

20×10×11



## Features

- DIL pitch terminals. High sensitivity.
- Conforms to FCC Part 68 1.5kV surge and dielectric 1000VAC.
- High reliability bifurcated contact.
- Application for telecommunication equipment, office equipment, security alarm systems, measuring instruments, medical monitoring equipment, audio visual equipment, flight simulator, sensor control.

## Ordering Information

**M1B** 12 H W A

1 2 3 4 5

1 Part number: M1B  
 2 Coil rated voltage: DC:3:3V; 5:5V; 6:6V; 9:9V;  
 12:12V; 24:24V; 48:48V

3 Enclosure: H: Wash tight  
 4 Contact material: Nil: AgPd; W: AgNi  
 5 Nominal coil power: Nil:0.55W; A:0.4W

## Contact Data

Contact Arrangement		2C(DPDT(B-M)) (Bifurcated Crossbar)	
Contact Material		AgPd(Au plated) AgNi(Au plated)	
Contact Rating (Resistive)		0.01mA/10mV to 1A/24VDC; 0.5A/120VAC	
Max. Switching Power		60W 125VA	Min. Switching Load:0.01mA/10mV(Reference Value)
Max. Switching Voltage		220VDC 250VAC	Max. Switching Current:2A
Contact Resistance		≤50mΩ	Item 4.12 of IEC 61810-7
Operational Life	Electrical	1A/24VDC:5×10 <sup>5</sup> (Ag Ni:1×10 <sup>5</sup> ) 2A/30VDC:1×10 <sup>5</sup> 0.5A/120VAC:2×10 <sup>5</sup>	Item 4.30 of IEC 61810-7
	Mechanical	1×10 <sup>8</sup>	Item 4.31 of IEC 61810-7

### CAUTION:

Relays previously tested or used above 10mA resistive at 6V maximum (DC or peak AC) open circuit are not recommended for subsequent use in low level applications.

## Coil Parameter

Dash numbers	Coil voltage VDC		Coil resistance Ω ± 10%	Pick-up voltage VDC(max) (70% of rated voltage)	Drop-out voltage VDC(min) (10% of rated voltage)	Coil power W	Operate time ms	Release time ms
	Rated	Max.						
M1B-003	3	4.2	16	2.1	0.3	0.56	Approx. 4.5	Approx. 1.5
M1B-005	5	7.0	45	3.5	0.5	0.56		
M1B-006	6	8.4	66	4.2	0.6	0.55		
M1B-009	9	12.3	140	6.3	0.9	0.58		
M1B-012	12	17.4	280	8.4	1.2	0.52		
M1B-024	24	34.0	1070	16.8	2.4	0.54		
M1B-048	48	64.9	3900	33.6	4.8	0.59		
M1B-003A	3	4.9	22.5	2.1	0.3	0.4	Approx. 4.5	Approx. 1.5
M1B-005A	5	8.1	62.5	3.5	0.5	0.4		
M1B-006A	6	9.7	90	4.2	0.6	0.4		
M1B-009A	9	14.5	203	6.3	0.9	0.4		
M1B-012A	12	19.4	360	8.4	1.2	0.4		
M1B-024A	24	38.9	1440	16.8	2.4	0.4		
M1B-048A	48	77.8	5760	33.6	4.8	0.4		

- CAUTION:** 1.The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.  
 2.Pickup and release voltage are for test purposes only and are not to be used as design criteria.

## Characteristics

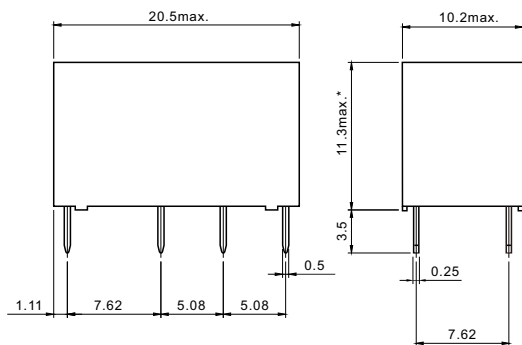
Electrostatic Capacitance		
Between Open Contacts	Approx.0.7pF	Item 4.41 of IEC 61810-7
Between Coil & Contacts	Approx.1.0pF	Item 4.41 of IEC 61810-7
Between Contact Poles	Approx.0.9pF	Item 4.41 of IEC 61810-7
Insulation Resistance	1000M $\Omega$ min (at 500VDC)	Item 4.11 of IEC 61810-7
Dielectric Strength		
Between Open Contacts	1000VAC 1min	Item 4.9 of IEC 61810-7
Between Coil & Contacts	1000VAC 1min	
Between Contact Poles	1000VAC 1min	
Surge Withstand Voltage		
Between Open Contacts	1500V	FCC 68
Between Coil & Contacts	1500V	
Between Contact Poles	1500V	
Shock Resistance	Functional:98m/s <sup>2</sup> 11ms; Destructive:980 m/s <sup>2</sup> 6ms	Item 4.26 of IEC 61810-7
Vibration Resistance	10Hz~55Hz Double amplitude Functional:1.5mm Destructive:5mm	Item 4.28 of IEC 61810-7
Terminals Strength	5N	Item 4.24 of IEC 61810-7
Temperature Range	-40°C~65°C (-40°F~149°F) (-40°C~70°C for 0.4W Coil)	
Mass	Approx. 4.8g	Item 4.7 of IEC 61810-7

## Safety Approvals

Safety approval	UL&CUR	TUV
Load	20A/30VDC;1A/24VDC; 0.5A/120VAC	1A/24VDC; 0.5A/120VAC

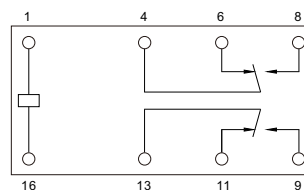
## Dimensions

mm

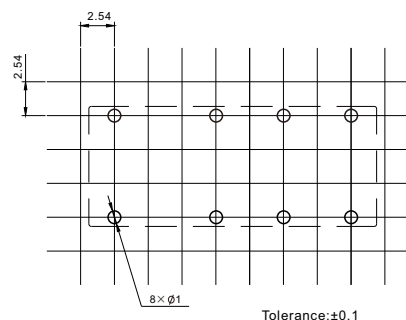


\*Note:12.3max. (48V, 0.4W)

Dimensions



Wiring diagram  
(Bottom view)



Mounting (Bottom view)

**CAUTION:** In case of no tolerance shown in outline dimension: outline dimension $\leq$ 1mm,tolerance should be $\pm$ 0.2mm ;  
outline dimension >1mm and  $\leq$ 5mm, tolerance should be $\pm$ 0.3mm; outline dimension >5mm, tolerance should be $\pm$ 0.4mm.

# FORWARD RELAYS

