FSM500LCT

系列闭环霍尔电流传感器 Closed Loop Hall Effect Current Sensor

基于闭环磁平衡原理的一款霍尔电流传感器，能够测量直流，交流，脉冲以及各种不规则电流，初级电路和次级电路之间有电流隔离。

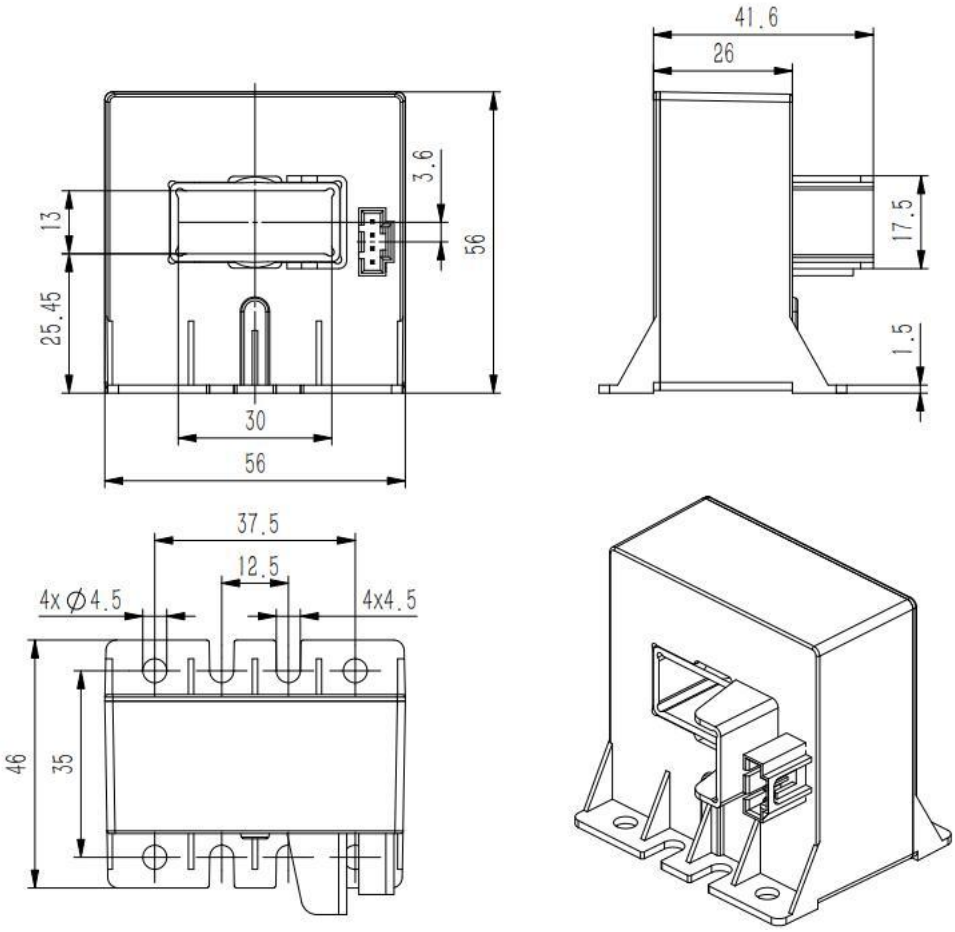
A Hall current sensor based on the closed-loop magnetic balance principle, capable of measuring DC, AC, pulsed and various irregular currents, with galvanic isolation between primary and secondary. circuits.

产品特性	Product Characteristics	应 用	Application
▪ 精度高	high precision	▪ 静态直流电机驱动	Static DC motor drive
▪ 良好的线性	Good Linearity	▪ 变速驱动应用	Variable speed drive applications
▪ 低温漂	low temperature drift	▪ 电流监控及电池应用	Current Monitoring and Battery Applications
▪ 响应时间短	Short response time	▪ 开关电源	switching mode power supply
▪ 高抗干扰能力	high immunity	▪ UPS 不间断电源	UPS Uninterruptible Power Supply
▪ 很强的电流过载能力	Very high current overload capacity	▪ 逆变电源及 焊接电源应用	Inverter Power Supplies and Welding Power Applications

电参数/Electrical characteristics		
FSM500LCT		
额定电流 I_{PN}(A) Nominal current(A)		500A
测量范围 I_P(A) Measuring range(A)		0-±700A
内部电阻 R_M(Ω) Inside resistance RM (Ω)	[(VC-0.5V)/(IS*0.001)]-RS	
线匝比 Conversion ratio		1:2000
额定输出电流 ISN(mA) Nominal output current ISN(mA)		±250*I_P/I_{PN}
次级线圈内阻(Ω) Secondary internal resistance (Ω)		33Ω

电源电压 Vc(±5%) Supply voltage	±15V～±24V	
隔离电压 Isolation voltage	50Hz, 1min, 5.5kV	
电流损耗 Ic (mA) Current loss Ic (mA)	25+IS	
精度 XG @ I_{PN}, T=25° C Accuracy	±0.5	%
线性度 εr Linearity	<0.1	%FS
di/dt 跟随精度 Follow the precision	>100	A/μs
响应时间 Response time tra	@90% of IPN < 1.0	μs
带宽 (-3db) Bandwidth(-3db)	DC ~ 100	kHz
工作温度 Working temperature	-50 ~ +85	° C
储存温度 Storage temperature	-55 ~ +90	° C
质量 Mass	130	g

外形尺寸（㎜）/Dimensions of drawing(mm)

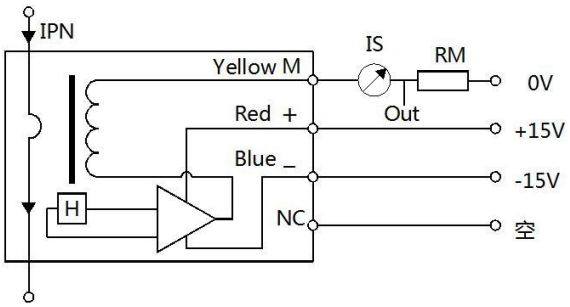


主要公差：

General tolerance:< ±0.5mm

Primary through-hole：13*30±0.15mm

Secondary pin: MOLEX 70543-0003
Mating connector: MOLEX 5057-9404



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箭头方向穿过，即可在输出端测得同相电压值。
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. 传感器的输出幅度可根据用户需求进行适当的调节。
The output amplitude of the sensor can be adjusted according to the user's needs.

3. 可按用户需求定制不同额定输入电流和输出电压的传感器。
Sensors with different rated input current and output voltage can be customized according to user requirements.