FSM300LDGH 系列高精度电流传感器

应用磁通门原理的电流传感器，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。具有超高的精度及线性度，超高的灵敏度及分辨率，极低的失调电流及温度漂移。广泛应用于仪器仪表，医疗设备，计量及校准，实验室，高精度电源，新能源汽车等。

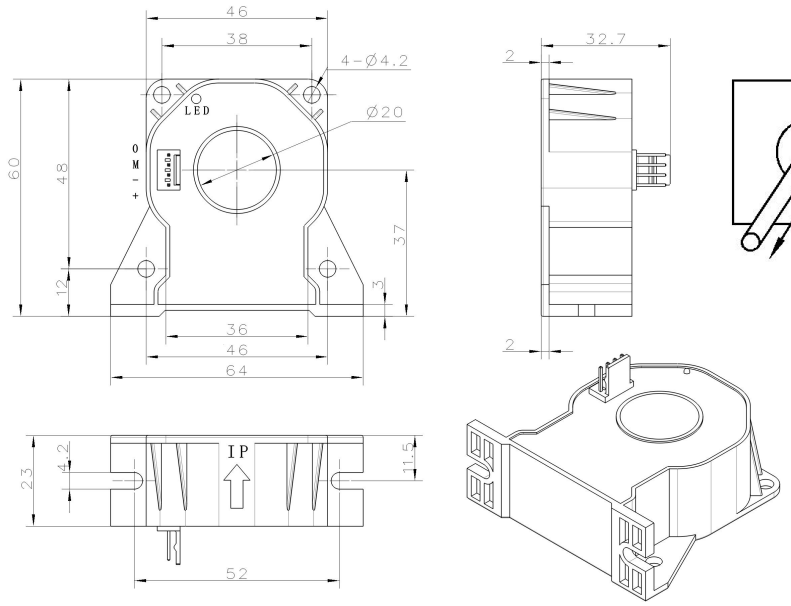
Current sensors applying the fluxgate principle can measure DC, AC, pulse and various irregular waveforms under galvanic isolation conditions.They have high accuracy and linearity, high sensitivity and resolution, very low out-of-phase current and temperature drift. Widely used in instrumentationmeters, medical equipment, metrology and calibration, laboratories, high-precision power supplies, new energy vehicles and so on.

电参数/Electrical characteristics

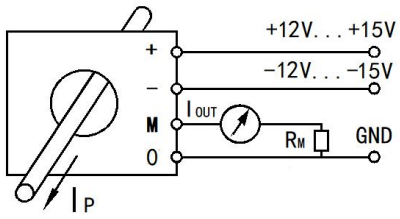
	型号 Type	FSM200LDGH	FSM300LDGH	
I_{PN}	原边额定输入电流 Primary nominal input current	200	300	A
I_P	原边电流测量范围 Measuring range ofprimary current	0～±440（±15V，10Ω）	0～±440（±15V，10Ω）	A
I_{OUT}	副边额定输出电流 Nominal output current	100	150	mA
K_N	匝数比 turns ratio	1:2000	1:2000	
R_M	测量电阻(额定输入电流时) measuring resistance	(V_C=±12V)0-47 (V_C=±15V)0-77	(V_C=±12V)0-21 (V_C=±15V)0-40	Ω
V_C	电源电压 Supply voltage	±12～±15(±5%)		V
I_C	电流消耗 Current consumption	±20+I_{OUT}		mA
V_d	绝缘电压 Insulation voltage	在原边与副边电路之间 5kV 有效值/50Hz/1 分钟		
X	精度(T_A=25℃) accuracy	<0.05		%FS
ε_L	线性度 Linearity	<0.02		%
I_0	零点失调电流(T_A=25℃) Zero offset current	<±10		uA
I_{OT}	失调电流温漂(T_A=-40～+85℃) Offset voltage temperature drift	<±10		uA
di/dt	跟随精度 Follow accuracy	＞100		A/μs
Tr	响应时间 Response time	<1		μs
f	频带宽度(-3dB) Band width (-3dB)	DC～100		kHz

T_A	工作环境温度 Operating ambient temperature	-40～+85	℃
T_S	贮存环境温度 Storage ambient temperature	-45～+100	℃
R_S	副边线圈内阻(T_A=25℃) Internal resistance of secondary coil (T_A=25℃)	48	Ω
m	质量(约) weigth (approx)	110	g

外形尺寸(mm)/Dimensions of drawing(mm)



外部接线图/External connection diagram



引脚说明：+,+15V -,-15V M,I_{OUT} 0,GND

Pin description: +,+15V -,-15V M,I_{OUT} 0,GND

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 wiring may result in damage to the sensor. After the sensor is energized, when the measured current passes through the sensor in the direction of the arrow, the same-phase current value can be measured at the output.

2、在正常工作情况下，有效指示灯处于常亮状态。如果指示灯熄灭，说明电流传感器处于非零磁通状态，如母线电流超过量程等。此时，传感器内部进入扫描状态，输出电流不再与输入电流信号等比例，一旦母线电流回落到量程之内，传感器即恢复正常工作。
Under normal operating conditions, the active indicator is in a constant state. If the indicator is off, it means that the current sensor is in a non-zero flux state, such as the bus current exceeds the range. At this time, the sensor internal scanning state, the output current is no longer proportional to the input current signal, once the bus current back down to within the range, the sensor is back to normal operation.

3、测量电阻是指测量直流电流时。若测量交流电流时，测量电阻降低到 70%。
Measuring resistance is when measuring DC current. If the measurement resistance is reduced to 70% when measuring AC current.

4. 原边测量导线或铜棒温度不要超过 100℃。
Do not exceed 100°C for the raw edge measuring lead or copper rod.