

731



### »» Features

- 10A general purpose Power Relay.
- Both available 0.25 and 0.187 terminals.
- SPDT, DPDT, TPDT contact configurations.
- AC & DC coils are both available.
- Optional for anti-rotation tab, tapped core, indicator lamp & push-to-test button, flanged cover.
- Comply with RoHS-Directive 2002/95/EC.

### »» Type List

#### ◆ 731

Terminal style	Contact form	Enclosure style				
		Open type	Dust cover	Ears on cover	Antirotation -tab	Ears on top
Quick terminal	1A (SPNO)	731-SPNO	731-SPNO-C	731-SPNO-C1	731-SPNO-C2	731-SPNO-C3
	1C (SPDT)	731-SPDT	731-SPDT-C	731-SPDT-C1	731-SPDT-C2	731-SPDT-C3
	2A (DPNO)	731-DPNO	731-DPNO-C	731-DPNO-C1	731-DPNO-C2	731-DPNO-C3
	2C (DPDT)	731-DPDT	731-DPDT-C	731-DPDT-C1	731-DPDT-C2	731-DPDT-C3
	3A (TPNO)	731-TPNO	731-TPNO-C	731-TPNO-C1	731-TPNO-C2	731-TPNO-C3
	3C (TPDT)	731-TPDT	731-TPDT-C	731-TPDT-C1	731-TPDT-C2	731-TPDT-C3

#### ◆ 731H

Terminal style	Contact form	Enclosure style		
		Dust cover	Ears on cover	Ears on top
Quick terminal	1A (SPNO)	731H-SPNO-C	731H-SPNO-C1	731H-SPNO-C3
	1C (SPDT)	731H-SPDT-C	731H-SPDT-C1	731H-SPDT-C3
	2A (DPNO)	731H-DPNO-C	731H-DPNO-C1	731H-DPNO-C3
	2C (DPDT)	731H-DPDT-C	731H-DPDT-C1	731H-DPDT-C3
	3A (TPNO)	731H-TPNO-C	731H-TPNO-C1	731H-TPNO-C3
	3C (TPDT)	731H-TPDT-C	731H-TPDT-C1	731H-TPDT-C3

### »» Ordering Information

731 H - TPDT - C M - F  
 1 2 3 4 5 6

- |  |  |
|--|--|
| <p>1. 731 -- Basic series designation</p> <p>2. Blank -- Standard type<br/>H -- High power type</p> <p>3. SPDT -- Single pole double throw<br/>SPNO -- Single pole normally open<br/>SPNC -- Single pole normally closed</p> | <p>DPDT -- Double pole double throw</p> <p>DPNO -- Double pole normally open</p> <p>DPNC -- Double pole normally closed</p> <p>TPDT -- Three pole double throw</p> <p>TPNO -- Three pole normally open</p> <p>TPNC -- Three pole normally closed</p> |
|--|--|

- |          |   |          |                                    |
|----------|---|----------|------------------------------------|
| 4. Blank | -- Open type without frame tab                          | 5. M     | -- With manual operator            |
| C        | -- With cover   | T        | -- Printed circuit board terminals |
| C1       | -- With mounting ears on cover                          | L        | -- Pilot lamp                      |
| C2       | -- With accessible mounting hole with anti-rotation tab | 6. Blank | -- Standard type                   |
| C3       | -- Mounting Ears on top of cover                        | F        | -- Class F                         |
| X        | -- Open type with frame tab                             |          |                                    |

### »» Contact Rating

	731	731H 1P · 2P	731H 3P
Resistive load	10A 28VDC	20A 300VAC	16A 300VAC
	10A 240VAC	25A 277VAC	20A 277VAC

### »» Coil Rating (DC)

Rated voltage (V)	Rated current ±10 % at 23°C (mA)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 70°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage
6	188	32	140 % of rated voltage	75 % of rated voltage	10 % of rated voltage	approx. 1.2W
12	100	120				
24	51	472				
48	27	1800				
110	11	10000				
120	12	10000				

### »» Coil Rating (AC)

Rated voltage (V)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 70°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage	
SP DP	12	21	110 % of rated voltage	85 % of rated voltage	30 % of rated voltage	approx. 2.0VA
	24	85				
	110	1700				
	115	1700				
	120	2250				
	220	7200				
	230	7200				
	240	9110				

## »» Coil Rating (AC)

Rated voltage (V)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	Max. continuous voltage at 70°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage	
TP	12	18	110 % of rated voltage	85 % of rated voltage	30 % of rated voltage	approx. 2.7VA
	24	72				
	110	1300				
	115	1300				
	120	1700				
	220	5600				
	230	5600				
	240	7200				

## »» Specification

Contact material	AgSnO alloy	
Contact resistance <sup>(1)</sup>	50 m $\Omega$ Max. (for 731)	100 m $\Omega$ Max. (for 731H)
Operate time <sup>(1)</sup>	20 ms Max.	
Release time <sup>(1)</sup>	20 ms Max.	
Insulation resistance <sup>(1)</sup>	1000 M $\Omega$ Min. (DC 500V)	
Dielectric strength <sup>(1)</sup>	Between open contact	: AC 500V , 50/60Hz 1 min. (for 731) : AC 1000V , 50/60Hz 1 min. (for 731H)
	Between contact and coil	: AC 1500V , 50/60Hz 1 min. (for 731) : AC 2500V , 50/60Hz 1 min. (for 731H)
	Between contact circuits	: AC 1500V , 50/60Hz 1 min. (for 731) : AC 2500V , 50/60Hz 1 min. (for 731H)
Vibration resistance	Operating extremes	10~55Hz , amplitude 1.0 mm
	Damage limits	10~55Hz , amplitude 1.5 mm
Shock resistance	Operating extremes	10G
	Damage limits	100G
Life expectancy	Mechanical	10,000,000 operations (frequency 18,000 ops./hr)
	Electrical	100,000 operations (frequency 1,200 ops./hr) (for 731) 50,000 operations (frequency 360 ops./hr) (for 731H)
Operating ambient temperature	-45~+70°C (no freezing) (for 731)	
	AC coil : -45~+55°C (no freezing) (for 731H)	
	DC coil : -45~+65°C (no freezing)	
Weight	Approx. 79.2 g	

Note : (1) initial value.

### »» Safety Approval

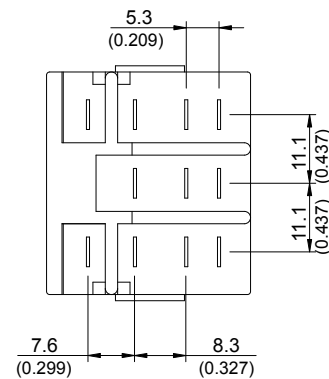
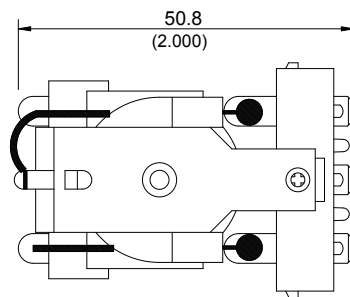
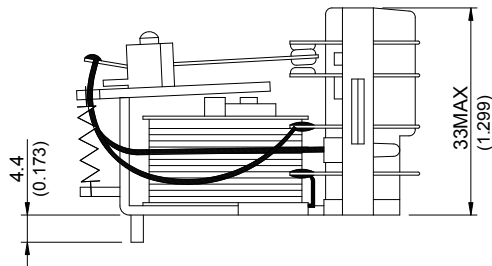
Certified	731			731H
	UL	CSA	FIMKO	UL / CUL
File No.	E88991	1663800	23797	E88991

### »» Safety Approval Rating

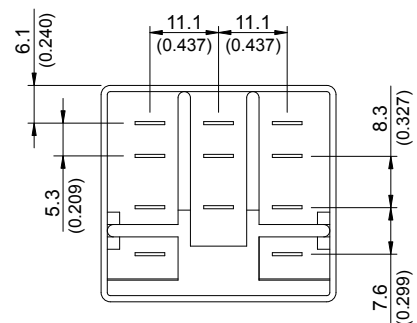
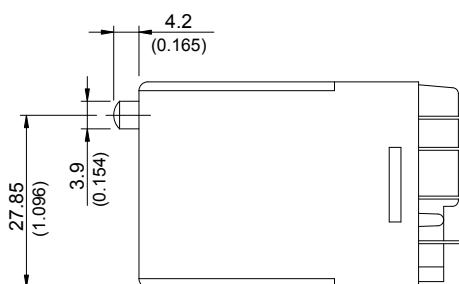
731		731H 1P · 2P	731H 3P
UL · CSA	FIMKO	UL / CUL	
10A 240VAC	10A 250VAC	20A 300VAC	16A 300VAC
10A 28VDC		25A 277VAC	20A 277VAC
1/3HP 120VAC		1.5HP 240VAC	1.5HP 240VAC
1/2HP 240VAC		1HP 120VAC	1HP 120VAC

### »» Outline Dimensions

#### ◆ 731 OPEN

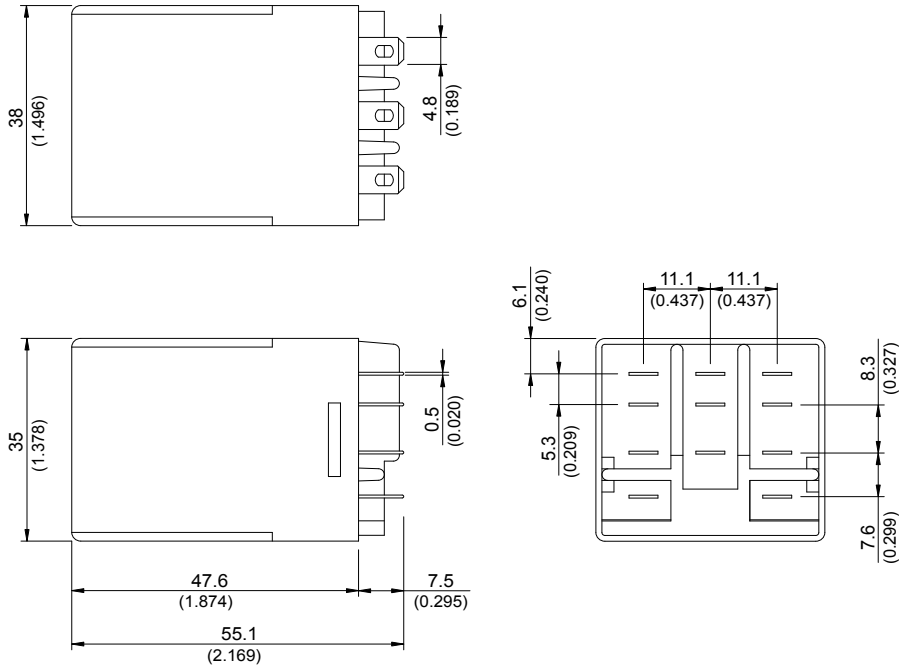


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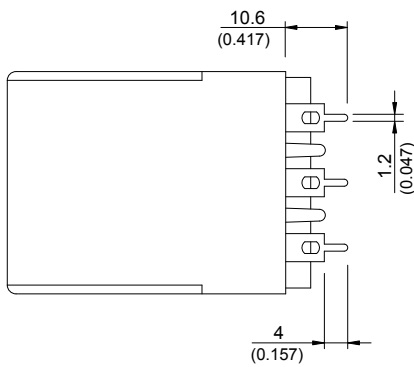


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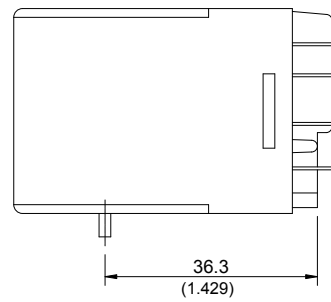
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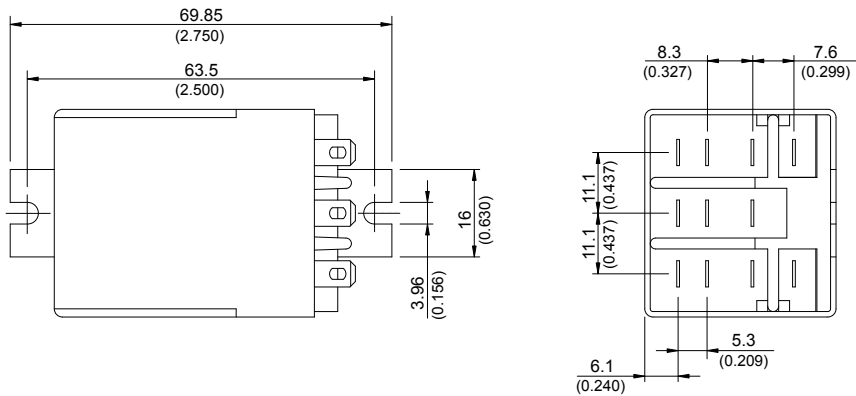
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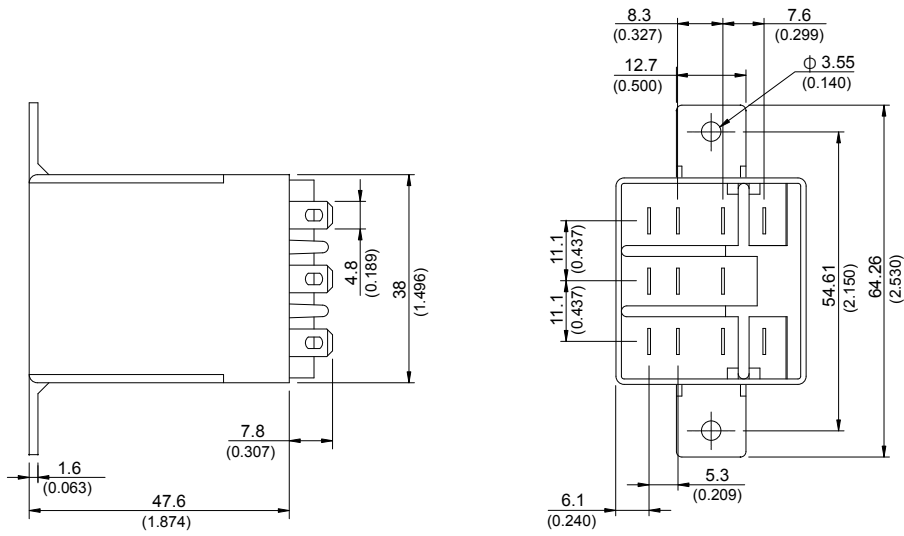
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◆ 731 C1

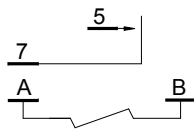


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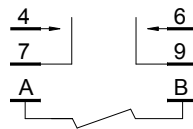


»» Wiring Diagram  
BOTTOM VIEW

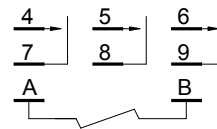
SPNO



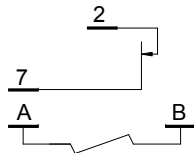
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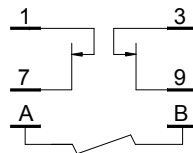
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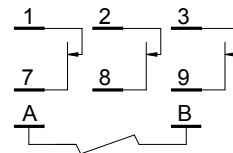
SPNC



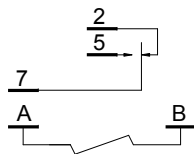
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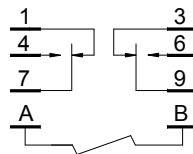
TPNC



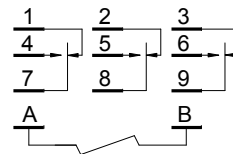
SPDT



DPDT

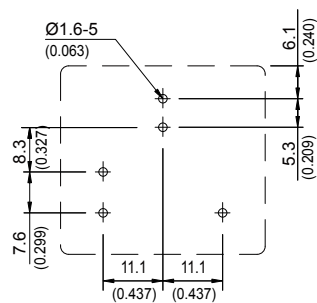


TPDT

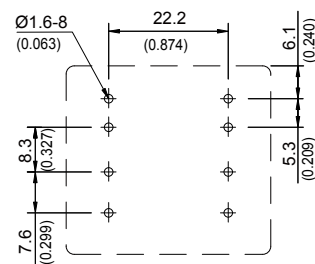


»» PC Board Layout  
BOTTOM VIEW

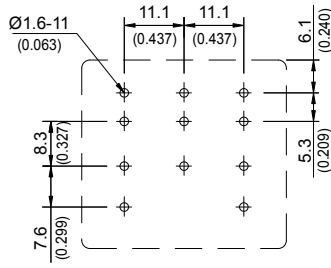
1P



2P

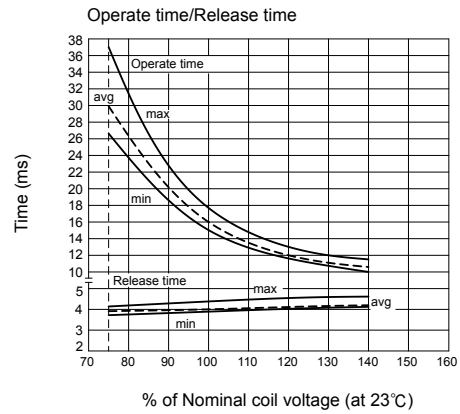
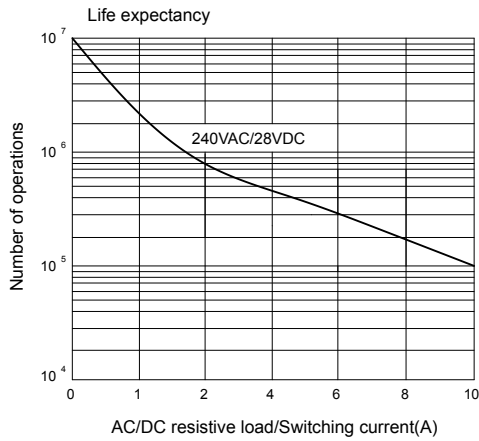
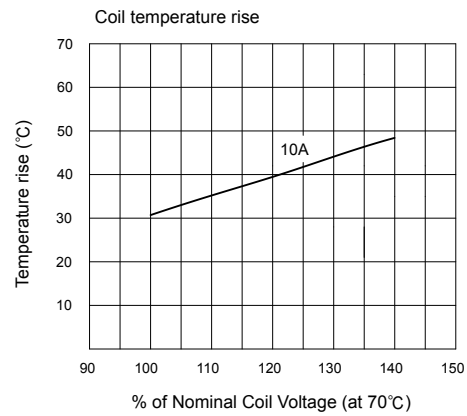
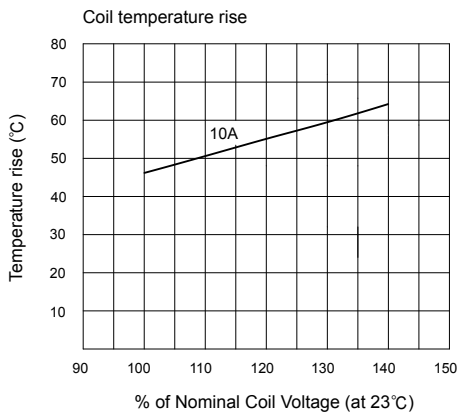


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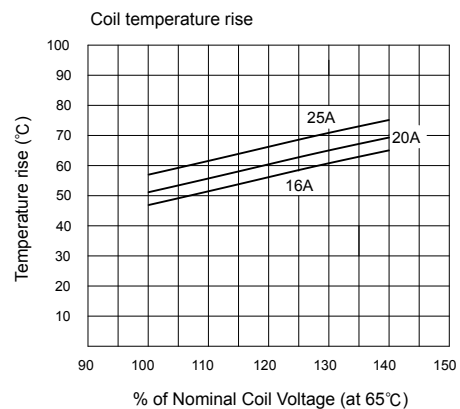
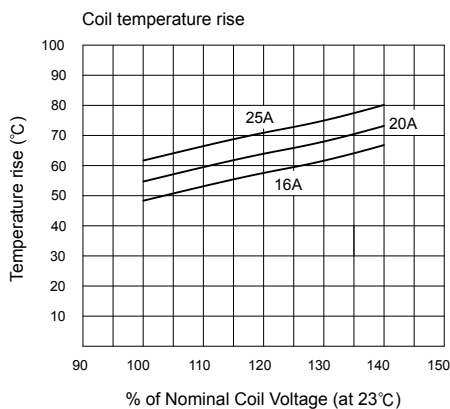


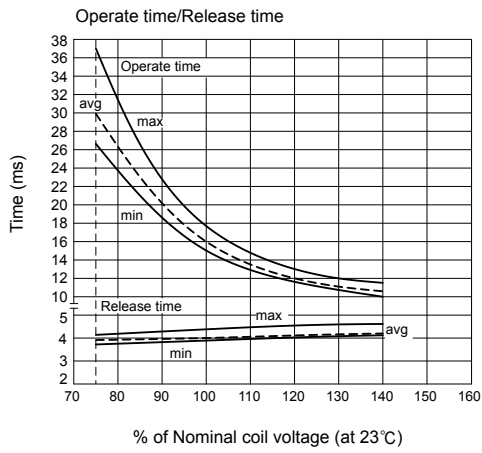
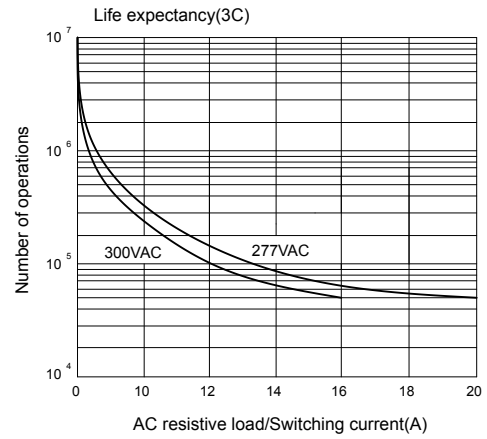
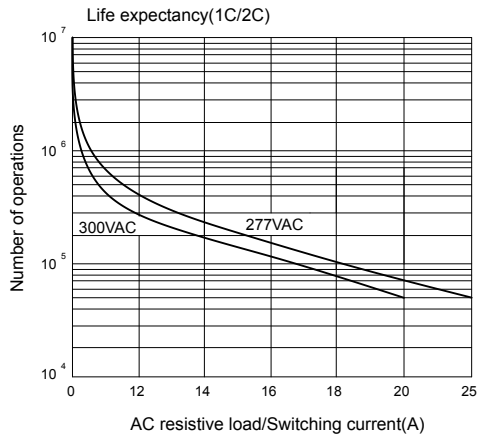
## »» Engineering Data

◆ 731



◆ 731 H







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