

## DESCRIPTION

The CUP Series has become a standard in the European relay market due to its versatile switch and schematic options. The staggered pin layout gives more space and allows for higher isolation from pin to pin on the PC board when compared to 1.0"x0.1" relays. Designers have a choice between three switch technologies, the ruthenium sputtered DYAD, the all position mercury wetted MYAD, and the vertically mounting high performance MH4 contact. There is a choice between plastic and metal covers, as well as non-encapsulated types for lower capacitance. The CUPV models offer high input to output isolation and are BS EN 60950 approved.



### FEATURES

- Standard nominal coil voltages include 5, 12, and 24 volts
- Available with plastic and metal can housings
- Designed to meet the most stringent telecommunications specifications on a worldwide basis
- Ideal for optional high isolation between input and output (up to 4000Vrms)

### APPLICATIONS

- Telecom
- Process control
- General purpose electronics
- Industrial
- Security

## SPECIFICATIONS

### CUP C,P

Parameters	Conditions	Switch Type 6 All Position Wetted Contacts MYAD			Switch Type 5 Wetted Contacts MH4			Switch Type 1 Dry Reed DYAD			Units
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
<b>Contact Ratings</b>											
Switching Voltage 0	Max DC/PeakAC Resistive			500			1000			200	Volts
Switching Current	Max DC/PeakAC Resistive			2			2			0.75	Amps
Carry Current	Max DC/PeakAC Resistive			3			4			2	Amps
Contact Rating	Max DC/PeakAC Resistive			50			50			10	Watts
Life Expectancy	Signal Level 1.0V 10mA Rated Loads <sup>1</sup>		300			2000			500		x10 <sup>6</sup>
Static Contact Resistance	50mV, 10mA			100						200	x10 <sup>6</sup> mOhms
Contact Material			Hg			Hg			Ru		
Hg Content			16			40			N/A		mgrams
<b>Relay Specifications</b>											
Insulation Resistance	Across Open Contacts Contact to Coil	10 <sup>8</sup> 10 <sup>10</sup>			10 <sup>8</sup> 10 <sup>10</sup>			10 <sup>10</sup> 10 <sup>10</sup>			Ohms Ohms
Capacitance	Across Open Contacts		1.5	2		12	2.5		1	1.5	pF
	Open Contact to Coil		3.5	3.8		2			2.5	3	pF
	Closed Contact to Coil		7.5	8		5	2.5		5	5.5	pF
Dielectric Strength	Across Open Contacts Contacts to Coil	1400 2800			2000 2800			350 2800			VDC/Peak VDC/Peak
Operate Time (no bounce) (bounce included-CUP1)	At Nominal Coil Voltage 10Hz Square Wave		1.6	2.7					0.55	1 <sup>(2)</sup>	ms
Release Time	Zener-Diode Suppression		1.4	1.75		1.5			0.5	1.3	ms
<b>Environmental Ratings</b>											
Storage Temperature		-40		+105	-40		+105	-40		+105	°C
Operating Temperature		-38		+75	-38		+75	-40		+85	°C
Soldering Temperature				+260			+260			+260	°C
Vibration Resistance (survival)	Applied to pins, 5sec. max 10Hz - 500Hz			10			10			20	Gs
	5Hz - 2000Hz (Sw type 1)										Gs
Shock Resistance (survival)	11+/- 1ms, 1/2 Sine Wave			30			30			50	Gs
Weight			6.5			6.6			3.8		grams
Weight (2A2B/5A)			13.8			16.7			15.8		grams

<sup>1</sup>Consult factory for life requirements

<sup>2</sup>1.5msec. maximum for 4&5 form A relays, 1.5msec. maximum for 5 form A, 2 form B and 2A2B relays

## COIL SPECIFICATIONS

	Contact Form	Coil Voltage			Coil Resistance			Operate Voltage			Release Voltage		
Units		Volts			Ohms			Volts			Volts		
Conditions					+/- 10% (25°C)			Must operate by (25°C)			Must release by (25°C)		
Part #		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
CUPC011A105	1 Form A		5	12	126	140	154			3.5	0.28		
CUPC001A112	1 Form A		12	29	769	855	940			8.4	0.7		
CUPC001A124	1 Form A		24	57	2956	3285	3613			16.8	1.4		
CUPC002A105 <sup>1</sup>	1 Form A		5	9	63	70	77			3.5	0.25		
CUPC002A112	1 Form A		12	23	400	445	489			8.4	0.65		
CUPC002A124	1 Form A		24	45	1530	1700	1870			16.8	1.30		
CUPC001A505	1 Form A		5	11	94	105	115			3.5	0.5		
CUPC001A512	1 Form A		12	26	558	620	682			8.4	1.2		
CUPC001A524	1 Form A		24	39	1260	1400	1540			16.8	1.9		
CUPC002A505 <sup>2</sup>	1 Form A		5	9	63	70	77			3.5	0.5		
CUPC002A512	1 Form A		12	23	378	420	462			8.4	1.3		
CUPC002A524	1 Form A		24	35	972	1080	1188			16.8	2.2		
CUPP011A105	1 Form A		5	12	126	140	154			3.5	0.28		
CUPP001A112	1 Form A		12	29	769	855	940			8.4	0.7		
CUPP001A124	1 Form A		24	57	2956	3285	3613			16.8	1.4		
CUPP002A105 <sup>1</sup>	1 Form A		5	9	63	70	77			3.5	0.25		
CUPP002A112	1 Form A		12	23	400	445	489			8.4	0.65		
CUPP002A124	1 Form A		24	45	1530	1700	1870			16.8	1.30		
CUPP001A505	1 Form A		5	11	94	105	115			3.5	0.5		
CUPP001A512	1 Form A		12	26	558	620	682			8.4	1.2		
CUPP001A524	1 Form A		24	39	1260	1400	1540			16.8	1.9		
CUPP002A505 <sup>2</sup>	1 Form A		5	9	63	70	77			3.5	0.5		
CUPP002A512	1 Form A		12	23	378	420	462			8.4	1.3		
CUPP002A524	1 Form A		24	35	972	1080	1188			16.8	2.2		

<sup>1</sup>Other contact forms available: 1A, 2A, 3A, 4A, 5A, 1B, 2B, 1A1B, 2A2B, 1L(Latch)

<sup>2</sup>Other contact forms available: 1A, 2A, 3A, 5A, 1B

## ORDERING INFORMATION

A complete part number is represented by the digits below

CUP X XXXX X XX

Series

Package

C = Metal cover, no encapsulation  
P = Metal cover fully sealed

Contact Form

001A = 1 Form A    001B = 1 Form B  
002A = 2 Form A    002B = 2 Form B  
003A = 3 Form A    1A1B = 1 Form A, 1 Form B  
004A = 4 Form A    2A2B = 2 Form A, 2 Form B  
005A = 5 Form A    001L = 1 Form A latching

Nominal Voltage

05 = 5V  
12 = 12V  
24 = 24V  
48 = 48V

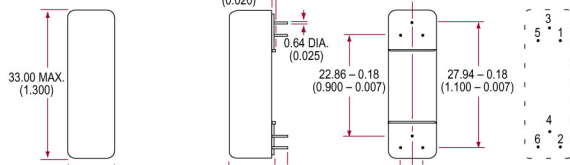
Switch Type

1 = DYAD : dry reed  
5 = MH4: wetted position sensitive  
6 = MYAD: all position wetted reed

## MECHANICAL DIMENSIONS

Dimensions in mm (inches)

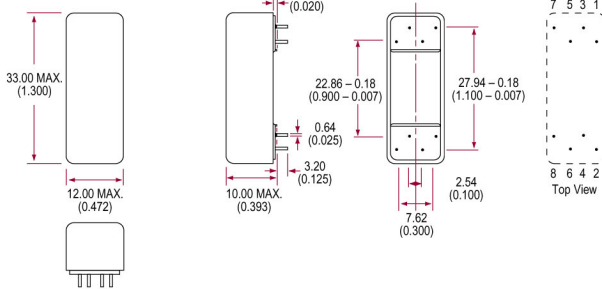
CUP C/CUP P 1A



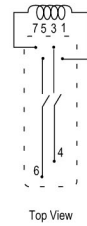
CUP C/CUP P 1A



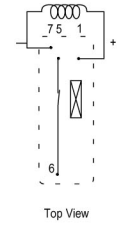
CUP C/CUP P 2A/1B/1A(Latch)



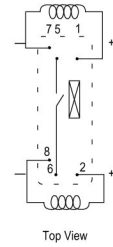
UP C/CUP P 2A



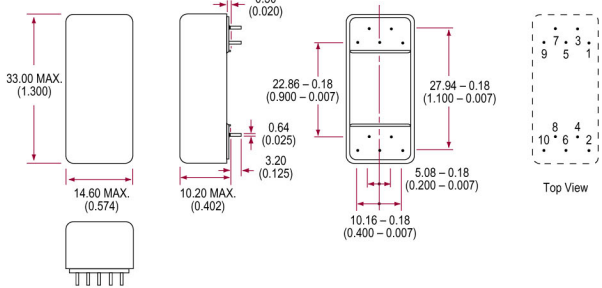
CUP C/CUP P 1B



CUP C/CUP P 1A(Latch)



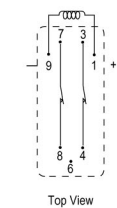
CUP C/CUP P 1A1B/2B/3A



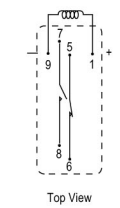
CUP C/CUP P 3A



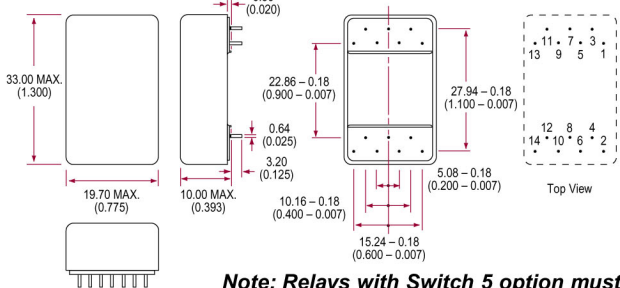
CUP C/CUP P 2B



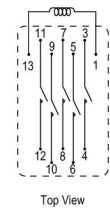
CUP C/CUP P 1A1B



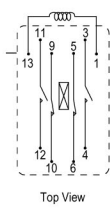
CUP P 5A/2A2B



CUP P 5A



CUP P 2A2B



Note: Relays with Switch 5 option must be mounted vertically  $\pm 30^\circ$ .