



# THE DATASHEET OF FSM500LCT



# 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.

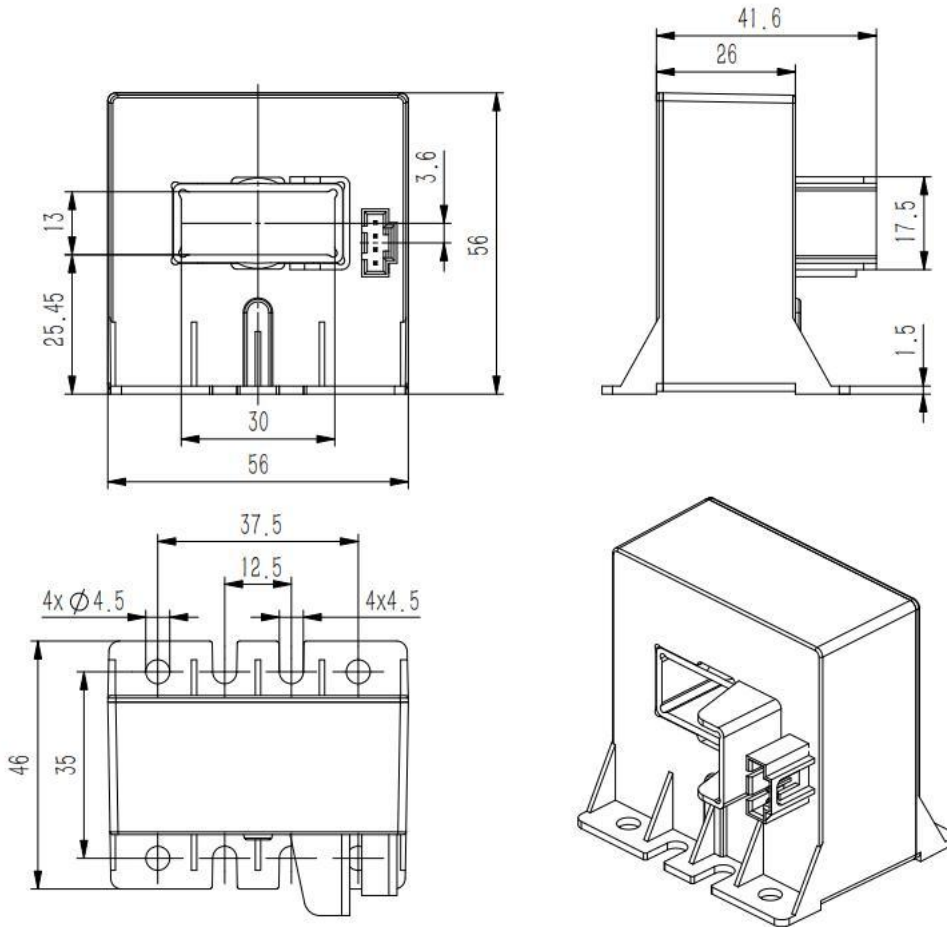


产品特性	Product Characteristics	应用	Application
▪ 精度高	high precision	▪ 静态直流电机驱动	Static DC motor drive
▪ 良好的线性	Good Linearity	▪ 变速驱动应用	Variable speed drive applications
▪ 低温漂	low temperature drift	▪ 电流监控及电池应用	Current Monitoring and Battery Applications
▪ 响应时间短	Short response time	▪ 开关电源	switching mode power 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 $R_M$ (Ω)		$[(VC-0.5V)/(IS*0.001)]-RS$
线匝比 Conversion ratio		1:2000
额定输出电流 $I_{SN}$ (mA) Nominal output current $I_{SN}$ (mA)		$\pm 250 * I_P / I_{PN}$
次级线圈内阻 (Ω) Secondary internal resistance (Ω)		33 Ω

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 <sub>FN</sub> , T=25° C Accuracy	±0.5	%
线性度 ε r 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 (mm) /Dimensions of drawing(mm)



主要公差:

General tolerance:  $< \pm 0.5\text{mm}$

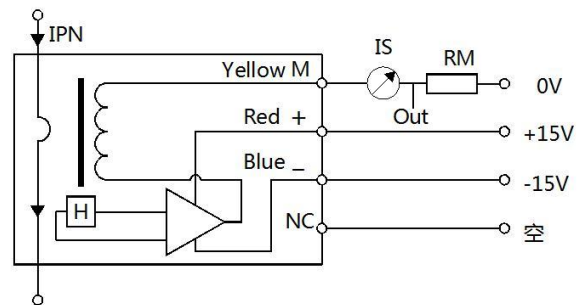
Primary through-hole:  $13*30 \pm 0.15\text{mm}$

Secondary pin: MOLEX 70543-0003

Mating connector: MOLEX 5057-9404

使用说明/Remarks

- 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.
- 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.
- 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.



## Looking for pricing, stock, or lifecycle information?

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