



# M1B

**UL** E158859

20.0×9.8×11.0

## Features

- DIL Pitch Terminals .High Sensitivity ◦
- Conforms to FCC Part 68 1.5kV Surge and Dielectric 1000VAC ◦
- Fully sealed (immersion cleaning).
- 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 A W**  
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: Sealed Type

4 Nominal Coil Power: Nil:0.55W; A:0.4W

5 Contact Material: Nil: Ag·Pd; W: Ag·Ni

## Contact Data

Contact Arrangement	2C (DPDT(B-M)) (Bifurcated Crossbar)
Contact Material	Ag·Pd( Gold clad ) Ag·Ni(Gold clad)
Contact Rating (resistive)	1A/24VDC; 0.5A/120VAC
Max. Switching Power	60W 125VA <span style="float:right">Min. Switching load: 0.01mA/10mV (Reference Value)</span>
Max. Switching Voltage	220VDC 250VAC <span style="float:right">Max. Switching Current:2A</span>
Contact Resistance or Voltage drop	≤50mΩ <span style="float:right">Item 3.12 of IEC255-7</span>
Operation life	Electrical 1A/24VDC: $5 \times 10^5$ (Ag Alloy : $1 \times 10^5$ )
	0.5A/120VAC: $2 \times 10^5$ <span style="float:right">Item 3.30 of IEC255-7</span>
	Mechanical $10^8$ <span style="float:right">Item 3.31 of IEC255-7</span>

## CAUTION:

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

## Coil Parameter

Dash numbers	Coil voltage VDC		Coil resistance $\Omega \pm 10\%$	Pick up voltage VDC(max) (70% of rated voltage )	release 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		
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	<5	<3
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		
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	<5	<3
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.

**Characteristics**

Electrostatic capacitance		
Between open Contacts	Approx.0.7pF	Item 3.41 of IEC255-7
Between coil & Contacts	Approx.1.0pF	Item 3.41 of IEC255-7
Between Contact Poles	Approx.0.9pF	Item 3.41 of IEC255-7
Insulation Resistance	1000M $\Omega$ min (at 500VDC)	Item 7 of IEC255-5
Dielectric Strength		
Between open Contacts	1000VAC 1min	Item 6 of IEC255-5
Between coil & Contacts	1000VAC 1min	Item 6 of IEC255-5
Between Contact Poles	1000VAC 1min	Item 6 of IEC255-5
Surge Withstand Voltage		
Between open Contacts	1500V	FCC68
Between coil & Contacts	1500V	FCC68
Between Contact Poles	1500V	FCC68
Shock resistance	Functional:100m/s <sup>2</sup> 11ms; Survival:1000 m/s <sup>2</sup> 6ms	IEC68-2-27 Test Ea
Vibration resistance	10~55Hz Double amplitude Functional: 1.5mm Survival:5mm	IEC68-2-6 Test Fc
Terminals strength	5N	IEC68-2-21 Test Ua1
Solderability	235 $^{\circ}$ C $\pm$ 2 $^{\circ}$ C 3 $\pm$ 0.5s	IEC68-2-20 Test Ta method 1
Temperature Range	-40~65 $^{\circ}$ C (-40~149 $^{\circ}$ F) (-40~70 $^{\circ}$ C for 0.4W Coil)	
Mass	4.5g	

**Qualification inspection:**

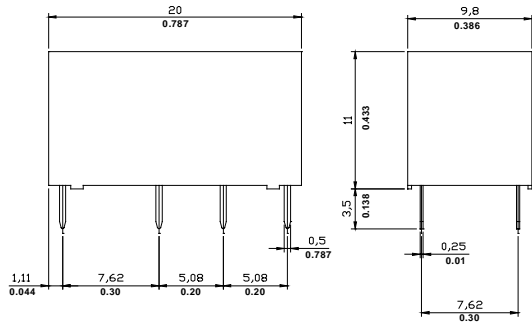
Perform the qualification test as specified in the table IV of IEC255-19-1 and minimum sample size24.

**Safety approvals**

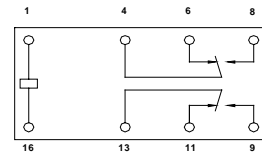
Safety approval	UL&CUR
Load	1A/24VDC 0.5A/125VAC

**Dimensions**

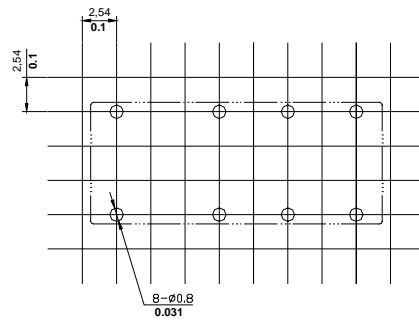
mm/inch



Dimensions



Wiring diagram  
(Bottom views)



Tolerance:  $\pm 0.1/\pm 0.004$   
Mounting (Bottom views)

NOTES 1).Dimensions are in millimeter.  
2).Inch equivalents are given for general information only.