



20×10×12

# M4S

UL E158859 R50044268

Features	
<ul style="list-style-type: none"> <li>• DIL Pitch Terminals , High Sensitivity.</li> <li>• Conforms to FCC Part 68 1.5kV Surge and Dielectric 1000VAC.</li> <li>• Fully sealed (immersion cleaning).</li> <li>• High Reliability bifurcated Contact.</li> <li>• Application for Telecommunication Equipment, Office Equipment, Security Alarm Systems, Measuring instruments, Medical Monitoring Equipment, Audio Visual Equipment, Flight Simulator, Sensor Control.</li> </ul>	

Ordering Information	
<p><b>M4S</b> <u>12</u> <u>H</u> <u>A</u> <u>W</u></p> <p>1 2 3 4 5</p>	
1 Part number: M4S	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
	5 Contact material: W: AgNi

Contact Data	
Contact Arrangement	2C (DPDT(B-M))
Contact Material	AgNi(Gold clad)
Contact Rating (resistive)	1mA/10mV to 2A,3A/30VDC; 0.6A/125VAC
Max. Switching Power	90W 125VA Min. Switching load: 1mA/10mV (Reference Value)
Max. Switching Voltage	220VDC 250VAC Max. Switching Current:3A
Contact Resistance or Voltage drop	≤100mΩ Item 4.12 of IEC 61810-7
Operational life	Electrical 1 × 10 <sup>5</sup> Item 4.30 of IEC 61810-7
	Mechanical 10 <sup>8</sup> Item 4.31 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.

Dash numbers	Coil voltage VDC		Coil resistance Ω ± 10%	Pick up voltage VDC(max) (70% of rated voltage)	Release voltage VDC(min) (5% or 10% of rated voltage)	Coil power W	Operate Time ms	Release Time ms		
	Rated	Max								
M4S-003	3	7.5	60	2.1	0.15	0.15	Approx. 4.5	Approx. 1.5		
M4S-005	5	12.5	167	3.5	0.25	0.15				
M4S-006	6	15.0	240	4.2	0.3	0.15				
M4S-009	9	22.5	540	6.3	0.45	0.15				
M4S-012	12	30.0	960	8.4	0.6	0.15				
M4S-018	18	40.0	1620	12.6	0.9	0.20				
M4S-024	24	52.9	2880	16.8	1.2	0.20				
M4S-048	48	84.9	7680	33.6	2.4	0.30				
M4S-003A	3	6.5	45	2.1	0.3	0.2			Approx. 4.5	Approx. 1.5
M4S-005A	5	10.8	125	3.5	0.5	0.2				
M4S-006A	6	13.0	180	4.2	0.6	0.2				
M4S-009A	9	19.5	405	6.3	0.9	0.2				
M4S-012A	12	26.5	720	8.4	1.2	0.2				
M4S-024A	24	52.9	2880	16.8	2.4	0.2				
M4S-048A	48	103.9	11520	33.6	4.8	0.2				

**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	1000MΩ 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°C ± 2°C 3s ± 0.5s	IEC 68-2-20 Test Ta method 1
Temperature Range	-40°C~90°C (-40° F~194° F) (-40°C~80°C for 0.3W Coil)	
Mass	Approx. 4.5g	

Safety approvals		
Safety approval	UL&CUR	TUV
Load	2A,3A/30VDC 0.6A/125VAC	2A/30VDC, 0.6A/125VAC

### Dimensions

mm/inch

The technical drawings include:
 

- Dimensions:** A top view showing a rectangular component with dimensions: 20.5max (0.807max) in length, 10.2max (0.402max) in width, and 12.5max (0.492max) in height. Terminal spacing is 2.54mm (0.100in).
- Wiring diagram (Bottom view):** Shows a DPDT switch configuration with terminals 1, 4, 6, 8, 16, 13, 11, and 9.
- Mounting (Bottom view):** Shows the component on a grid with dimensions 2.54mm (0.100in) and 8.91mm (0.351in). Tolerance is ±0.1±0.004.

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

