

产品说明

Applications

NCA1C-100A/SP10 开环霍尔电流传感器适用于对交流、直流、脉冲电流的隔离精确测量, 测量时一次侧与二次侧间完全绝缘。

For the electronic measurement of currents: AC, DC, pulsed ..., with galvanic separation between the primary circuits and the secondary circuits.

| 产品优点 Advantages | 产品应用领域 Applications | 参照标准 Standards |
|----------------------------------|---|-----------------------------------|
| 体积小 Small size and space savings | 变频器 Static converters 不间断电源 Uninterruptible Power Supplies (UPS) | EN 50178: 1997 IEC60950-1:2001 |

主要电气参数 Main electrical data

(@ $\pm I_{PN}$, $R_L = 10\text{ k}\Omega$, $T_A = 25^\circ\text{C}$)

| | | |
|------------------|---------------------------------|-------------------------|
| 额定测量电流 I_{PN} | Primary nominal current | 100A |
| 测量范围 I_{PM} | Primary current measuring range | $\pm 300A$ |
| 电源电压 V_C | Supply voltage | DC $\pm 15(1 \pm 5\%)V$ |
| 电流消耗 I_C | Current consumption | $\leq \pm 30mA$ |
| 额定测量输出 V_{OUT} | Output voltage | $\pm 4V$ |
| 输出内阻 R_{OUT} | Output internal resistance | 100 Ω |
| 负载电阻 R_L | Load resistance | $\geq 10k\ \Omega$ |

精度 - 动态参数 Accuracy - Dynamic performance data

| | | |
|---|--|---------------------------------|
| 基本误差 $\delta_i(I_{PN}, T_A = 25^\circ\text{C})$ | Accuracy(excluding offset) | $\leq \pm 1\%$ of I_{PN} |
| 线性度 $\delta_L(0 \dots \pm I_{PN})$ | Linearity error | $\leq \pm 1\%$ of I_{PN} |
| 零点输出误差 $\delta_Z(T_A = 25^\circ\text{C})$ | Electrical offset voltage | $\leq \pm 30mV$ |
| 磁滞失调电压 $V_{OH}(I_P = 0, 1 \times I_{PN}$ 冲击后) | Hysteresis offset voltage @ $I_P = 0$, after an excursion of $1 \times I_{PN}$ | $\leq \pm 35mV$ |
| 零点温度漂移 $\delta_{Zt}(T_A = -40^\circ\text{C} \sim +85^\circ\text{C})$ | Temperature coefficient of δ_{Zt} | $\leq \pm 1mV/^\circ\text{C}$ |
| 满量程温度漂移 $\delta_{FSI}(T_A = -40^\circ\text{C} \sim +85^\circ\text{C})$ | Temperature coefficient of V_{OUT} | $\leq \pm 0.1\%/^\circ\text{C}$ |
| 响应时间 $T_R(90\% \text{ of } I_{PN} \& di/dt > 50\text{ A}/\mu\text{S})$ | Step response time to 90 % of I_{PN} | $\leq 3\mu\text{S}$ |
| 带宽 (-3dB) BW | Frequency bandwidth (-3dB) | DC ... 25kHz |

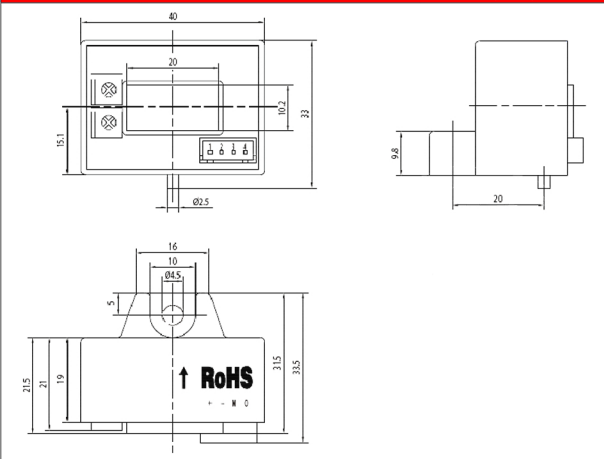
一般数据 General data

| | | |
|------------|-------------------------------|------------------------------|
| 工作温度 T_A | Ambient operating temperature | $-40 \sim +85^\circ\text{C}$ |
|------------|-------------------------------|------------------------------|

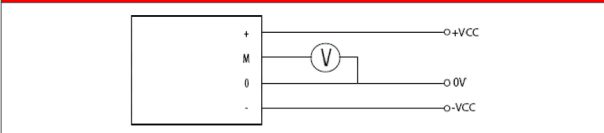
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|---------|-----------------------------|-----------|
| 储存温度 Ts | Ambient storage temperature | -45~+125℃ |
| 重量 m | Mass | ≤80g |


| 绝缘耐压 Insulation coordination | | |
|------------------------------|--|----------|
| 耐压 | Voltage for AC insulation test, 50Hz, 1min | 3kV |
| 绝缘电阻 R _{IS} | Isolation resistance | ≥1000M Ω |
| 爬电距离 | Creepage distance | 7.08mm |
| 电气间隙 | Clearance | 6.23mm |

NCA1C-100A/SP10 电压传感器外形图 Dimensions NCA1C-100A/SP10 Series (in mm)



电气连接 Connection



| 机械特征 Mechanical characteristics | | 备注 Remark |
|--------------------------------------|--|--|
| 未注公差 General tolerance | $\pm 0.5\text{mm}$ | 1. 当测量电流方向与传感器上标示的  方向一致时，传感器输出 V_{OUT} 为正。 2. 产品二次侧连接线优选屏蔽线，屏蔽层接近产品端连接线可接机壳，负电源或电源 0V 3. 传感器安装螺钉孔的垂直度要求：要求在国家标准 8 级或以上（或 0.06 以下）。 4. 传感器接插件要求：接插件必须选用厂家提供的配件，禁止使用其它同型号类似配件。 传感器安装平面度要求： (a). 大平面安装平面度国家标准 11 级或以上（或平面起伏小于 0.25mm）； (b). 安装面若有小圆凸台设计时平面度要求达国家标准 12 级或以上（或平面起伏小于 0.5mm）。 |
| 传感器安装 Transducer fastening | 1 hole $\varnothing 4.5\text{mm}$ 1 M4 steel screws | |
| 推荐力矩 Recommended fastening torque | 0.75 N · m | |
| 穿心孔 Primary through-hole | 20.4 × 10.4mm | |
| 次边电气连接 Connection of secondary | MOLEX 4芯连接器 | |