GON1-XXXXE 系列电流传感器 Current Transducer
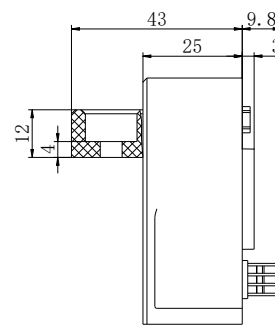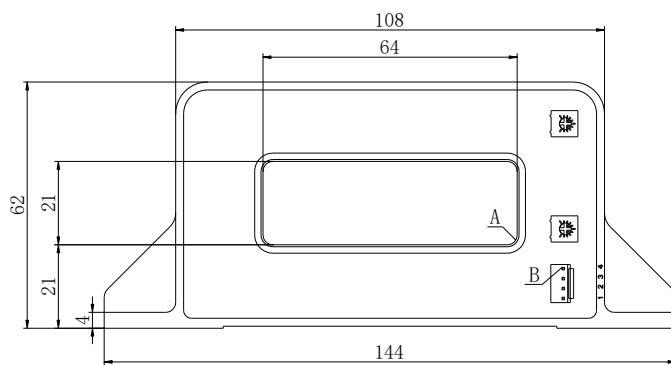
I_{PN}=1000...2500A

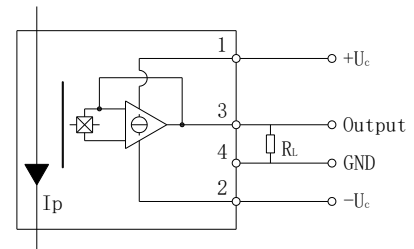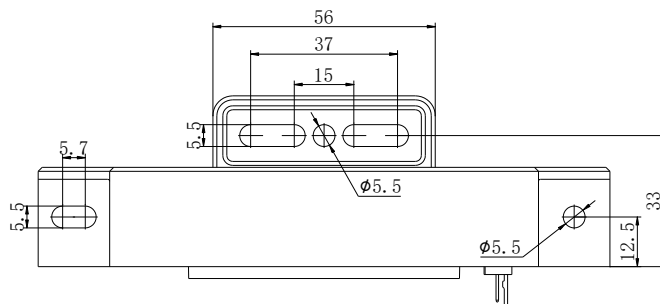**Ref:GON1-1000E,GON1-1500E,GON1-2000E,GON1-2500E**

介绍 Introduction

GON1-XXXXE 系列基于霍尔技术和开环原理设计。适用于直流、交流、脉冲及各种隔离条件下的不规则电流测量。

The GON1-XXXXE series is designed based on Hall technology and the open-loop principle. It is suitable for DC, AC, pulse and irregular current measurement under various isolation conditions.

尺寸 Dimensions (in mm)

	d_{CI}	d_{Cp}
A-B	13.2mm	17.5mm

机械特性 Mechanical characteristics

塑料外壳 Plastic case	PBT-GF30
磁芯 Magnetic core	FeSi
质量 Mass	426g±5%
公差 General tolerance	±1mm
传感器固定 Transducer fastening	1 hole and 1 notch ⌀5.5 mm 2 M5 steel screws or 1 hole and 2 notches ⌀ 5.5 mm 3 M5 steel screws
推荐紧固扭矩 Recommended fastening torque	1.5N·m
原边母排通孔 Primary through-hole	64×21mm

备注 Remarks

√ 偏移量和灵敏度由此公式计算 $S = \frac{4000}{I_{PN}}$。The offset and sensitivity are relative to the following formula. $S = \frac{4000}{I_{PN}}$

√ 电流朝箭头方向时 U_{OUT}>0。U_{OUT}>0 when the current is in the direction of the arrow.

√ 用一根母排完全填满主孔时动态性能（di/dt 和延迟时间）达到最佳。Dynamic performance (di/dt and delay time) is optimized by completely filling the main bore with a single bus bar.

√ 母排的温度不应超过 100°C。Temperature of the primary conductor should not exceed 100°C.

绝对额定值（非工作状态）Absolute ratings (not operating)

参数 Parameter	符号 Symbol	单 位 Unit	规格 Specification			条件 Conditions
			最 小 值 Min	典型值 Typical	最大值 Max	
存储温度 Ambient storage temperature	T_S	℃	-40		105	
工作温度 Ambient operating temperature	T_A	℃	-40		105	
冲击电压 Impulse withstand voltage 1.2/50μs	U_{Ni}	kV			8.3	
耐压 RMS voltage for AC insulation test, 50Hz, 1 min	U_d	kV	5			
绝缘电阻 Isolation resistance	R_{Is}	MΩ	1000			Measured at 500V DC
爬电距离 Creepage distance	d_{Cp}	mm		17.5		
电气间隙 Clearance	d_{Cl}	mm		13.2		

额定电流范围内运行特性 Operating characteristics in nominal range（I_{PN}）

参数 Parameter	符号 Symbol	单位 Unit	规格 Specification			条件 Conditions
			最小值 Min	典型值 Typical	最大值 Max	
供电电压 Supply voltage	U_C	V	14.25	15	15.75	
电流消耗 Current consumption	I_C	mA			20	正向电源消耗 Positive power consumption
			-15			负向电源消耗 Negative power consumption
输出电压 Output voltage	U_{OUT}	V		4.0		@R_L=10kΩ, TA=25℃,@I_{PN}
负载电阻 Load resistance	R_L	KΩ	1	10		
电零点 Electrical offset voltage	U_{OE}	mV	-20		20	@25℃
磁零点 Magnetic offset voltage referred to primary	U_{OM}	mV	-10		10	@I_P=0,after an excursion of 1×I_{PN}
输出温度系数 Temperature coefficient of U_{OUT}	TCU_{OUT}	%/K	-0.1		0.1	
电零点温度系数 Temperature coefficient of U_{OE}	TCU_{OE}	mV/K	-1		1	
线性误差 Linearity error [1]	ε_L	% of I_{PN}	-0.5		0.5	
带宽 Frequency bandwidth（-3dB）	BW	kHz			25	
响应时间 Step response time to 80% I_{PN}	t_r	μs			5	
常温精度 Accuracy @I_{PN} [2]	X_{TA}	% of I_{PN}	-1		1	@TA=25℃

GON1-1000E

参数 Parameter	符号 Symbol	单位 Unit	规格 Specification			条件 Conditions
			最小值 Min	典型值 Typical	最大值 Max	
额定电流 Primary nominal RMS current	I$_{PN}$	A		1000		
测量电流范围 Primary current, measuring range	I$_{PM}$	A		3000		

GON1-1500E

参数 Parameter	符号 Symbol	单位 Unit	规格 Specification			条件 Conditions
			最小值 Min	典型值 Typical	最大值 Max	
额定电流 Primary nominal RMS current	I$_{PN}$	A		1500		
测量电流范围 Primary current, measuring range[3]	I$_{PM}$	A		4500		

GON1-2000E

参数 Parameter	符号 Symbol	单位 Unit	规格 Specification			条件 Conditions
			最小值 Min	典型值 Typical	最大值 Max	
额定电流 Primary nominal RMS current	I$_{PN}$	A		2000		
测量电流范围 Primary current, measuring range	I$_{PM}$	A		5500		

GON1-2500E

参数 Parameter	符号 Symbol	单位 Unit	规格 Specification			条件 Conditions
			最小值 Min	典型值 Typical	最大值 Max	
额定电流 Primary nominal RMS current	I$_{PN}$	A		2500		
测量电流范围 Primary current, measuring range	I$_{PM}$	A		5500		

Note:

1) 线性度不包括电零点。Linearity data exclude the electrical offset.

2) 建议将母排固定在孔径中心，母排的位置会影响传感器的精度。The primary busbar fixed in the center of aperture is recommended. The position of busbar has impact on the accuracy of transducer.

3) 当传感器工作电压在±12V<U$_c$<±15V 时，测量范围将会减小。Operating at ±12 V < U$_c$ < ±15 V will reduce the measuring range.

变更履历

版本	日期	更改描述
V00	2023/10/15	初版创建

编制/日期		审核/日期		批准/日期	