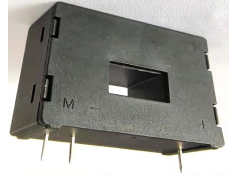




THE DATASHEET OF FSM-LA



FSM100LA 系列霍尔电流传感器

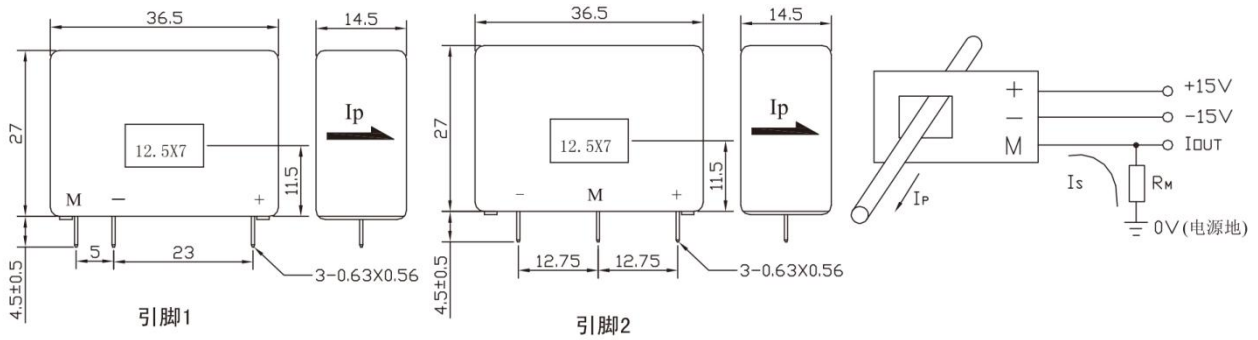


应用霍尔效应开环原理的电流传感器，能在电隔离条件下测量直流、交流、脉冲以及各种不规则波形的电流。

Open loop current sensor based on the principle of Hall-effect It can be used for measuring AC,DC,pulsed and mixed current

电参数 /Electrical characteristics				
	型号 Type	FSM050LA	FSM100LA	
I_{PN}	原边额定输入电流 Primary nominal input current	50	100	A
I_P	原边电流测量范围 Measuring range of primary current	0~±75	0~±150	A
I_{SN}	副边额定输出电流 Secondary nominal output current	50	50	mA
K_N	匝数比 Conversion ratio	1:1000	1:2000	
R_M	测量电阻 ($V_c = \pm 15V$) Measuring resistance ($V_c = \pm 15V$)	$I_P = \pm 50A$ 时: 50-160	$I_P = \pm 100A$ 时: 0-110	Ω
	($V_c = \pm 15V$)	$I_P = \pm 75A$ 时: 50-90	$I_P = \pm 150A$ 时: 0-33	Ω
V_c	电源电压 Supply voltage	$\pm 12 \sim \pm 15 (\pm 5\%)$		V
I_c	电流消耗 Current consumption	$V_c = \pm 15V$	$10 + I_s$	mA
V_d	绝缘电压 Insulation voltage	在原边与副边电路之间 2.5KV 有效值/50Hz/1 分钟 2.5KV RMS /50Hz/1 min between primary and secondary side circuits		
ϵ_L	线性度 Linearity	<0.2		%FS
X	精度 Accuracy	$T_A = 25^\circ C$ $V_c = \pm 15V$	<±0.7	%
I_0	零点失调电流 Zero offset current	$T_A = 25^\circ C$	<±0.20	mA
I_{out}	剩余电流 Residual current	$I_P = 0$	<±0.15	mA
I_{OT}	失调电流温漂 Thermal drift of I_0	$I_P = 0$ $T_A = -25 \sim +85^\circ C$	<±0.5	mA
T_r	响应时间 Response time	<1		μs
f	频带宽度 (-1dB) Frequency bandwidth (-1dB)	DC~100		kHz
T_A	工作环境温度 Ambient operating temperature	-25~+85		$^\circ C$
T_s	贮存环境温度 Ambient storage temperature	-40~+100		$^\circ C$
R_s	副边线圈内阻 ($T_A = 25^\circ C$) Secondary coil resistance ($T_A = 25^\circ C$)	35	120	Ω
	标准 Standard	GI/FS-0105		

外形尺寸(mm)和外部接线图/Dimensions of drawing(mm) and Connection



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流值。

Incorrect connection may lead to the damage of the sensor. I_s is positive when the I_p flows in the direction of the arrow.

2、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)。

Dynamic performance (di/dt and response time) are best with a primary bar in the center of the through-hole.

3、测量小于 25A 的电流时，可以用多匝线圈，以便得到最好的精度，但考虑到散热问题，传感器的长期工作电流应小于额定输入电流。

When measuring currents less than 25A, multi-turn coils can be used in order to obtain the best accuracy, but considering the heat dissipation problem, the long-term working current of the sensor should be less than the rated input current.

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