

# OMI/OMIH series

## 16A Miniature Power PC Board Relay

Appliances, HVAC, Office Machines.

UL File No. E58304

CSA File No. LR48471

VDE File No. 6678

SEMKO File No. 9517235 (OMI)  
9143112 (OMIH)

### Features

- Meet UL 508, VDE0435 and SEMKO requirements.
- 1 Form A and 1 Form C contact arrangements.
- Immersion cleanable, sealed version available.
- Meet 5,000V dielectric voltage between coil and contacts.
- Meet 10,000V surge voltage between coil and contacts (1.2 / 50µs).

### Contact Data @ 20°C

**Arrangements:** 1 Form A (SPST-NO) and 1 Form C (SPDT).

**Material:** Ag Alloy (OMI), AgSnO (OMIH).

**Max. Switching Rate:** 300 ops./min. (no load).  
30 ops./min. (rated load).

**Expected Mechanical Life:** 10 million operations (no load).

**Expected Electrical Life:** 100,000 operations (rated load).

**Minimum Load:** 100mA @ 5VDC.

**Initial Contact Resistance:** 100 milliohms @ 1A, 6VDC.

### Contact Ratings

**Ratings: OMI:** 10A @ 240VAC resistive,  
10A @ 30VDC resistive,  
3A @ 240VAC inductive (cosφ= 0.4),  
3A @ 30VDC inductive (L/R=7msec).

**OMIH:** 16A @ 240VAC resistive,  
16A @ 30VDC resistive,  
4A @ 240VAC inductive (cosφ= 0.4),  
4A @ 24VDC inductive (L/R=7msec).

**Max. Switched Voltage: AC:** 250V.  
**DC:** 30V.

**Max. Switched Current:** 10A (OMI), 16A (OMIH).

**Max. Switched Power: OMI:** 2,400VA, 300W.  
**OMIH:** 3,800VA, 480W.

### Initial Dielectric Strength

**Between Open Contacts:** 1,000VAC 50/60 Hz. (1 minute).

**Between Coil and Contacts:** 5,000VAC 50/60 Hz. (1 minute).

**Surge Voltage Between Coil and Contacts:** 10,000V (1.2 / 50µs).

### Initial Insulation Resistance

**Between Mutually Insulated Elements:** 1,000M ohms min. @ 500VDCM.

### Coil Data

**Voltage:** 3 to 48VDC.

**Nominal Power:** 720 mW (OMI-D), 540mW (OMI-L).

**Coil Temperature Rise:** 45°C max., at rated coil voltage.

**Max. Coil Power:** 130% of nominal.

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

OMI/OMIH-L Sensitive				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	126.5	17	2.25	0.30
5	106.4	47	3.75	0.50
6	88.0	68	4.50	0.60
9	58.0	155	6.75	0.90
12	44.4	270	9.00	1.20
24	21.8	1,100	18.00	2.40
48	10.9	4,400	36.00	4.80
OMI/OMIH-D Standard				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	240.0	12.5	2.10	0.30
5	138.9	36	3.50	0.50
6	120.0	50	4.20	0.60
9	78.3	115	6.30	0.90
12	60.0	200	8.40	1.20
24	29.3	820	16.80	2.40
48	14.5	3,300	33.60	4.80

### Operate Data

**Must Operate Voltage:**

**OMI/OMIH-D:** 70% of nominal voltage or less.

**OMI/OMIH-L:** 75% of nominal voltage or less.

**Must Release Voltage:** 5% of nominal voltage or more.

**Operate Time: OMI/OMIH-D:** 15 ms max.

**OMI/OMIH-L:** 20 ms max.

**Release Time:** 8 ms max.

### Environmental Data

**Temperature Range:**

**Operating: OMI/OMIH-D:**

-30°C to +55°C

**OMI/OMIH-L:**

-30°C to +70 °C

**Vibration, Mechanical:** 10 to 55 Hz., 1.5mm double amplitude

**Operational:** 10 to 55 Hz., 1.5mm double amplitude.

**Shock, Mechanical:** 1,000m/s<sup>2</sup> (100G approximately).

**Operational:** 100m/s<sup>2</sup> (10G approximately).

**Operating Humidity:** 20 to 85% RH. (Non-condensing).

### Mechanical Data

**Termination:** Printed circuit terminals.

**Enclosure (94V-0 Flammability Ratings):**

**OMI/OMIH-SS:** Vented (Flux-tight) plastic cover.

**OMI/OMIH-SH:** Sealed plastic case.

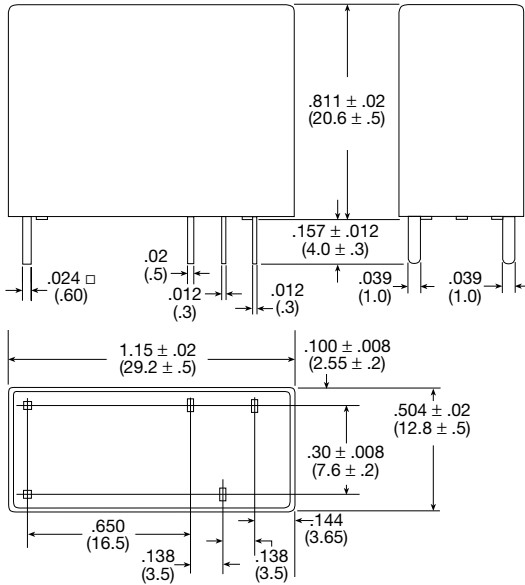
**Weight:** 0.46 oz (13g) approximately.

**Ordering Information**

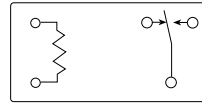
<b>Typical Part Number ▶</b>		<b>OMI</b>	<b>-SS</b>	<b>-1</b>	<b>24</b>	<b>L</b>	<b>M</b>
<b>1. Basic Series:</b> OMI = 10A rating      OMIH = 16A rating							
<b>2. Enclosure:</b> SS = Vent (Flux-tight)* plastic cover. SH = Sealed, plastic case.							
<b>3. Termination:</b> 1 = 1 pole							
<b>4. Coil Voltage:</b> 03 = 3VDC      06 = 6VDC      12 = 12VDC      48 = 48VDC 05 = 5VDC      09 = 9VDC      24 = 24VDC							
<b>5. Coil Input:</b> D = Standard (720mW)      L = Sensitive (540mW)							
<b>6. Contact Arrangement:</b> Blank = 1 Form C, SPDT      M = 1 Form A, SPST-NO							

\* Not suitable for immersion cleaning processes.

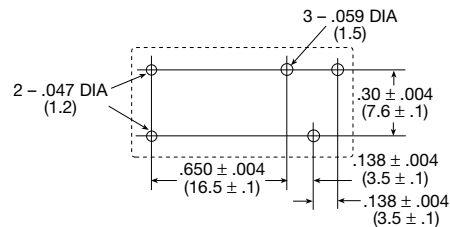
**Outline Dimensions**



**Wiring Diagram (Bottom View)**

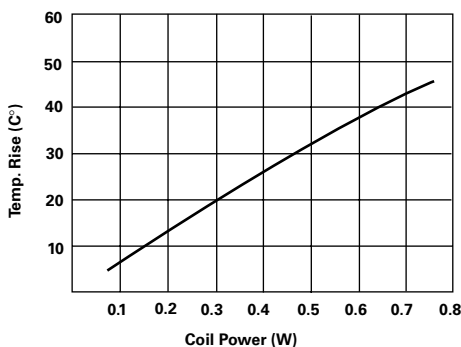


**PC Board Layout (Bottom View)**

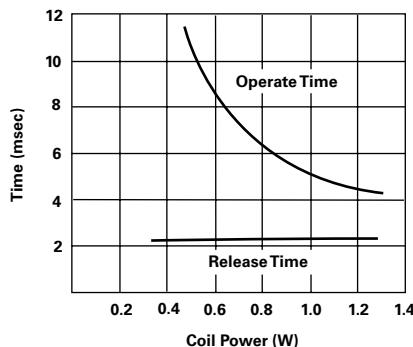


**Reference Data**

**Coil Temperature Rise**



**Operate Time**



**Life Expectancy**

