

HR96

Small 1-pole 3-10A relay

Features

- High electrical noise immunity
- Up to 10A switching capacity in a compact package
- Dielectric strength 4,000V, surge strength 8,000V
- Sensitive 200mW and standard 450mW available



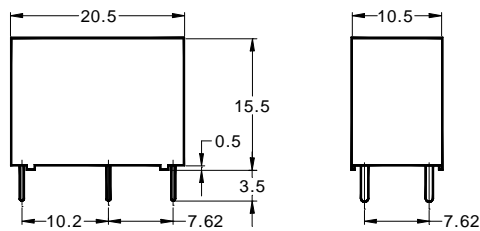
Applications

- Home appliances, Industrial control.

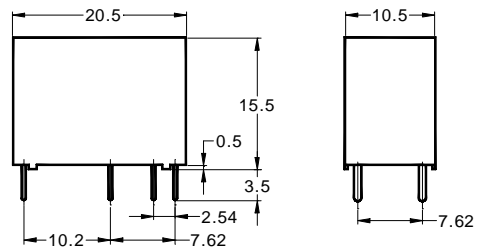
Dimensions (mm)

To convert into inches, multiply by 0.03937

HR96A (1 Form A)



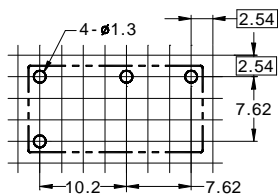
HR96C (1 Form C)



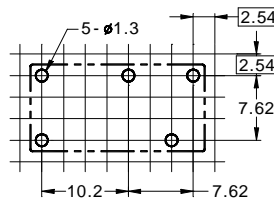
PC Board Layout

Copper-side view

HR96A (1 Form A)



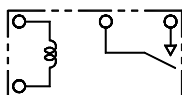
HR96C (1 Form C)



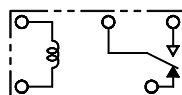
Schematic

Copper-side view

HR96A (1 Form A)



HR96C (1 Form C)



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Contact data

Arrangement	1 Form A (SPST)	1 Form C (SPDT)	
Contact material	Ag Alloy		
Initial contact resistance	100m Ω max.		
Rated load, resistive		NO	NC
	5A 30VDC 10A 125VAC 5A 250VAC	5A 30VDC 10A 125VAC 5A 250VAC	3A 30VDC 5A 125VAC 3A 250VAC
Maximum carry current	10A	10A	5A
Maximum switching capacity	with DC voltage: 150W with AC voltage: 1,250VA	150W 1,250VA	90W 750VA
Maximum switching voltage	110VDC 250VAC		

Coil data

Nominal voltage	3VDC to 24VDC
Nominal power consumption ¹⁾	200mW, 450mW
Operate voltage ²⁾	75% of nominal voltage
Release voltage ³⁾	5% of nominal voltage

^{1), 2), 3)}The values depend on coil voltage, see Part selection chart

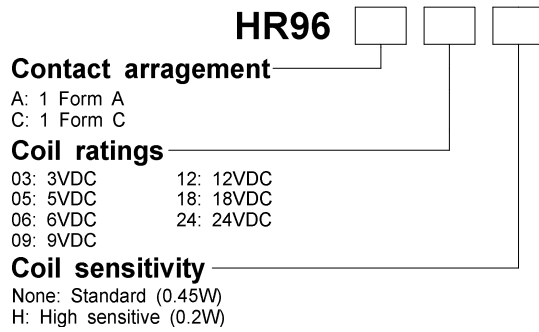
General data

Operate time	8ms max. at nominal voltage
Release time	5ms max. at nominal voltage
Initial insulation resistance	1,000 M Ω min. (500VDC)
Dielectric strength	Between open contacts: 1,000VAC _{rms} for 1 minute Between contacts and coil: 4,000VAC _{rms} for 1 minute
Surge strength	Between contacts and coil: 8,000V
Expected life	Mechanical: More than 10,000,000 operations Electrical: More than 100,000 operations at rated load
Vibration resistance	Functional: 10~55Hz dual amplitude: 1.5mm Destructive: 10~55Hz dual amplitude: 1.5mm
Shock resistance	Functional: 10G min. Destructive: 100G min.
Ambient temperature	-40°C to +70°C (with no icing)
Humidity	35% to 85% RH
Weight	6g approx.

Note: The above figures are initial values

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Part number description



Part number description is provided for reference, part number cannot be arbitrarily composed. Refer to the part numbers shown in the table below. Special designs to customer specifications are possible; please contact HR.

Part selection

Part number	Nominal voltage (VDC)	Coil resistance ($\Omega \pm 10\%$)	Nominal current (mA)	Must operate voltage (VDC)	Must release voltage (VDC)	Max voltage (VDC)	Nominal power (mW)
Standard coil, 1 Form A							
HR96A 03	3	20	150	2.25	0.15	3.3	450
HR96A 05	5	56	90.0	3.75	0.25	5.5	
HR96A 06	6	80	75.0	4.5	0.3	6.6	
HR96A 09	9	180	50.0	6.75	0.45	9.9	
HR96A 12	12	320	37.5	9	0.6	13.2	
HR96A 18	18	720	25.0	13.5	0.9	19.8	
HR96A 24	24	1,280	18.75	18	1.2	26.4	
Sensitive coil, 1 Form A							
HR96A 03H	3	45	66.7	2.25	0.15	3.3	200
HR96A 05H	5	125	40.0	3.75	0.25	5.5	
HR96A 06H	6	180	33.3	4.5	0.3	6.6	
HR96A 09H	9	400	22.5	6.75	0.45	9.9	
HR96A 12H	12	720	16.7	9	0.6	13.2	
HR96A 18H	18	1,600	11.2	13.5	0.9	19.8	
HR96A 24H	24	2,800	8.57	18	1.2	26.4	

Note: All values in the chart are measured at 23°C

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Part number	Nominal voltage (VDC)	Coil resistance ($\Omega \pm 10\%$)	Nominal current (mA)	Must operate voltage (VDC)	Must release voltage (VDC)	Max voltage (VDC)	Nominal power (mW)
Standard coil, 1 Form C							
HR96C 03	3	20	150	2.25	0.15	3.3	450
HR96C 05	5	56	90.0	3.75	0.25	5.5	
HR96C 06	6	80	75.0	4.5	0.3	6.6	
HR96C 09	9	180	50.0	6.75	0.45	9.9	
HR96C 12	12	320	37.5	9	0.6	13.2	
HR96C 18	18	720	25.0	13.5	0.9	19.8	
HR96C 24	24	1,280	18.75	18	1.2	26.4	
Sensitive coil, 1 Form C							
HR96C 03H	3	45	66.7	2.25	0.15	3.3	200
HR96C 05H	5	125	40.0	3.75	0.25	5.5	
HR96C 06H	6	180	33.3	4.5	0.3	6.6	
HR96C 09H	9	400	22.5	6.75	0.45	9.9	
HR96C 12H	12	720	16.7	9	0.6	13.2	
HR96C 18H	18	1,600	11.2	13.5	0.9	19.8	
HR96C 24H	24	2,800	8.57	18	1.2	26.4	

Note: All values in the chart are measured at 23°C