

## »» Features



- 20A/25A general purpose Power Relays.
- SPDT, DPDT, TPDT contact configurations.
- DC & AC coils are both available.
- Optional for flange covers, tapped core w/anti-rotation tab, indicator lamp, push-to-test button, PCB terminals
- Comply with RoHS-Directive 2002/95/EC.

## »» Type List

### ◆ Standard Type

Terminal style	Contact form	Enclosure style				
		Open type	Dust cover	Ears on cover	Antirotation-tab	Ears on top
Quick terminal	1A (SPNO)	735-1A	735-1A-C	735-1A-C1	735-1A-C2	735-1A-C3
	1B (SPNC)	735-1B	735-1B-C	735-1B-C1	735-1B-C2	735-1B-C3
	1C (SPDT)	735-1C	735-1C-C	735-1C-C1	735-1C-C2	735-1C-C3
	2A (DPNO)	735-2A	735-2A-C	735-2A-C1	735-2A-C2	735-2A-C3
	2B (DPNC)	735-2B	735-2B-C	735-2B-C1	735-2B-C2	735-2B-C3
	2C (DPDT)	735-2C	735-2C-C	735-2C-C1	735-2C-C2	735-2C-C3
	3A (TPNO)	735-3A	735-3A-C	735-3A-C1	735-3A-C2	735-3A-C3
	3B (TPNC)	735-3B	735-3B-C	735-3B-C1	735-3B-C2	735-3B-C3
	3C (TPDT)	735-3C	735-3C-C	735-3C-C1	735-3C-C2	735-3C-C3
PCB terminal	1A (SPNO)	-----	735-1A-C-T	-----	-----	-----
	1B (SPNC)	-----	735-1B-C-T	-----	-----	-----
	1C (SPDT)	-----	735-1C-C-T	-----	-----	-----
	2A (DPNO)	-----	735-2A-C-T	-----	-----	-----
	2B (DPNC)	-----	735-2B-C-T	-----	-----	-----
	2C (DPDT)	-----	735-2C-C-T	-----	-----	-----
	3A (TPNO)	-----	735-3A-C-T	-----	-----	-----
	3B (TPNC)	-----	735-3B-C-T	-----	-----	-----
	3C (TPDT)	-----	735-3C-C-T	-----	-----	-----

### ◆ High Power Type

Terminal style	Contact form	Insulation system	Enclosure style	
			Dust cover	Ears on cover
Quick terminal	1A (SPNO)	F	735H-1A-F-C	735H-1A-F-C1
	1B (SPNC)		735H-1B-F-C	735H-1B-F-C1
	1C (SPDT)		735H-1C-F-C	735H-1C-F-C1
	2A (DPNO)		735H-2A-F-C	735H-2A-F-C1
	2B (DPNC)		735H-2B-F-C	735H-2B-F-C1
	2C (DPDT)		735H-2C-F-C	735H-2C-F-C1

### Ordering Information

735 H - 2C - F - C1 - M  
 1 2 3 4 5 6

- |          |                                |          |   |
|----------|--------------------------------|----------|---|
| 1. 735   | -- Basic series designation    | 4. Blank | -- Standard type  |
|          |                                | F        | -- Class F  |
| 2. Blank | -- Standard type               | 5. Blank | -- Open type  |
| H        | -- High power type             | C        | -- With cover   |
| 3. 1A    | -- Single pole normally open   | C1       | -- With mounting ears on cover                          |
| 1B       | -- Single pole normally closed | C2       | -- With accessible mounting hole with anti-rotation tab |
| 1C       | -- Single pole double throw    | C3       | -- Mounting ears on top of cover                        |
| 2A       | -- Double pole normally open   |          |   |
| 2B       | -- Double pole normally closed |          |   |
| 2C       | -- Double pole double throw    | 6. Blank | -- No special feature                                   |
| 3A       | -- Three pole normally open    | M        | -- With manual operator                                 |
| 3B       | -- Three pole normally closed  | T        | -- Printed circuit board terminals                      |
| 3C       | -- Three pole double throw     | L        | -- Pilot lamp   |

### Contact Rating

TYPE	735		735H
	1A, 1B, 1C, 2A, 2B, 2C	3A, 3B, 3C	
Resistive load	20A 240VAC 15A 28VDC	20A 120VAC 15A 240VAC/28VDC	30A 240VAC 15A 28VDC

### Coil Rating (DC)

#### ◆ Standard Type

	Rated voltage (V)	Rated current ±10 % at 23°C (mA)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 50°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage
SP DP	6	188	32	160 % of rated voltage	80 % of rated voltage	10 % of rated voltage	approx. 1.2W
	12	100	120				
	24	51	472				
	48	27	1800				
	110	11	10000				
	125	12.5	10000				
TP	6	250	24	160 % of rated voltage	80 % of rated voltage	10 % of rated voltage	approx. 1.5W
	12	125	96				
	24	63	384				
	48	31	1536				
	110	11.5	9600				
	125	13	9600				



## ◆ High Power Type

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	Max. continuous voltage at 55°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage
6	188	32	160 % of rated voltage	80 % of rated voltage	10 % of rated voltage	approx. 1.2W
12	100	120				
24	51	472				
48	27	1800				
110	11	10000				
125	12.5	10000				

## »» Coil Rating (AC)

## ◆ Standard Type

Rated voltage (V)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	Max. continuous voltage at 50°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage	
SP DP	6	4.2	130 % of rated voltage	85 % of rated voltage	30 % of rated voltage	approx. 3.0VA
	12	18				
	24	72				
	110	1580				
	120	1700				
	220	5850				
TP	6	3.9	130 % of rated voltage	85 % of rated voltage	30 % of rated voltage	approx. 3.4VA
	12	14.5				
	24	64				
	110	1450				
	120	1540				
	220	5850				
240	6750					

## ◆ High Power Type

Rated voltage (V)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	Max. continuous voltage at 55°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage
6	4.2	130 % of rated voltage	85 % of rated voltage	30 % of rated voltage	approx. 3.4VA
12	18				
24	72				
110	1580				
120	1700				
220	5850				
240	7200				

## »» Specification

Contact material	AgSnO alloy	
Contact resistance <sup>(1)</sup>	50 mΩ Max. (for 735) , 100 mΩ Max. (for 735H)	
Operate time <sup>(1)</sup>	25 ms Max.	
Release time <sup>(1)</sup>	20 ms Max.	
Insulation resistance <sup>(1)</sup>	1000 MΩ Min. (DC 500V)	
Dielectric strength <sup>(1)</sup>	Between open contact	: AC 1000V, 50/60Hz 1 min. (for 735) : AC 1500V, 50/60Hz 1 min. (for 735H)
	Between contact and coil	: AC 1600V, 50/60Hz 1 min. (for 735) : AC 3000V, 50/60Hz 1 min. (for 735H)
	Between contact circuits	: AC 1600V, 50/60Hz 1 min. (for 735) : AC 3000V, 50/60Hz 1 min. (for 735H)
Vibration resistance	Operating extremes	10~55Hz, amplitude 2.0 mm
	Damage limits	10~55Hz, amplitude 2.0 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 735)
		NO: 30,000 operations NC: 10,000 operations (frequency 360 ops./hr) (for 735H)
Operating ambient temperature	-30~+50°C (no freezing) (for 735) -30~+55°C (no freezing) (for 735H)	
Weight	Approx. 80 g	

Note : (1) initial value

## »» Safety Approval

Certified	735			735H
	UL	CSA	FIMKO	UL / CUL
File No.	E88991	1664125	14426	E88991

## »» Safety Approval Rating (FIMKO)

735 1A, 1B, 1C	735 2A, 2B, 2C	735 3A, 3B, 3C
25A 250VAC	25A 250VAC	20A 250VAC

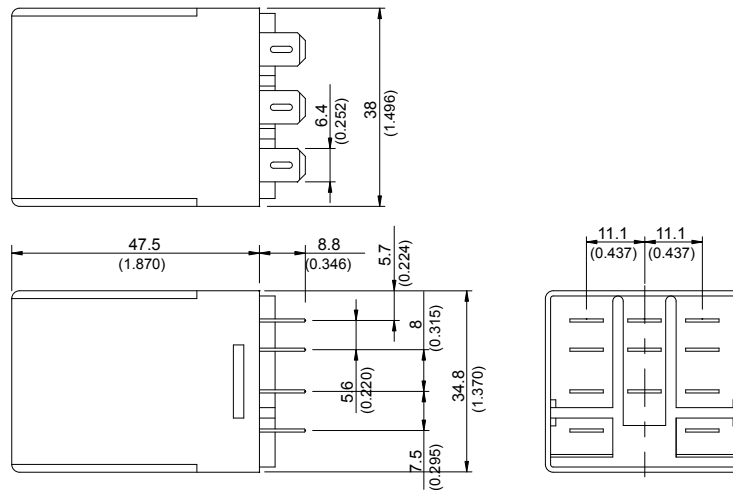
## »» Safety Approval Rating(UL、CSA)

UL			CSA		
735 1A, 1B, 1C	735 2A, 2B, 2C	735 3A, 3B, 3C	735 1A, 1B, 1C	735 2A, 2B, 2C	735 3A, 3B, 3C
25A 28VDC	20A 28VDC	15A 28VDC	30A 277VAC	25A 277VAC	20A 277VAC
25A 277VAC	25A 277VAC	20A 277VAC	10A 600VAC	10A 600VAC	15A 28VDC
10A 600VAC	10A 600VAC	3/4HP 120VAC	25A 28VDC	20A 28VDC	3/4HP 120VAC
1.5HP 240VAC	1.5HP 240VAC	1HP 240VAC	1.5HP 240VAC	1.5HP 240VAC	1HP 240VAC
1HP 120VAC	1HP 120VAC		1HP 120VAC	1HP 120VAC	

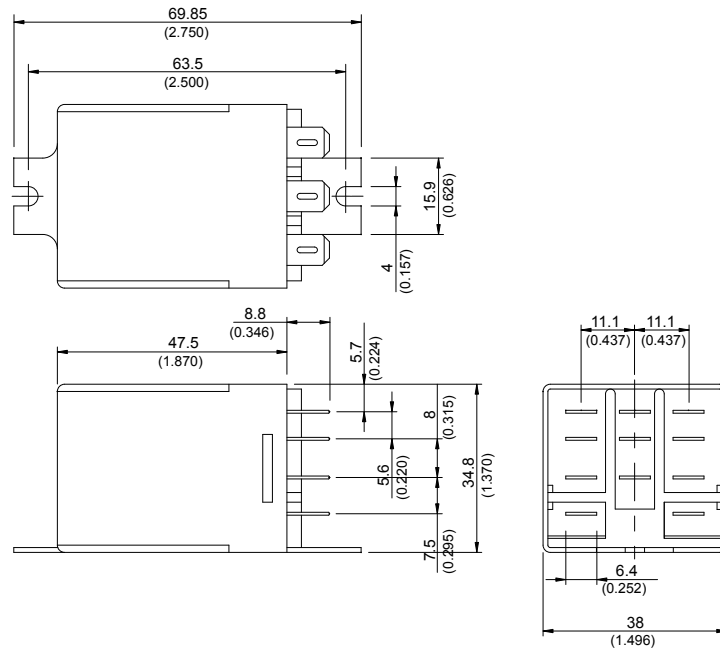
UL / CUL	
735H 1A, 1B, 1C	735H 2A, 2B, 2C
30A 277VAC	30A 277VAC
25A 28VDC	20A 28VDC
10A 600VAC	10A 600VAC
1.5HP 240VAC	1.5HP 240VAC
1HP 120VAC	1HP 120VAC

### »» Outline Dimensions

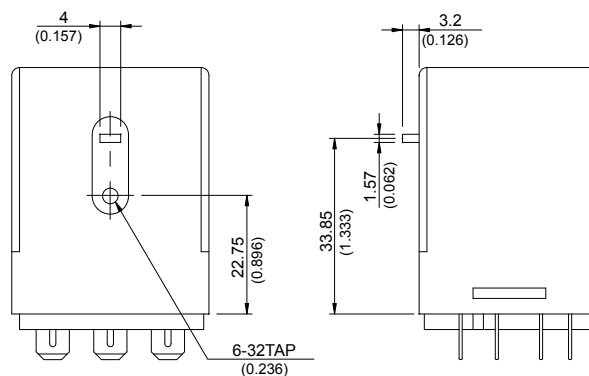
#### ◆ 735 C



#### ◆ 735 C1

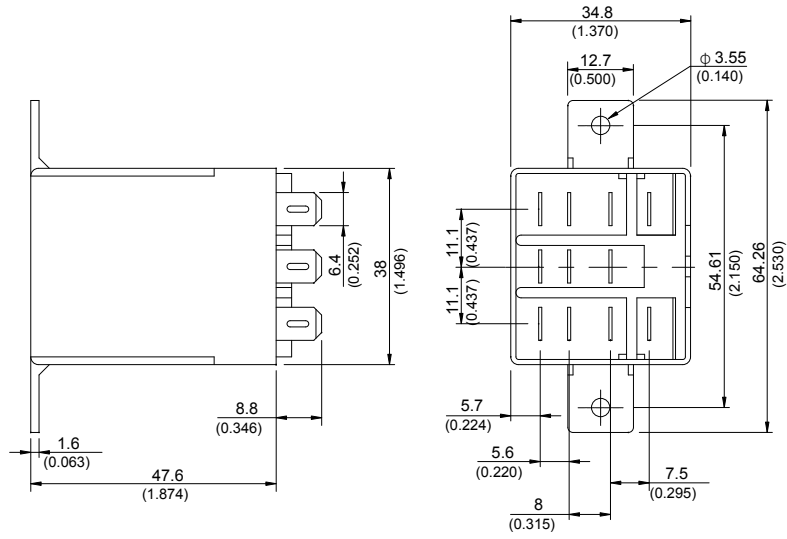


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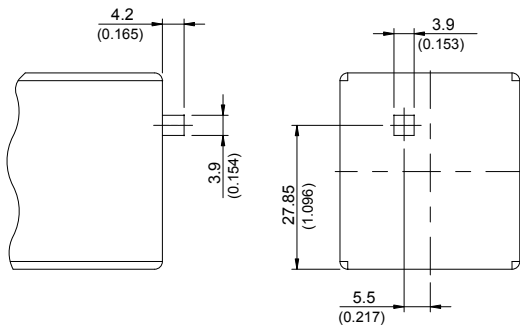


# 735

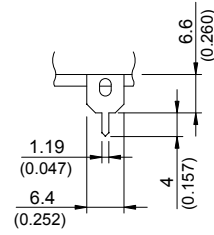
◆ 735 C3



◆ 735 M

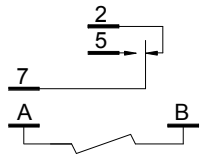


◆ 735 T

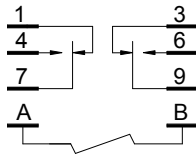


»» Wiring Diagram  
BOTTOM VIEW

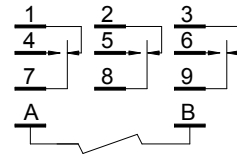
1C



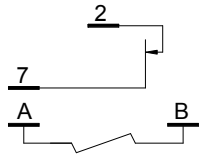
2C



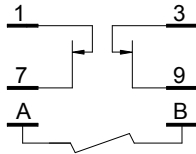
3C



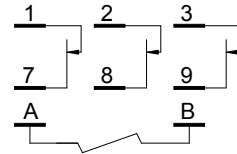
1B



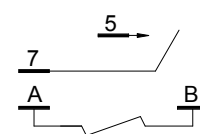
2B



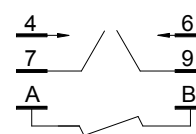
3B



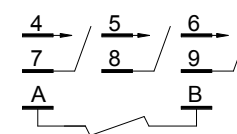
1A



2A

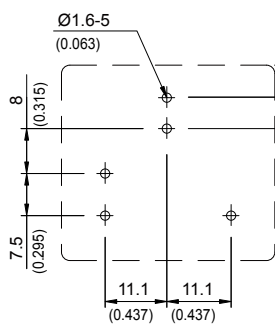


3A

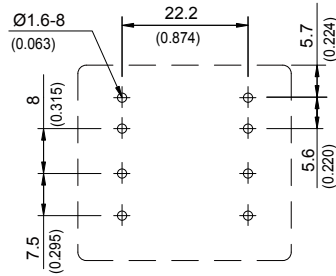


## »» PC Board Layout BOTTOM VIEW

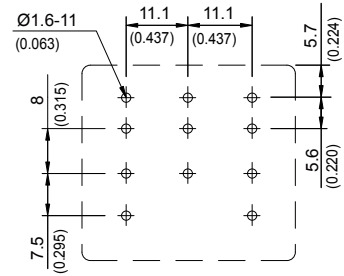
1P



2P



3P



## »» Engineering Data

