

20×10×12

# M4



### 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

**M4 12 H A W**  
1 2 3 4 5

1 Part number: M4	3 Enclosure: H: Sealed Type
2 Coil rated voltage: DC:3:3V; 5:5V; 6:6V; 9:9V; 12:12V; 18:18V; 24:24V; 48:48V	4 Nominal coil power: Nil:0.15W; A:0.2W; M:0.45W 5 Contact material: Nil: AgPd; W: AgNi

### Contact Data

Contact Arrangement	2C (DPDT(B-M)) (Bifurcated Crossbar)	
Contact Material	AgPd( Gold clad ) AgNi(Gold clad)	
Contact Rating (resistive)	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 or Voltage drop	<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> ) 0.5A/120VAC: 2×10 <sup>5</sup> Item 4.30 of IEC 61810-7
	Mechanical	10 <sup>8</sup> Item 4.30 of IEC 61810-7

### 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 Ω ±10%	Pick up voltage VDC(max) (70% or 66%of rated voltage )	Release voltage VDC(min) (5% or 10% of rated voltage)	Coil power W	Operate Time ms	Release Time ms
	Rated	Max.						
M4-003	3	7.5	60	2.1	0.15	0.15	Approx. 4.5	Approx. 1.5
M4-005	5	12.5	167	3.5	0.25	0.15		
M4-006	6	15.0	240	4.2	0.3	0.15		
M4-009	9	22.5	540	6.3	0.45	0.15		
M4-012	12	30.0	960	8.4	0.6	0.15		
M4-018	18	40.0	1620	12.6	0.9	0.20		
M4-024	24	52.9	2880	16.8	1.2	0.20		
M4-048	48	84.9	7680	33.6	2.4	0.30		
M4-003A	3	6.5	45	2.1	0.3	0.2	Approx. 4.5	Approx. 1.5
M4-005A	5	10.8	125	3.5	0.5	0.2		
M4-006A	6	13.0	180	4.2	0.6	0.2		
M4-009A	9	19.5	405	6.3	0.9	0.2		
M4-012A	12	26.5	720	8.4	1.2	0.2		
M4-024A	24	52.9	2880	16.8	2.4	0.2		
M4-048A	48	103.9	11520	33.6	4.8	0.2		
M4-005M	5	7.7	56	3.3	0.5	0.45	Approx. 4.5	Approx. 1.5
M4-006M	6	9.2	80	4.0	0.6	0.45		
M4-009M	9	13.7	180	6.0	0.9	0.45		
M4-012M	12	18.3	320	8.0	1.2	0.45		
M4-018M	18	27.5	720	12.0	1.8	0.45		
M4-024M	24	36.7	1280	15.9	2.4	0.45		
M4-048M	48	72.5	5000	33.0	4.8	0.45		

- 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.
  - 3.Unless otherwise stated, the rated coil voltage specified in coil parameter table shall be used for all tests and its application to the relay.

## Characteristics

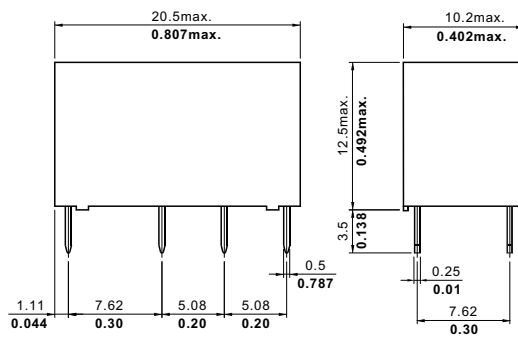
Electrostatic capacitance		
Between open Contacts	Approx.0.7pF	Item 4.41 of IEC 61810-7
Between coil & Contacts	Approx.1.0pF	Item 4.41 of IEC 61810-7
Between Contact Poles	Approx.0.9pF	Item 4.41 of IEC 61810-7
Insulation Resistance	1000M $\Omega$ min (at 500VDC)	Item 7 of IEC 60255-5
Dielectric Strength		
Between open Contacts	1000VAC 1min	Item 6 of IEC 60255-5
Between coil & Contacts	1000VAC 1min	Item 6 of IEC 60255-5
Between Contact Poles	1000VAC 1min	Item 6 of IEC 60255-5
Surge Withstand Voltage		
Between open Contacts	1500V	FCC 68
Between coil & Contacts	1500V	FCC 68
Between Contact Poles	1500V	FCC 68
Shock resistance	Functional:100m/s <sup>2</sup> 11ms; Survival:1000 m/s <sup>2</sup> 6ms	IEC 68-2-27 Test Ea
Vibration resistance	10Hz~55Hz Double amplitude Functional:1.5mm Survival:5mm	IEC 68-2-6 Test Fc
Terminals strength	5N	IEC 68-2-21 Test Ua1
Solderability	235 $\pm$ 2 $^{\circ}$ C 3s $\pm$ 0.5s	IEC 68-2-20 Test Ta method 1
Temperature Range	-40 $^{\circ}$ C~90 $^{\circ}$ C (-40 $^{\circ}$ F~194 $^{\circ}$ F) (-40 $^{\circ}$ C~80 $^{\circ}$ C for 0.3W,0.45W Coil)	
Mass	Approx. 4.5g	

## Safety approvals

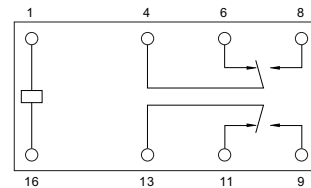
Safety approval	UL&CUR	TUV
Load	1A/24VDC 0.5A/120VAC	1A/24VDC、0.5A/120VAC

## Dimensions

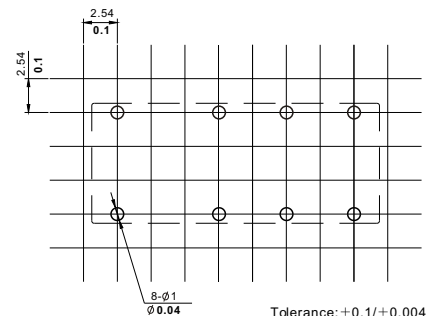
mm/inch



Dimensions

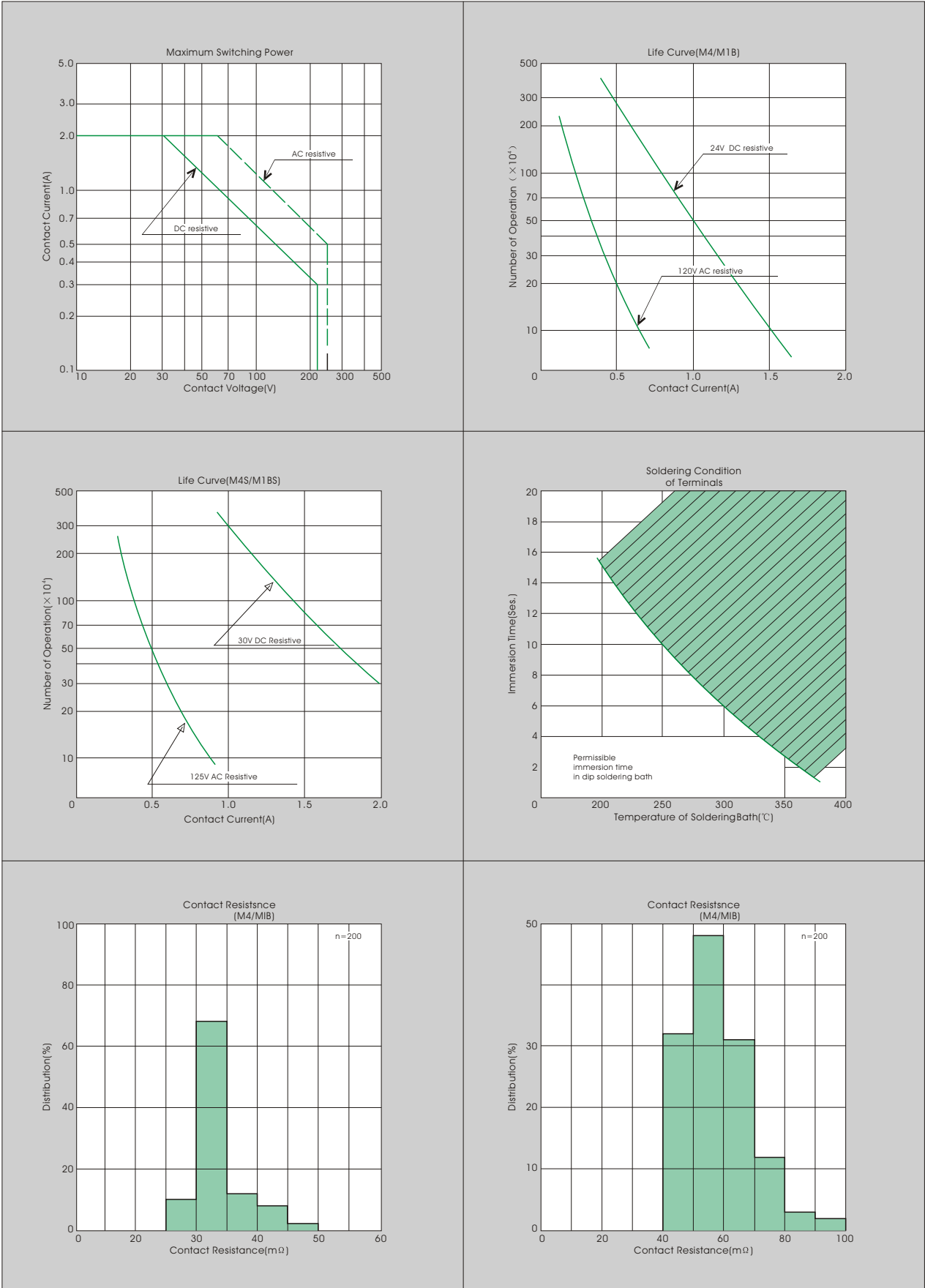


Wiring diagram  
(Bottom view)



Mounting (Bottom view)

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



# M4/M1B Series Data

