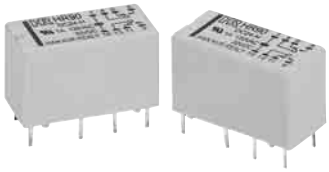
HR90

RoHS 대응품

Universal 2 changeover signal switching relay



Features

- High reliability due to bifurcated contacts
- Surge voltage 1,500V according to FCC part68
- Dielectric strength 1,000V between same pole contacts
- DIL pitch terminal
- Perfectly sealed package construction

Approvals

UL

CUL

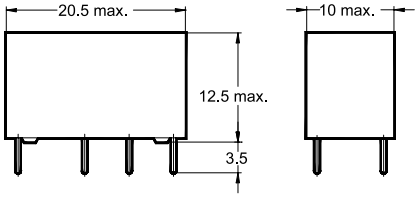
TUV

Applications

- Telecommunication network equipment
- Microcomputer system
- Measurement and control
- Entertainment and medical equipment

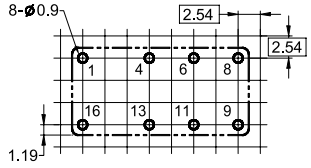
Dimensions (mm)

To convert into inches, multiply by 0.03937



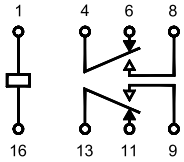
PC Board Layout

Copper-side view



Schematic

Copper-side view



Contact data

Arrangement		2 Form C (DPDT)
Contact material		Gold clad alloy
Initial contact resistance		50mΩ max.
Rated load, resistive		1A 24VDC 1A 120VAC
Maximum switching current		2A
Maximum switching capacity	with DC voltage: with AC voltage:	60W 120VA
Maximum switching voltage		220VDC 250VAC
Minimum switching rating[1)]		1mA 5VDC

[1)] Min. Switching Load mentioned above are reference values. Therefore it is recommended to perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

Coil data

Nominal voltage	3VDC to 48VDC
Nominal power consumption[2)]	150mW , 200mW , 360mW
Operate voltage[3)]	75% of nominal voltage
Release voltage[4)]	10% of nominal voltage

[2), 3), 4)] The values depend on coil voltage, see Part selection chart

General data

Operate time		6ms max. at nominal voltage
Release time		4ms max. at nominal voltage
Initial insulation resistance		100 MΩ min. (500VDC)
Dielectric strength	Between open contacts: Between contacts and coil:	1,000VAC$_{rms}$ for 1 minute 1,000VAC$_{rms}$ for 1 minute
Surge strength	Between contacts and coil:	1,500V (according to FCC part68)
Expected life	Mechanical: Electrical:	More than 100,000,000 operations More than 100,000 operations at rated load
Vibration resistance	Functional: Destructive:	10 ~ 55Hz Dual amplitude: 1.5mm 10 ~ 55Hz Dual amplitude: 1.5mm
Shock resistance	Functional: Destructive:	10G min. 100G min.
Ambient temperature		– 40˚C to + 70˚C (with no icing)
Humidity		45% to 85% RH
Weight		5g approx.

Note: The above figures are initial values

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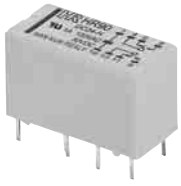
Part number description



HR90 □ - □

Coil voltage

DC03: 3VDC
DC05: 5VDC
DC06: 6VDC
DC09: 9VDC
DC12: 12VDC
DC24: 24VDC
DC48: 48VDC (400mW)

Coil sensitivity

None: Standard (360mW)
H: Sensitive (200mW)
U: High Sensitive (150mW)

Part number description is provided for reference, part number can not 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 (Ω ± 10%)	Nominal current (mA)	Must operate voltage (VDC)	Must release voltage (VDC)	Max voltage (VDC)	Nominal power (mW)
Standard coil							
HR90 DC03	3	25	120	2.25	0.3	3.3	360
HR90 DC05	5	70	71.4	3.75	0.5	5.5	
HR90 DC06	6	100	60.0	4.50	0.6	6.6	
HR90 DC09	9	225	40.0	6.75	0.9	9.9	
HR90 DC12	12	400	30.0	9.00	1.2	13.2	
HR90 DC24	24	1,600	15.0	18.0	2.4	26.4	
HR90 DC48*	48	5,760	8.3	36.0	4.8	52.8	400
Sensitive coil							
HR90 DC03-H	3	45	66.7	2.25	0.3	3.3	200
HR90 DC05-H	5	125	40.0	3.75	0.5	5.5	
HR90 DC06-H	6	180	33.3	4.50	0.6	6.6	
HR90 DC09-H	9	400	22.5	6.75	0.9	9.9	
HR90 DC12-H	12	700	17.1	9.00	1.2	13.2	
HR90 DC24-H	24	2,800	8.57	18.0	2.4	26.4	
High Sensitive coil							
HR90 DC03-U	3	60	50	2.25	0.3	3.3	150
HR90 DC05-U	5	167	30	3.75	0.5	5.5	
HR90 DC06-U	6	240	25	4.50	0.6	6.6	
HR90 DC09-U	9	540	16.7	6.75	0.9	9.9	
HR90 DC12-U	12	960	12.5	9.00	1.2	13.2	
HR90 DC24-U	24	3,840	6.25	18.0	2.4	26.4	

*48VDC in standard coil type only
Note: All values in the chart are measured at 23˚C