

Power Relay Series 功率继电器系列-- BT90 30A/40A

FEATURES特点

- Up to 30A or 40A contact switching capability  
高达 30A/40A 触点切换能力
- 4kV dielectric strength (between coil and contacts)  
线圈与触点间介质耐压4kV
- sealed types and opened types  
可提供密封型或敞开型
- Overall dimensions (30.5X27.4X19.8) mm.  
外形尺寸 (30.5X27.4X19.8) mm。



CONTACT PARAMETERS触点参数



| Contact Form触点形式             | A-1组常开                                        | B-1组常闭 | C-1组转换                                        |
|------------------------------|-----------------------------------------------|--------|-----------------------------------------------|
| Rating Load (Resistive) 额定负载 | NO: 30A/277VAC<br>30A/30VDC<br>NC: 30A/277VAC |        | NO: 40A/277VAC<br>30A/30VDC<br>NC: 30A/277VAC |
| Max. Switching Current最大切换电流 | 30A                                           |        | 40A                                           |
| Max. Switching Voltage最大切换电压 | 277VAC/30VDC                                  |        | 277VAC/30VDC                                  |
| Max. Switching Power最大切换功率   | 7500VA/900W                                   |        | 10000VA/900W                                  |

CHARACTERISTICS性能参数

|                                 |                                                     |                                  |  |
|---------------------------------|-----------------------------------------------------|----------------------------------|--|
| Contact Materials触点材料           | Ag Alloy银合金                                         |                                  |  |
| Contact Resistance接触电阻          | 100mΩ Max                                           |                                  |  |
| Operate Time吸合时间                | 15ms. Max                                           |                                  |  |
| Release Time释放时间                | 10ms. Max                                           |                                  |  |
| Insulation Resistance绝缘电阻       | 100MΩ Min.(DC500V)                                  |                                  |  |
| Initial Dielectric Strength介质耐压 | between open contacts:<br>触点与触点间:                   | AC1,500V,50/60Hz 1Min            |  |
|                                 | between contacts and coil:<br>触点与线圈间:               | AC2,500V,50/60Hz 1Min            |  |
| Vibration Resistance抗振动         | Damage limits:<br>耐久:                               | 10～55Hz Double Amplitude双振幅1.5mm |  |
|                                 | Malfunction:<br>误动作:                                | 10～55Hz Double Amplitude双振幅1.5mm |  |
| Shock Resistance抗冲击             | Damage limits:<br>耐久:                               | 100G Min                         |  |
|                                 | Malfunction:<br>误动作:                                | 10G Min                          |  |
| Life寿命                          | Mechanical Life (10800 per hour)<br>机械寿命（每小时10800次） | 1 x10 <sup>7</sup>               |  |
|                                 | Electrical Life (600 per hour)<br>电气寿命（每小时600次）     | 5 x10 <sup>4</sup>               |  |
| Ambient Temperature环境温度         | -40℃～+105℃（No condensation）（不冷凝）                    |                                  |  |
| Unit Weight单位重量                 | 约Approx.27.0g                                       |                                  |  |

备注: 4KV dielectric strength (between Coil and contacts) needs to be noted in the order  
4KV电介质强度 (线圈和触点之间) 需要订单备注

COIL RATINGS (at23℃) 线圈参数 (在23℃)

| 额定电压<br>(VDC) | 额定电流<br>(mA) | 线圈电阻<br>(Ω ±10%) | 额定功率  | 吸合电压<br>Max  | 释放电压<br>Min  | 最大电压<br>Max   |
|---------------|--------------|------------------|-------|--------------|--------------|---------------|
| 5             | 180          | 27.7             | 约0.9W | 额定电压的<br>75% | 额定电压的<br>10% | 额定电压的<br>130% |
| 6             | 150          | 40               |       |              |              |               |
| 9             | 100          | 90               |       |              |              |               |
| 12            | 75           | 160              |       |              |              |               |
| 24            | 37.5         | 640              |       |              |              |               |
| 48            | 18.8         | 2560             |       |              |              |               |

备注：1. 上述值为初始值  
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。

ORDERING INFORMATION订货标记

| BT90-SS-1 12 DM F 40 1 S (XXX)                                                                                                                                                                                                                                                                                                                                                           |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |   |   |    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|----|
| 1                                                                                                                                                                                                                                                                                                                                                                                        | 2 | 3 | 4 | 5 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 7 | 8 | 9 | 10 |
| 1.Model Number基本型号 BT90<br>2.Encapsulation form: SS - Plastic Sealed<br>封装形式: SS - 塑封型<br>3.Number or pole : 1 - 1 pole<br>触点组数: 1—1组触点<br>4.Coil Voltage线圈规格 (VDC):<br>DC5V,DC6V,DC9V,DC12V,DC15V,DC24V,DC48V<br>5.Contact form: DM - FormA DB - FormB D - FormC<br>触点形式: DM -常开型 DB -常闭型 D -转换型<br>6.Insulation level: F - CLASS F Nil -Standard products<br>绝缘等级: F - CLass F 无 - 标准品 |   |   |   |   | 7.load /负载: Nil(无) - 30A 40 - 40A<br>8.Terminal position: Nil - Narrow foot and Cut foot<br>2 - Wide feet and Cut foot (1A) 2 - Narrow foot Non Cut foot<br>负载脚: 无 - 标准品 (窄脚剪脚型)<br>1 - 加宽脚剪脚型 (常开40A) 2 - 窄脚非剪脚型<br>9. Initial Dielectric Strength (between Coil and contacts):<br>Nil - Standard products 2500V S - 4000V<br>介质耐压 (线圈与触点间)<br>无 - 标准品 2500V S - 耐压 4000V<br>10.Customer Special Code :XXX- Customer Special Requirements<br>No - Standard Type<br>客户特性号: XXX-客户特殊要求, 无-标准型 |   |   |   |    |

SAFETY STANDARD安规认证

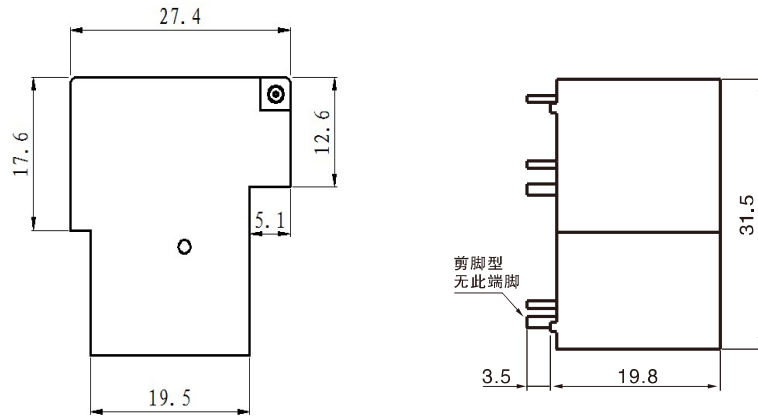
| AuthType Basic认证类别                | UL/C__UL                                     | TUV                                           | CQC                                           |
|-----------------------------------|----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Authentication Load<br>认证负载 (30A) | NO: 30A/250VAC/30VDC<br>NC: 20A/250VAC/30VDC | NO: 30A/277VAC/30VDC<br>NC: 30A/277VAC        | NO: 30A/277VAC/30VDC<br>NC: 30A/277VAC        |
| Authentication Load<br>认证负载 (40A) | NO: 40A/250VAC                               | NO: 40A/277VAC<br>30A/30VDC<br>NC: 30A/277VAC | NO: 40A/277VAC<br>30A/30VDC<br>NC: 30A/277VAC |

TYPICAL USE典型用途

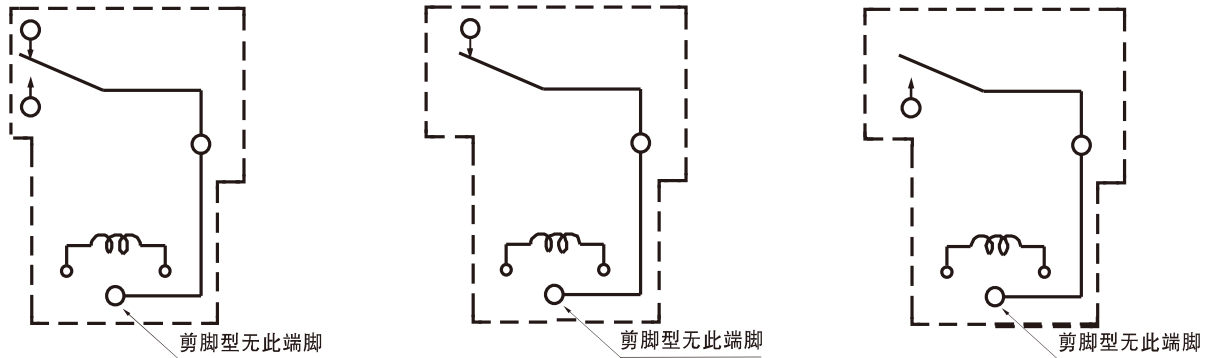
- Thermostat. ● Heaters and ventilation ● Air Condition ● Household appliances
- 温控器 ● 加热器和通风装置 ● 空调 ● 家用电器

## OUTLINE DIMENSIONS (UNIT:mm)外形尺寸 (单位: mm)

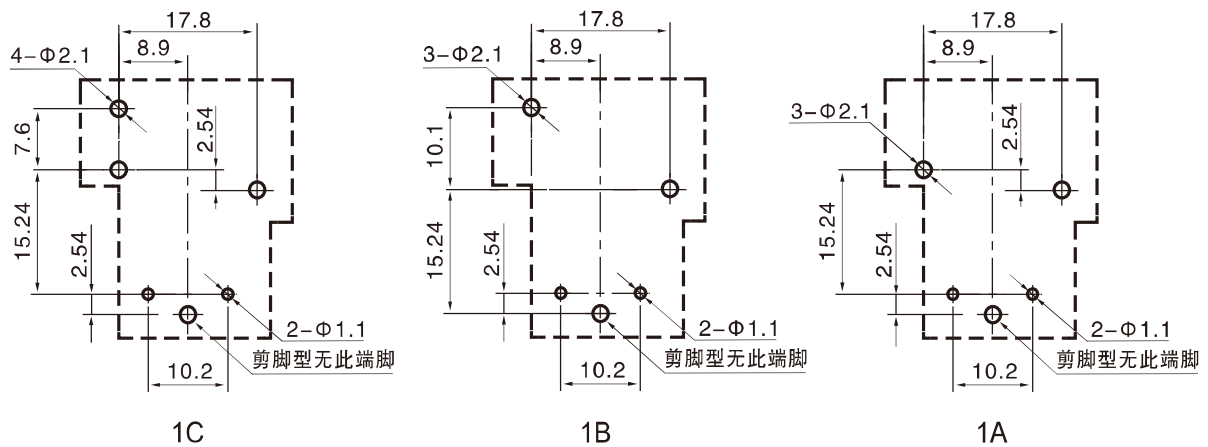
(BT90 标准品 窄脚)



外形图 Layman



Wiring diagram (bottom view)  
接线图 (底视图)



Mounting hole size (bottom view)  
安装孔尺寸 (底视图)

备注:

(1) 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  $> 5\text{mm}$  时, 公差为  $\pm 0.4\text{mm}$ ;

(2) 安装孔尺寸中未注尺寸公差的均为  $\pm 0.1\text{mm}$ 。

REMARK:

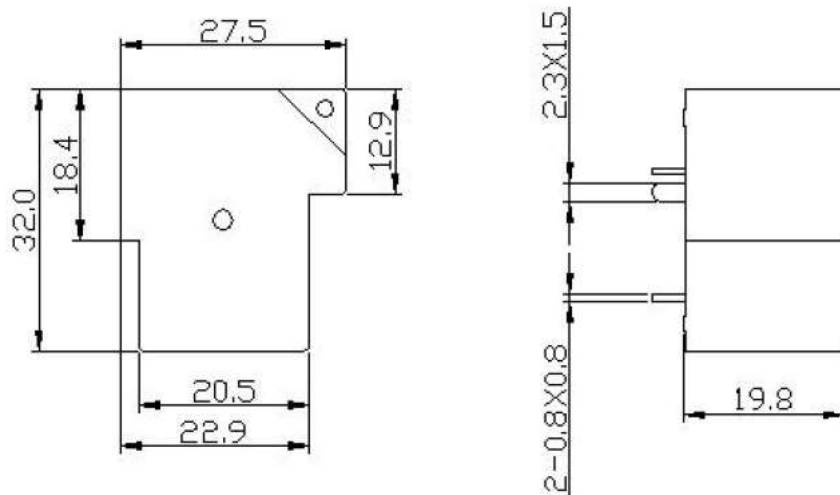
(1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ ;

(2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

## OUTLINE DIMENSIONS (UNIT:mm)外形尺寸（单位：mm）

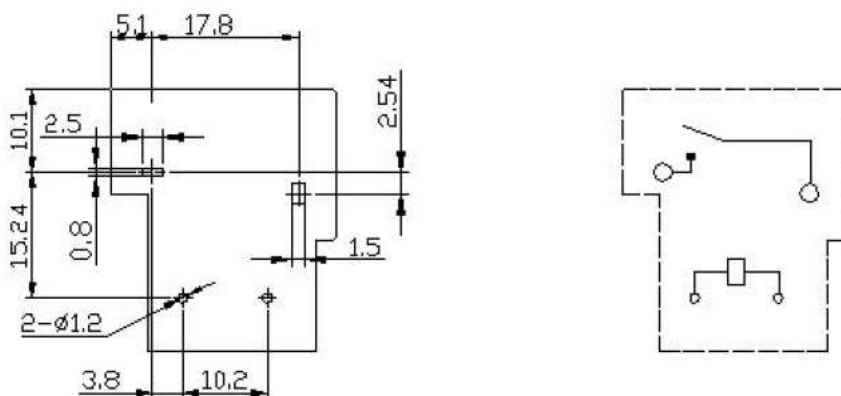
(BT90 40A 宽脚)

外形图 Layman



Mounting hole size (bottom view)  
安装孔尺寸（底视图）

Wiring diagram (bottom view)  
接线图（底视图）



备注

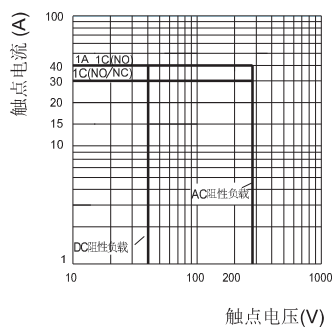
- (1) 产品部分外形尺寸未注尺寸公差，当外形尺寸  $\leq 1\text{mm}$ ，公差为  $\pm 0.2\text{mm}$ ；当外形尺寸在  $1\sim 5\text{mm}$  之间时，公差为  $\pm 0.3\text{mm}$ ；当外形尺寸  $> 5\text{mm}$  时，公差为  $\pm 0.4\text{mm}$ ；
- (2) 安装孔尺寸中未注尺寸公差的均为  $\pm 0.1\text{mm}$ 。

REMARK:

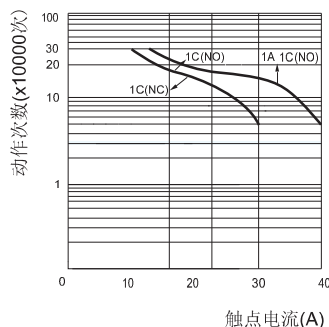
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- (2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

## PERFORMANCE CHART性能曲线图

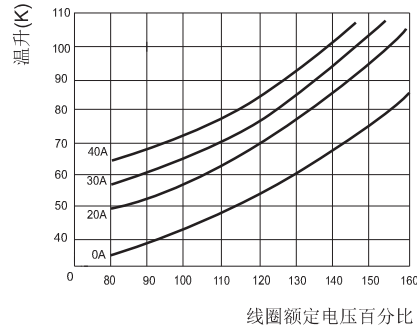
最大切换功率



电耐久性曲线



线圈温升



测试条件：  
阻性负载，室温，1s通9s断。