70° 18Ω ; @TA=85° 20Ω		
电源电压 V _C Supply voltage	±24VDC~±36VDC (± 5%)		
绝缘耐压 V _D Galvanic isolation	50Hz, 1min, 6KV		
总体精度 X Overall accuraty	±0.3%FS		
线性度 ε _L Linearity	≤0.1%FS		
零点失调电流 I _o Offset current	±0.2mA		
零点失调电流温漂 I _{OT} Offset current drift	±0.5mA		
静态电流消耗 I _c Current consumption	45mA+I _S		
响应时间 T _R Response time	<1μs		
频带宽度 BW Frequency bandwidth-3db	DC~35KHz		
di/dt 跟随精度 di/dt accurately followed	>50A/μS		
工作环境温度 T _A Ambient operating temperature	-10~+70℃		
储存环境温度 T _S Ambient storage temperature	-20~+85℃		
质量 m Mass	≈7Kg		
执行标准 Standards	SJ 20790-2000; JB/T 7490-2007		