

BAL11系列 Seris

汽车继电器
Automobile relay



专利：ZL 201120054292.9

产品特点

- 30A触点切换能力,产品类型结构为1A.
30A Contact swithing capability,The product type structure is 1A
- 超小型（28.2×23×29.4）标准印刷版引出脚
Subminiature(28.2×23×29.4)standad pinting plate lead out pin
- 塑封型和防焊剂型可选择
plastis sealing type and anti flux type are optional
- 选择耐高温环保材料，更好的提高产品稳定性
Select high temperature resistant and environment-friendly materials to better improe the stability of products
- 符合REACH ROHS 指令
Comply with reach RoHS Directive
- BAL11系列产品浪涌电压为10000V
The surge voltage of BAL11 series products is 10000V

触点负载	Contact Rating
触点形式 contact form	1A
触点材料 contact material	银合金 AgSn02
额定负载(阻性) Rated load (Resistance)	15A 28VDC 30A 14VDC
最大切换电压 Max. switching Voltage	28VDC
最大切换电流 Max. switching Current	30A
最大切换功率 Max.switching power	420W
电耐久性 Electrical durability	5×10 ⁴ 次 30A 14VDC 阻性，室温1S ON/9S OFF
机械耐久性Mechanical	1×10 ⁷ 次 每小时10800次

备注：备注：1. 上述值为初始值
2. 对于塑封型产品试验时，应打开外壳上的透气孔
1.remarks:The above values are initial values
2.When experimenting with plastic encapsulated products,the vent holes on the housing should be opened

典型用途

- 用于自动空调机的压缩机上
It is used on the compressor of automatic air conditioner
- 摩托车、机动自行车、电动窗
- Motorcycles,motorized bicycles,electric windows

性能参数Performance Parameter		
绝缘电阻 Insulation resistance		500MΩ (500VDC)
吸合时间（额定电压下） Operate Time		≤10ms
释放时间（额定电压下） Release Time		≤5ms
介质耐压 Dielectric Strength	断开的触点间BOC	700VAC 50/60Hz 1分钟
	触点与线圈间BCC	700VAC 50/60Hz 1分钟
湿度 humidity		45%~85%RH
温度范围Temperature Range		-40℃~85℃（不结冰） (NO freezing)
接触电阻 Contact Resistance		≤100mΩ (1A 6VDC)
冲击 Shock	稳定性 Error Operation	98m/s ²
	强度Endurance	980m/s ²
浪涌电压（线圈与触点间） Surge voltage (BCC)		10KV (1.2×50us)
振动vibration		10Hz~55Hz 1.5mm双振幅
线圈温升 Coil temperature rise		35℃ Max
封装方式Type of Sealing		防尘罩型The flux type
重量Weight		约35克 about35g

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线圈参数Coil Specification (at 23 °C)

线圈灵敏度 Coil sensitivity	额定电压 Nominal Voltage (VDC)	额定电流 Rated current (mA)	线圈电阻 Coil Resistance ($\Omega \pm 10\%$)	额定功率 Rated power (w)	吸合电压 Pull-In Voltage (Max)	释放电压 Drop-Out Voltage (Min)	最大电压 Maximum Voltage (Max)
BAL11-LM	5	288	17	约1.44W about	额定电压的 Rated voltage 75%	额定电压的 Rated voltage 10%	额定电压的 Rated voltage 130%
	6	240	25				
	9	160	56.2				
	12	120	100				
	24	60	400				
	48	30	1600				
BAL11-DM	5	360	13.8	约1.8W about			
	6	300	20				
	9	200	45				
	12	150	80				
	24	75	320				
	48	37.5	1280				

备注：1. 上述值为初始值remarks:The above values are initial values

2. 最大电压是指继电器线圈在短时间内能够承受的最大值

The maximum voltage refers to the maximum value that the relay coil can withstand in a short time

订货标记Ordering Information

BAL11 - S - 1 12 D M	触点形式: M:常开型 Con tact form:M:NO
	线圈功耗: L:高灵敏度标准直流线圈 Coil power: D:标准直流线圈 L:High sensitivity DC coil D: Standard DC coil
	线圈电压: 05:5V,06:6V,09:9V Coil oltage: 12:12V,24:24V48:48V
	触点组数:1:1 组 Numb e of pole:1:1-One pole
	密封方式: S:卡扣式 Type of sealing: S:Plastic duct cover
	品名: BAL11 Model: BAL11

备注:

1. 在洁净环境（不含H2S、SO2、NO2、粉尘等污染物）下使用时，推荐使用防焊剂型产品
2. 在污染焊剂（含一定量的H2S、SO2、NO2粉尘等污染物）下使用时建议选用塑封产品，并请在实际使用中进行确
3. 当继电器装入PCB版焊接后，如需进行整体清洗或表面处理，请与我司联系，以便商定合适的焊接条件、合格的产品规格。

remarks:

- (1)When using in clean enbironment （without H2S SO2 NO2 dust and other pollutants), it is recommended to Use flux resistant products. When using in polluted environ ment(with a certain amount of H2! SO2 NO2dust and other pollutants), it is recom mended to use plastic encapsulated products.please confirm in actu
- (2)After the relay is installed into the PCB board for welding, if it needs overall cleaning or surface treatment, please Contact me to negotiate the appropriate welding conditions and product specifications.

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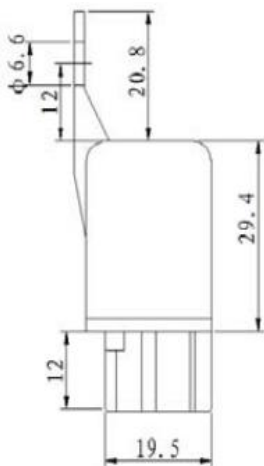
类型

型号	BAL11	
线圈灵敏度 Coil sensitivity	1A	
	标准直流线圈 Standare DC coil	高灵敏度直流线圈 High sensitivity DC coil
防焊剂型 The flux type	BAL11-S-1□□DM	BAL11-S-1□□LM

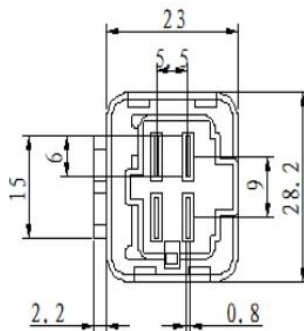
外形尺寸、接线、安装孔位图

Overall dimension,wiring and installation hole bitmap

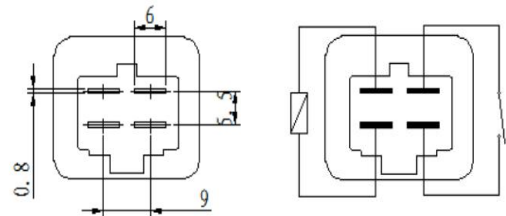
外形尺寸
Outline Dimensions



安装孔位图(底视图)
PCB Layout (Bottom view)



接线图(底视图)
Wiring Diagram
(Bottom view)



备注:

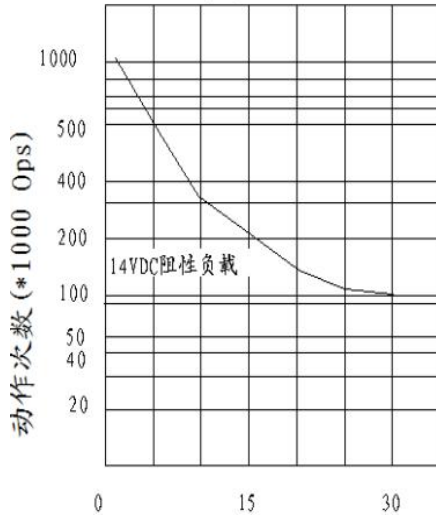
- 产品外形图的引脚标注尺寸为沾锡前尺寸（沾锡后会变大），安装孔尺寸为推荐的PCB板孔的设计尺寸，具体PCB板孔设计尺寸可根据产品实物进行测绘、调整。
- 产品部分外形尺寸未注尺寸公差，当外形尺寸 $\leq 1\text{mm}$ ，公差为 $\pm 0.2\text{mm}$ ；当外形尺寸在 $(1\sim 5)\text{mm}$ 之间时，公差为 $\pm 0.3\text{mm}$ ；当外形尺寸 $> 5\text{mm}$ ，公差为 $\pm 0.4\text{mm}$
- 安装孔尺寸中未注尺寸公差为 $\pm 0.1\text{mm}$

DISCLAIMER:

- The pin dimension in the outline drawing or the product is the dimension before dipping tin(it gets bigger when stained with tin)The size of mountin hole is the recommended design size of PCB hole The specific PCB hole design size can be mapped and adjusted according to the actual product
- The overall dimension of the product il not marked with dimensional tolerance,when teh overall dimension $\leq 1\text{mm}$ Tolerance is $\pm 0.2\text{mm}$ When the overall dimension is $(1\sim 5)\text{mm}$ Between Tolerance is $\pm 0.3\text{mm}$ When the overall dimension $> 5\text{mm}$,Tolerance is $\pm 0.4\text{mm}$
- The dimension tolerance of mounting hole without dimension injection is $\pm 0.1\text{mm}$

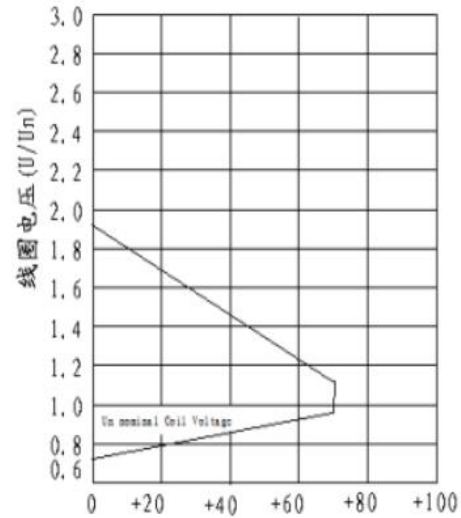
性能曲线图

寿命曲线 Life curve



触点电流 Contact current(A)

线圈温升Coil temperature



线圈功耗
Coil power consrption(W)

备注:

本产品规格书仅供客户使用时参考，若有更改，恕不另行通知。

对科信而言，不可能评定继电器在每个具体应用领域的所有性能参数要求，因而客户应该根据具体的使用条件，选择与之相匹配的产品。若有疑问，请与科信联系 以便获取更多的技术支持。但产品选型责任仅由客户负责。

DISCLAIMER:

This product specification is for reference only and subject to change without prior notice.

For AFE, it is not possible to assess all performance requirements for relays in each specific application area and therefore the customer should select a suitable product for each specific application, please contact AFE for additional technical support. But the responsibility of product selection is only the responsibility of the customer.