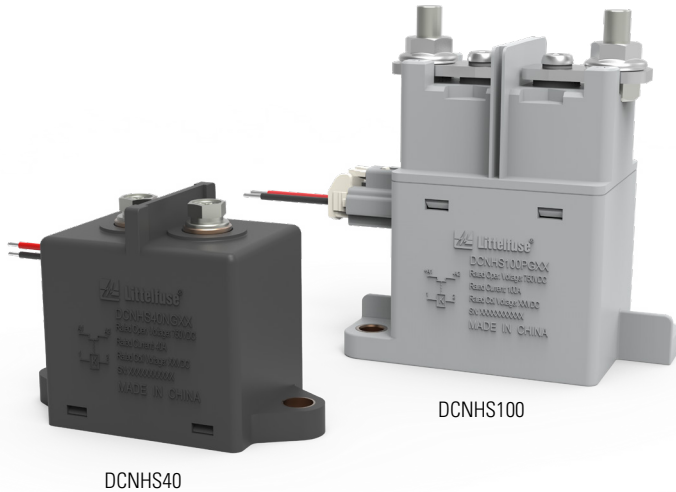


# DCNHS Series

## 1000V DC Max Contactor Relay

**OBSOLETE: June, 2025**



### Specifications

<b>Max Voltage Rating (V DC):</b>	1000
<b>Current Rating Continuous (A):</b>	40, 100
<b>Coil Voltage Rating (V DC):</b>	12, 24, 48
<b>Ingress Protection:</b>	IP40
<b>Operating Temperature (°C):</b>	-40 to +85
<b>Housing Material:</b>	Glass Filled Nylon 6/6
<b>Flammability Rating:</b>	UL 94 V-0
<b>Terminals:</b>	
<b>DCNHS40:</b>	Female - M4 - Copper
<b>DCNHS100:</b>	Male - M6 - Ni Plated Copper

### Description

The DCNHS Series, A 750V DC Contactor Relay is a normally open (also known as monostable) relay with a resin body for corrosion resistance in harsh automotive environments. Ceramic brazing sealed contacts help ensure there is no leakage of electrical arc for safety. The contactor includes a magnetic blow out to achieve a rapid extinguishing of the DC arc.

The DCNHS Series Contactors Relays are available in a non-polarized 40A rated version and a 100A rated polarized version.

### Web Resources

Download 2D print, installation guide and technical resources at: [littelfuse.com/DCNHS](http://littelfuse.com/DCNHS)

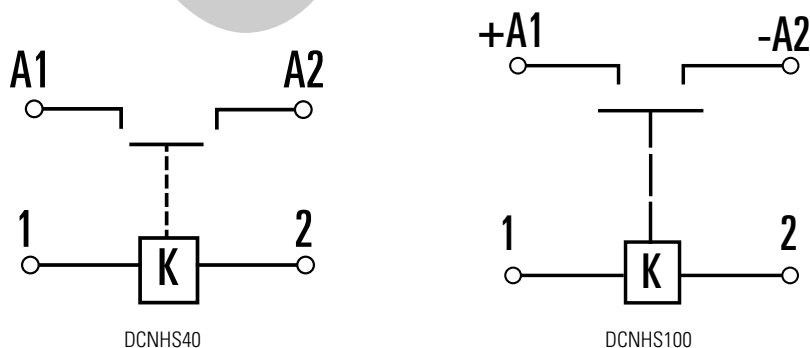
### Applications

- Battery electric vehicles
- Hybrid electric vehicles
- Electric maintenance vehicles
- Industrial applications

### Features and Benefits

- Available with 40A to 100A contact switching capability
- Normally open relay design
- Housing provides corrosion resistance in harsh automotive environments
- Ceramic brazing sealed contacts with no leakage of electrical arc for maximum safety
- RoHS compliant
- No mounting orientation restrictions

### Electrical Diagram



# DCNHS Series

## 1000V DC Max Contactor Relay

### Ordering Information

PART NUMBER	CONTINUOUS CURRENT (A)	VOLTAGE RATING		MOUNTING	COIL VOLTAGE (V DC)	COIL TYPE	AUX CONTACT	POLARIZED	2D PRINT
		SYSTEM NOMINAL (V DC)	MAX VOLTAGE (V DC)						
DCNHS40NG12	40	750	1000	BOTTOM	12	Single	No	No	↓
DCNHS40NG24	40	750	1000	BOTTOM	24	Single	No	No	↓
DCNHS40NG48	40	750	1000	BOTTOM	48	Single	No	No	↓
DCNHS100PG12	100	750	1000	BOTTOM	12	Single	No	Yes	↓
DCNHS100PG24	100	750	1000	BOTTOM	24	Single	No	Yes	↓
DCNHS100PG48	100	750	1000	BOTTOM	48	Single	No	Yes	↓

### Performance Data

MAIN CONTACT	
Contact Arrangement	SPST NO
Max Short Circuit Current	DCNHS40NG12 DCNHS40NG24 DCNHS40NG48
	160A @ 750V DC
Dielectric Withstand Voltage	DCNHS100PG12 DCNHS100PG24 DCNHS100PG48
	400A @ 750V DC
Insulation Resistance	2500 VAC
	≥ 100MΩ @ 500V DC

LIFE	
Electrical Life	DCNHS40NG12, DCNHS40NG24, DCNHS40NG48 DCNHS100PG12, DCNHS100PG24, DCNHS100PG48
Mechanical Life	200,000

Note: rated at continuous current rating and system nominal voltage

OPERATE / RELEASE TIME	
Close (ms)	30
Release (ms)	30

COIL DATA				
Voltage Rating (V DC)		12	24	48
Pickup Voltage @ 25°C (V DC MAX)	DCNHS40	8.4	16.8	33.6
	DCNHS100	8.4	16.8	33.6
Dropout Voltage @ 25°C (V DC MIN)	DCNHS40	1	1.9	3.8
	DCNHS100	1	1.9	3.8
Hold Current (A)	DCNHS40	0.25	0.13	0.063
	DCNHS100	0.55	0.27	0.15
Coil Watts @ 25°C (W)	DCNHS40	3	3	3
	DCNHS100	6.6	6.6	6.6

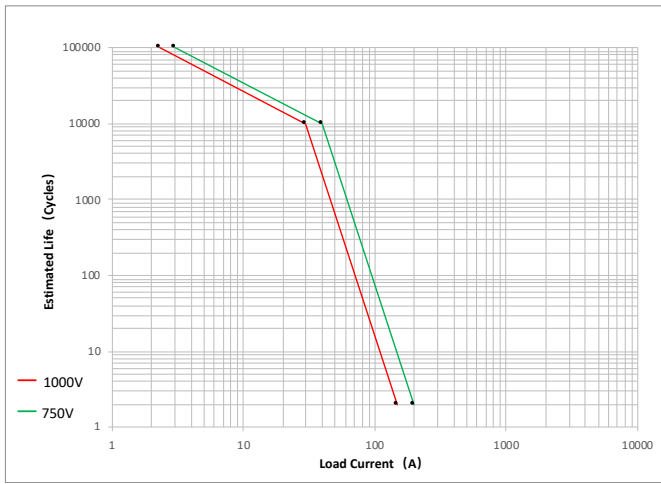
ENVIRONMENTAL DATA	
Shock	50G, 6ms
Vibration	10-2000Hz, 5.6G
Operating Ambient Temperature	-40°C~+85°C
Weight (g)	DCNHS40
	155
	DCNHS100
	340

# DCNHS Series

## 1000V DC Max Contactor Relay

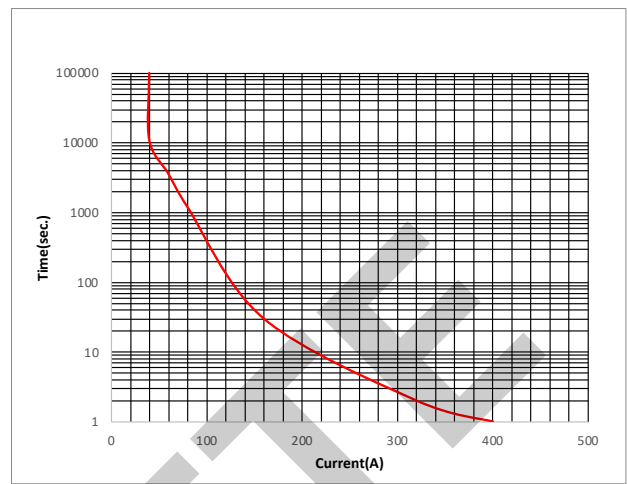
### Estimated Make Break Chart

DCNHS40

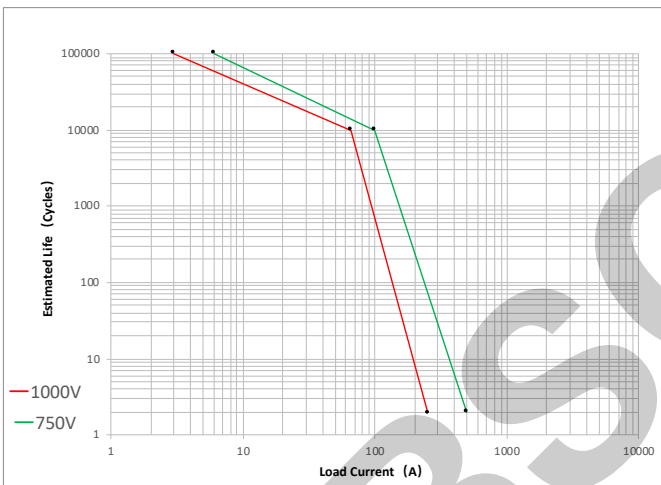


### Carry Current vs Time at 65°C Chart

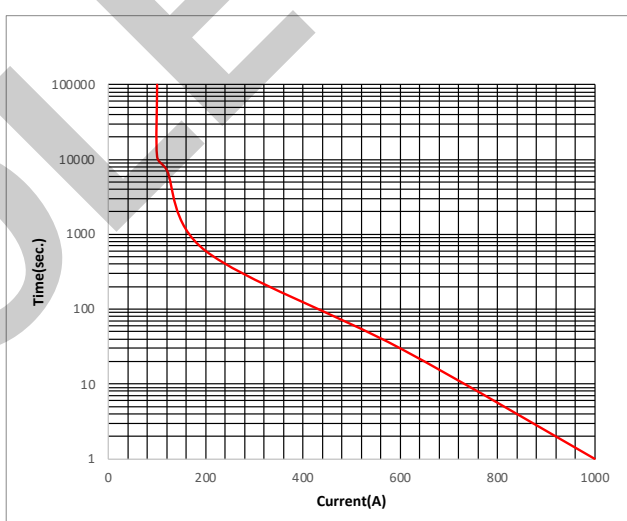
DCNHS40



DCNHS100



DCNHS100



Note:

- 1 Applications with capacitors will require a pre-charge circuit.
- 2 Electrical life rating is based on resistive load with 27μH maximum inductance in circuit.

