



MG RELAY CO.,LTD.  
www.mgrelay.com

# MR16

小型中间继电器  
Miniature intermediate relay

MG 茂冠科技  
MAOCROWN TECHNOLOGY



## 特性 Features :

- 12A切换大容量 ( 12A switching capacity )
- 测试按钮可供选择 (Manual test button available )
- 具有多种引出脚方式 ( With various terminal types )
- 镀金触点型Gold plated contact type
- 透明防尘罩、多种安装方式Transparent dust cover and various installation method
- 环保产品RoHS和REACH
- 备有各种插座供选用 ( Various sockets available )

## 性能参数 Coil parameter

触点型式Contact type	三组转换 (3C)	
接触电阻 Contact Resistance	≤100 mΩ	
触点材料 Contact Material	AgSnO2 银锡	
阻性负载 Resistive load	12A @ 28VDC/240VAC	
马达负载 Motor load	1/3hp @ 120VAC , 1/2hp@240VAC	
最大切换电压 Max. Switching Voltage	28VDC,240VAC	
最大切换电流 Max. Switching Current	12A	
最大切换功率 Max. Switching Power	336W,2280VA	
绝缘电阻 Insulation resistance	500MΩ@500VDC	
介质耐压 Dielectric strength	同极触点间 Between open contact	1000VAC,1Min
	异极触点间 Between different pole	1500VAC,1Min
	线圈触点间 Between contact and coil	1500VAC,1Min
动作时间 Operate time	≤20ms	
释放时间 Release time	≤15ms	
冲击稳定性 Stability of shock resistance	98m/s <sup>2</sup>	
冲击强度 Shock strength	980m/s <sup>2</sup>	
环境温度 Ambient temperature	\$-25℃ ~ +50℃ (AC) -25℃ ~ +55℃ (DC)(无结冰、无结露 No ICE, no dew )	

环境湿度 Ambient Humidity	5%RH ~ 85%RH
振动 Vibration	10Hz ~ 55Hz, Double amplitude 1.0mm
机械寿命 Mechanical life	1000,000 ops
电气寿命 Electrical life	10,000 ops

额定线圈功率 Rated coil power	交流 ( AC ) : 2.5VA/直流 ( DC ) : 1.44W,
重量 Weight	≤55g
体积Volume	28mm×30.8mm×35mm
配套插座或连接器 Matching socket or connector	PTF-11A,PTF-11AB
产品应用领域Product application area	机床、工业控制设备、电梯电控设备、安防控制领域、电源控制等 Machine tool、Industrial Control Equipment、Elevator control equipment、Field of security control、Power Control
产品应用场合Applications	电源、焊接设备、自动贩卖机、通信设备、防灾设备、测量仪器、娱乐机器 Power supply、Welding equipment、Vending machine、Communication equipment、Disaster Prevention equipment、Measuring Instrument、Entertainment Machine
同行参考Peer Reference	欧姆龙Omron : LY3系列 (LY3 series) 施耐德Schneider : RPM3系列(RPM3 series) 和泉 IDEC : RH3系列 ( RH3 series)

### 线圈规格表 Coil Versions (环境温度+ 23℃ The ambient temperature is 23℃)

额定电压 ( V ) Rated oltage		工作电压 ( V ) Operate voltage	释放电压 ( V ) Release voltage	最大电压(V) MAX.voltage	线圈电阻(Ω) Coil sistance
DC	6VDC	≤75%	≥10%	110%	25±10%
	12VDC				100±10%
	24VDC				400±10%
	48VDC				1600±10%
	110VDC				8500±10%
AC	6VAC	≤80%	≥30%		6±10%
	12VAC				25.3±10%
	24VAC				103±10%
	48VAC				460±10%
	110VAC				2200±10%
	120VAC			2770±10%	
	220VAC/230VAC			10800±10%	
	240VAC			12100±10%	

备注：最大电压是指继电器在短时间内能够承受的最大电压值。

Note: The maximum voltage is the maximum that the relay can withstand in a short period of time.

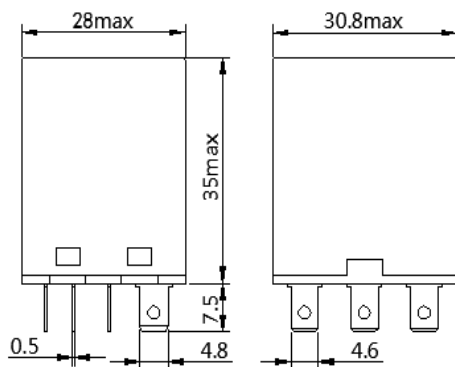
## 订货标记示例 Order mark example

<b>编号说明</b>	<b>MR16</b>	<b>-3C</b>	<b>()</b>	<b>-S</b>	<b>-C3</b>	<b>ML</b>	<b>-120VAC</b>
系列Series MR15							
触点形式Contact form 3C:DPDT							
触点负载Contact rating 空白Blank: 12A							
引出端形式Terminal style 空白Blank: S:标准型插座插入式 Standard socket plug P:印制板式 Printed board type							
外壳样式Cover style C:标准型普通外壳Standard case C3:顶端附耳外壳Ear-tip housing							
选配Options M: 手动按钮 Manual Push Button, DC 蓝色 Blue, AC 红色Red L: 单向红色 Single-Polar Red LED(for AC), 双向绿色Bi-Polar GreenLED (for DC)							
线圈电压Coil voltage A: AC交流 DC: DC直流							

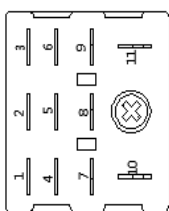
## 外形尺寸图 Dimension drawing

标准型  
(Standard type)

MR16-3C

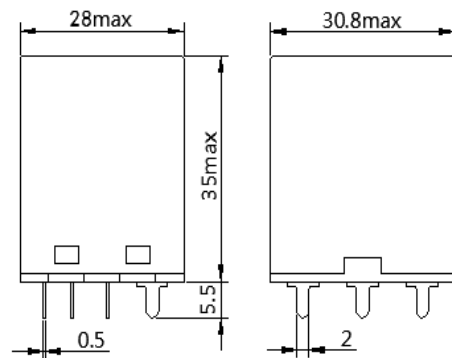


底视图  
Bottom view

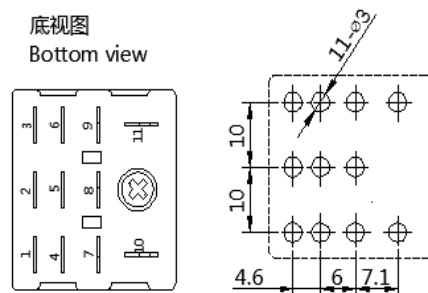


引出端形式: 印制电路板式P  
Terminal form: P (PCB)

MR16-3C-P

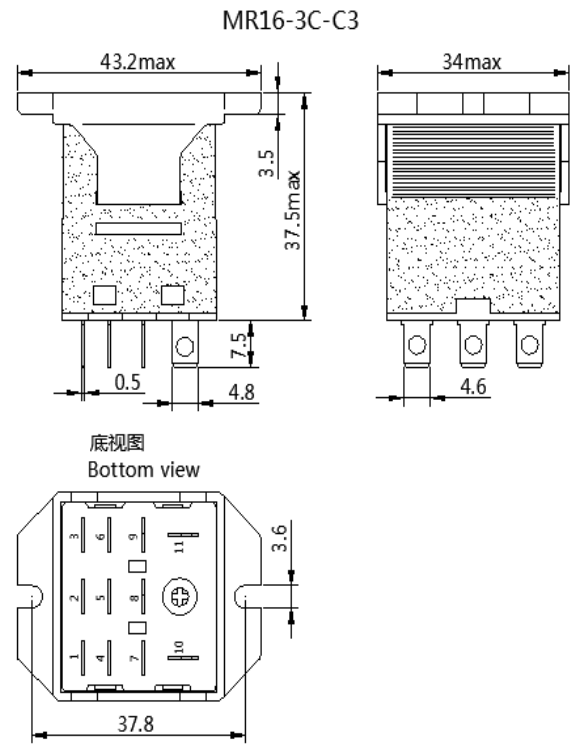
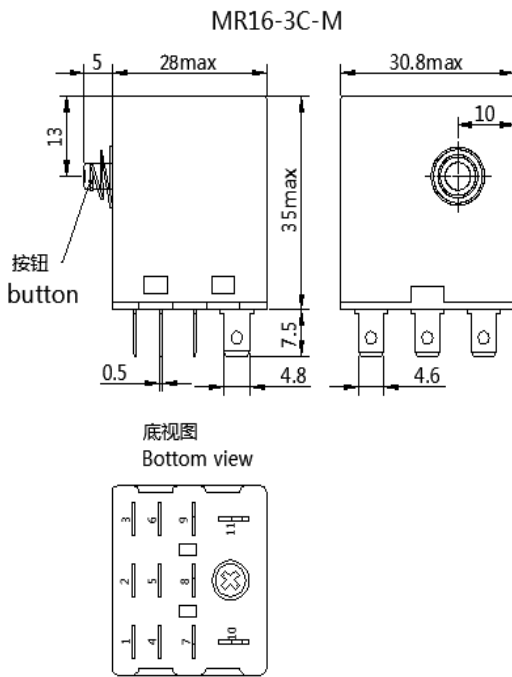


底视图  
Bottom view



手动测试按钮: M  
Manual test button: M

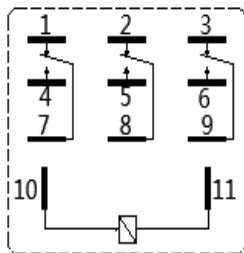
顶部附耳外壳 (雾面外壳加连接器)  
Top flange cover (add adapter) (C3)



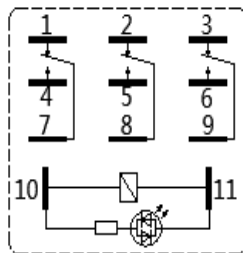
## 内部接线图 Wiring diagrams

### MR16-3C

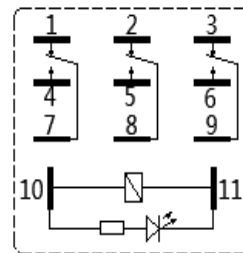
直流, 交流线圈, 无LED  
DC, AC coil, Without LED  
MR16-3C



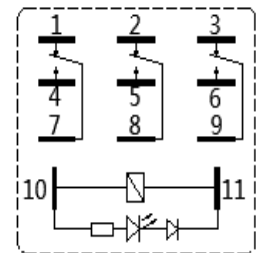
直流线圈, 双向LED  
DC coil, Bi-Polar LED  
MR16-3C-L-□□VDC



交流线圈, 220~240VAC除外  
单向LED  
AC coil, Except for 220~  
240VAC, Single-Polar LED  
MR16-3C-L-□□VAC



220VAC~240VAC线圈  
单向LED+二极管  
220VAC~240VAC coil  
Single-polar LED+diode  
MR16-3C-L-220VAC~240VAC



注:


1, 对于DC规格, 请在确认线圈级性后正确接线。

For DC specifications, please connect correctly after confirming coil-level performance.

2, 动作指示灯显示线圈通电情况, 并非根据触点动作进行显示

the action indicator shows the current status of the coil, not according to the action of the contact

## 继电器配套插座:Relay socket (另售Resell)

插座型號 Socket type	連接繼電器型號 Type of connecting relay	形狀 SHAPE	安裝方式 Installation mode	材質 Material Quality
PTF-11A	MR15-3C10		1. 对角螺絲孔安裝; 2. 導軌安裝	PC
PTF-11B	MR15-3C12		1. 对角螺絲孔安裝; 2. 導軌安裝	PA

## 插座性能Socket performance

插座型號 Socket type	負載電流Load current	負載電壓 Load voltage	介質耐壓Dielectric strength		外連接導線External connecting conductor		螺釘扭矩Screw Torque	防護等級 Protection level
			線圈及觸點間 Between Coil and contact	觸點間 Contact Point	AWG	mm <sup>2</sup>		
			V/S	V/S				
PTF-11A	10A	240VAC	2000	2000	20-16	0.5-1.5	0.7Nm	/
PTF-11B	12A	277VAC	2000	2000	20-16	0.5-1.5	0.7Nm	/

## 注意事项Points to note

### 关于使用: About using

对于动作指示灯内置型, 请在确认线圈极性后正确接线 (DC操作)

For Action Indicator built-in type, please connect correctly after confirming coil polarity (DC operation)

### 关于安装: About installation

无安装方向限制, 请尽量避免接点移动方向易受振动、冲击的安装方式

No installation direction limit, please try to avoid contact moving direction susceptible to vibration, impact of the installation

### 关于继电器的更换: ON REPLACEMENT OF RELAYS:

因维护等原因更换继电器时, 为防止继电器的误动作及触电事故, 请务必切断负载侧和继电器线圈的电源。

When changing the relay for maintenance and other reasons, please cut off the power supply of the load side and the relay coil in order to prevent misoperation and electric shock of the relay.

### 关于自锁旋转按钮: About the self-locking rotation button

操作自锁旋转按钮时, 请切断电源, 请务必在使用结束后返回原来的状态。

When operating the self-lock Button, please cut off the power supply, be sure to return to the original state after use.

请勿将自锁旋转按钮及手动测试按钮当作开关使用

Do not use self-lock button and manual test button as switch

自锁旋转按钮操作的耐久性为500次以上

Self-locking rotation button operation of the durability of more than 500 times