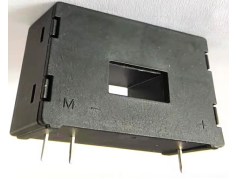




# THE DATASHEET OF NPTR



# FSM100LA 系列霍尔电流传感器

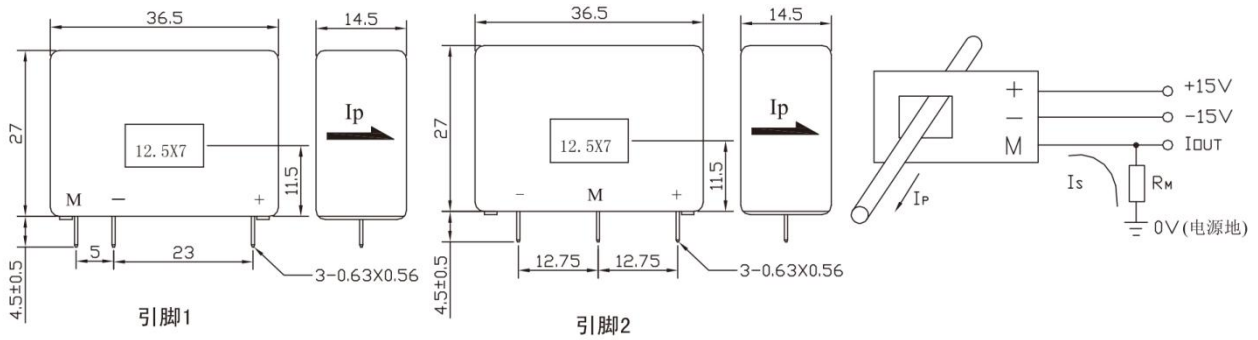


应用霍尔效应开环原理的电流传感器，能在电隔离条件下测量直流、交流、脉冲以及各种不规则波形的电流。

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	$\Omega$
	( $V_c = \pm 15V$ )	$I_P = \pm 75A$ 时: 50-90	$I_P = \pm 150A$ 时: 0-33	$\Omega$
$V_c$	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		
$\epsilon_L$	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		$\mu s$
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	$\Omega$
	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. ISN is positive when the IP 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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