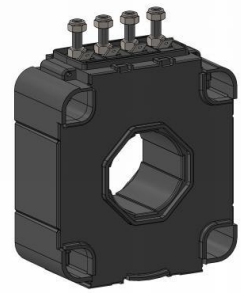
FSM500LCF 系列闭环霍尔电流传感器



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。该款传感器是电流输出模式的，可以根据客户的需求外接电阻转换为电压信号。

A Hall current sensor based on the closed-loop magnetic balance principle can measure DC, AC, pulse and various irregular currents. The sensor is in current output mode and can be converted from external resistance to voltage signal according to customer demand..

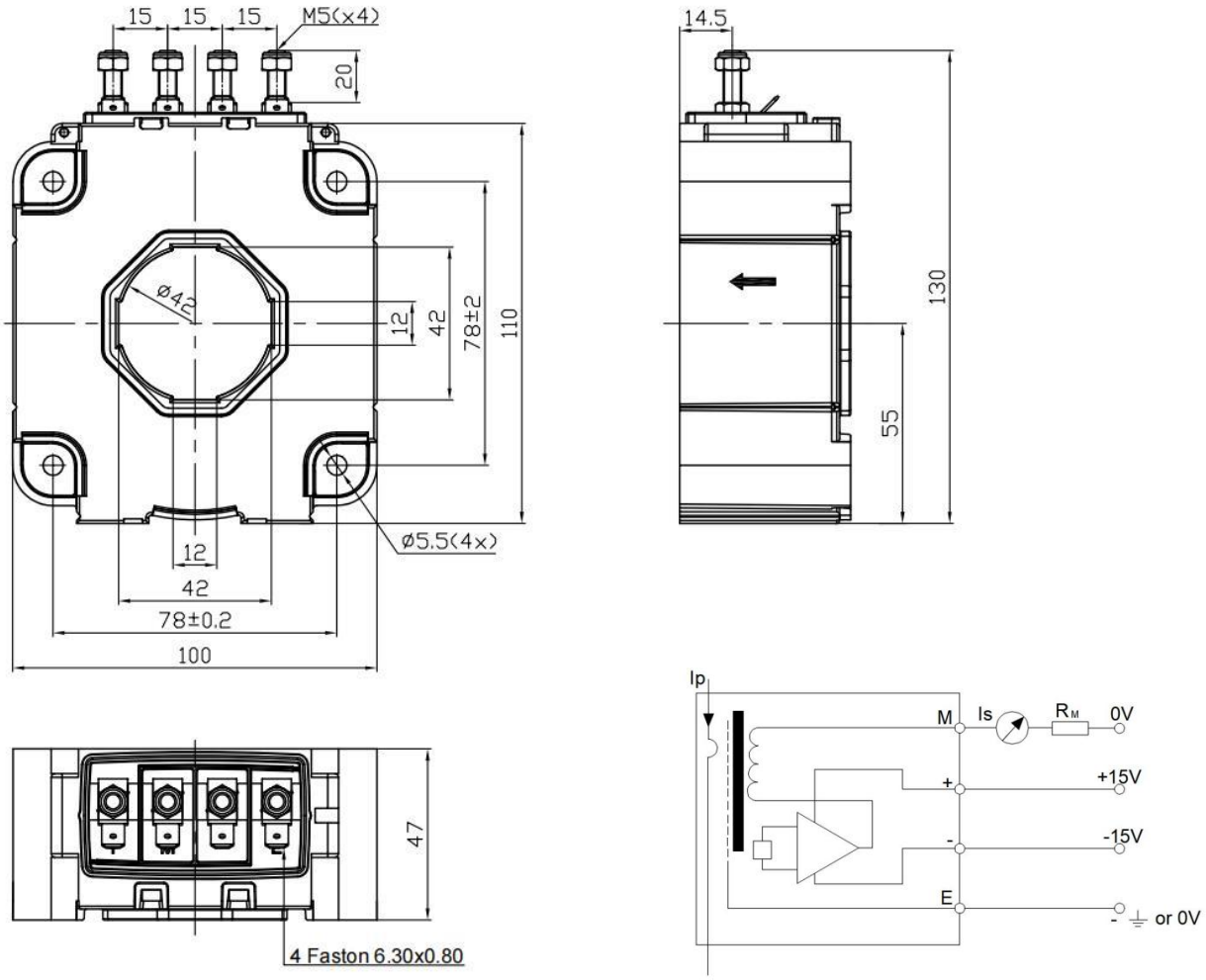
产品特性	Product Characteristics	应 用	Application
· 精度高	high precision	· 静态直流电机驱动	Static DC motor drive
· 良好的线性	Good Linearity	· 变速驱动应用	Variable speed drive applications
· 低温漂	low temperature drift	· 电流监控及电池应用	Current Monitoring and Battery Applications
· 响应时间短	Short response time	· 开关电源	switching mode power 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

FSM500LCF			
额定电流 I_{PN}(A) Nominal current(A)		500A	
测量范围 I_P(A) Measuring range(A)		0-±1500A	
测量电阻 R_M(Ω) Measuring resistance(Ω)	±15V	@500A min 0	@500A max 60
		@1200A min 0	@1200A max 5
	±24V	@500A min 0	@500A max 145
		@1500A min 0	@1500A max 20
线匝比 Conversion ratio		1:5000	
额定输出电流 ISN(mA) Nominal output current ISN(mA)		100±0.2%	
次级线圈内阻(Ω) Secondary internal resistance (Ω)		40Ω	

电源电压 Vc(±5%) Supply voltage	±15V-±24V	
隔离电压 Isolation voltage	50Hz, 1min, 12kV	
电流损耗 Ic (mA) Storage temperature	32+IS	
精度 XG @ I_{PN}, T=25° C Accuracy	±0.3	%
零点失调电流 Io @ IP=0, T=25° C Zero offset current	≤±0.3	mA
零点电流温漂 @ -40° C--85° C Zero thermal drift of VO	≤±0.4	mA
线性度 εr Linearity	<0.1	%FS
di/dt 跟随精度 Following temperature	>100	A/μs
响应时间 tr Response time	<1	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

外形尺寸（㎜）/Dimensions of drawing(mm)



主要公差：

通用公差：＜±0.5mm　　General tolerance:＜±0.5mm

主通孔：42mm　　Primary through-hole：42mm

拉紧转矩：2.2Nm　　Tightening torque: 2.2Nm

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.