

# OUDH series

## 10 Amp Miniature, Sealed PC Board Relay

Appliances, HVAC, Office Machines.

UL File No. E58304

CSA File No. LR48471

### Features

- Low profile miniature power relay
- High density available on PC board due to small size.
- 450mW coil available.
- Meets 2kV dielectric between coil and contacts.
- Meets 5kV surge voltage.
- Immersion cleanable, sealed version available.

### Contact Data @ 20°C

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

**Material:** Ag Alloy.

**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:** 10A @ 120VAC resistive,  
10A @ 28VDC resistive,  
1/4 HP @ 120VAC.

3A @ 120VAC inductive (cosφ= 0.4),  
3A @ 28VDC inductive (L/R= 7msec).

**Max. Switched Voltage:** AC: 240V.  
DC: 110V.

**Max. Switched Current:** 10A.

**Max. Switched Power:** 1,200VA, 300W.

### Initial Dielectric Strength

**Between Open Contacts:** 750VAC 50/60 Hz. (1 minute).

**Between Coil and Contacts:** 2,000VAC 50/60 Hz. (1 minute).

**Surge Voltage Between Coil and Contacts:** 5,000V (1.2/50μs).

### Initial Insulation Resistance

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

### Coil Data

**Voltage:** 3 to 48VDC.

**Nominal Power:** 450mW except 48VDC coil (660mW)

**Coil Temperature Rise:** 60°C max., at rated coil voltage.

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

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

OUDH				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	150.0	20	2.25	0.30
6	75.0	80	4.50	0.60
9	50.0	180	6.75	0.90
12	37.5	320	9.00	1.20
24	20.9	1,280	18.00	2.40
48	13.7	3,500	36.00	4.80

### Operate Data

**Must Operate Voltage:** 75% of nominal voltage or less.

**Must Release Voltage:** 10% of nominal voltage or more.

**Operate Time:** 10 ms max.

**Release Time:** 5 ms max.

### Environmental Data

**Temperature Range:**

**Operating:** -30°C to +60°C

(no water condensation and no water drop.)

**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.

### Mechanical Data

**Termination:** Printed circuit terminals.

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

**OUDH-SS:** Vented (Flux-tight), plastic cover.

**OUDH-SH:** Sealed, plastic case.

**Weight:** 10g approximately.

**Ordering Information**

Typical Part Number ▶

**OUDH -SH -1 12 D M**

**1. Basic Series:**

OUDH = Miniature, sealed PC board relay.

**2. Enclosure:**

SS = Vented (Flux-tight)\* plastic cover.  
SH = Sealed, plastic case.

**3. Termination:**

1 = 1 pole

**4. Coil Voltage:**

03 = 3VDC      09 = 9VDC      24 = 24VDC  
06 = 6VDC      12 = 12VDC      48 = 48VDC

**5. Coil Input:**

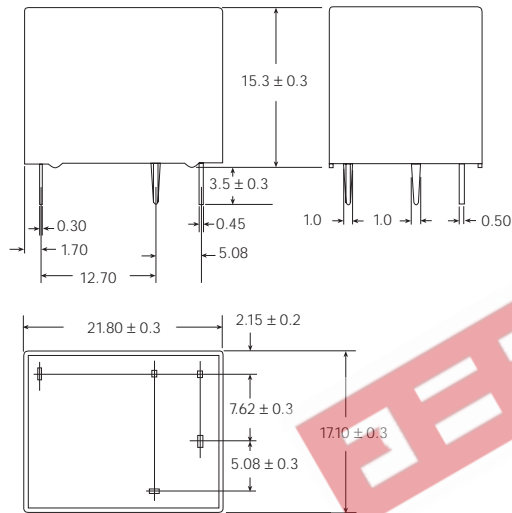
D = Standard

**6. Contact Arrangement:**

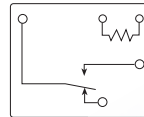
Blank = 1 Form C, SPDT      M = 1 Form A, SPST-NO

\* Not suitable for immersion cleaning processes.

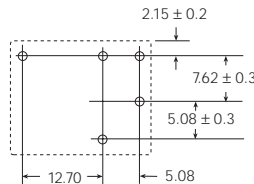
**Outline Dimensions**



**Wiring Diagram (Bottom View)**

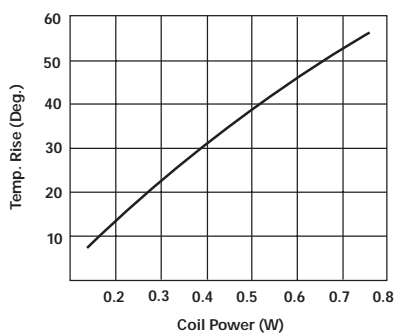


**PC Board Layout (Bottom View)**

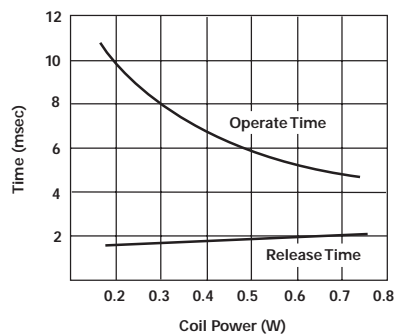


**Reference Data**

**Coil Temperature Rise**



**Operate Time**



**Life Expectancy**

