

# DCNHR SERIES

## 900V DC MAX CONTACTOR RELAY



### Specifications

<b>Max Voltage Rating (V DC):</b>	900
<b>Current Rating Continuous (A):</b>	100, 250, and 300
<b>Coil Voltage Rating (V DC):</b>	12, 24, 48, 9-36
<b>Ingress Protection:</b>	100: IP 67 250-300 Contact Part Can Meet IP67 Protection Level
<b>Operating Temperature (°C):</b>	-40 to +85

### Applications

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

### Description

The DCNHR Series 450V High-Current High-Voltage DC Contactor Relay is a normally open (also known as monostable) relay with a resin body for corrosion resistance in harsh automotive environments. Versions are available with a PWM coil to reduce power for keeping the contacts closed. Sealed contacts help ensure there is no leakage of electrical arc for safety. The high-current relay's permanent magnet blows the magnetic field horizontally to achieve a high-voltage DC cutoff.

The DCNHR Series contactor relay is available for 100A, 250A, and 300A contact switching.

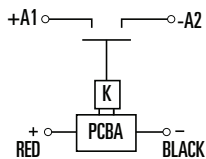
### Features and Benefits

- Available with 100A, 250A, and 300A contact switching capability
- Normally open relay design
- Resin housing provides corrosion resistance in harsh automotive environments
- Sealed contacts with no leakage of electrical arc for maximum safety
- Built-in energy-saving coil to reduce the coil holding power
- RoHS compliant

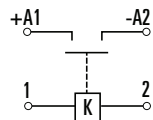
### Web Resources

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

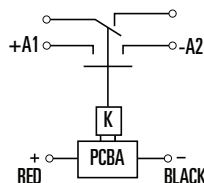
### Electrical Diagram



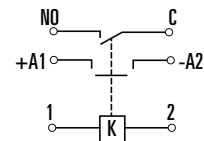
DCNHRXXXPFPA



DCNHRXXXPFXX



DCNHRXXXQFA



DCNHRXXXQFXX

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### Ordering Information

PART NUMBER	CONTINUOUS CURRENT (A)	VOLTAGE RATING		MOUNTING	COIL VOLTAGE (V DC)	COIL TYPE	AUX CONTACT	POLARIZED
		SYSTEM NOMINAL (V DC)	MAX VOLTAGE (V DC)					
DCNHR100PF12	100	450	900	BOTTOM	12	Single	No	Yes
DCNHR100PF24	100	450	900	BOTTOM	24	Single	No	Yes
DCNHR100PF48	100	450	900	BOTTOM	48	Single	No	Yes
DCNHR100QF12	100	450	900	BOTTOM	12	Single	Yes	Yes
DCNHR100QF24	100	450	900	BOTTOM	24	Single	Yes	Yes
DCNHR100QF48	100	450	900	BOTTOM	48	Single	Yes	Yes
DCNHR250PFA	250	450	900	BOTTOM	9~36	PWM	No	Yes
DCNHR250QFA	250	450	900	BOTTOM	9~36	PWM	Yes	Yes
DCNHR300PFA	300	450	900	BOTTOM	9~36	PWM	No	Yes
DCNHR300QFA	300	450	900	BOTTOM	9~36	PWM	Yes	Yes

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### Performance Data

MAIN CONTACT		
Contact Arrangement	SPST NO	
Max Short Circuit Current	DCNHR100	400A @ 48V DC
	DCNHR250	2000A @ 320V DC
	DCNHR300	2000A @ 320V DC
Dielectric Withstand Voltage	2200V AC	
Insulation Resistance	≥ 100MΩ @ 500V DC	

COIL DATA					
Voltage Rating (V DC)		12	24	48	9-36
Pickup Voltage @ 25°C (V DC MAX)	DCNHR100	8.4	16.8	33.6	
	DCNHR250, DCNHR300,				9
Dropout Voltage @ 25°C (V DC MIN)	DCNHR100	1.2	2.4	4.8	
	DCNHR250, DCNHR300				6
Hold Current (A)	DCNHR100	0.51	0.26	0.13	
	DCNHR250, DCNHR300				0.15@12V DC
Coil Watts @ 25°C (W)	DCNHR100	6.5	6.5	6.5	
	DCNHR250, DCNHR300				45/3

LIFE		
Electrical Life	DCNHR100	3,000
	DCNHR250	1,500
	DCNHR300	600
Mechanical Life	200,000	

Note: rated at continuous current rating and system nominal voltage

OPERATE / RELEASE TIME	
Close (ms)	25
Release (ms)	12

ENVIRONMENTAL DATA		
Shock	Shock, 11ms ½ Sine, Peak, Operating 20G	
Vibration	DCNHR100	4.4G, 10-200Hz (10µs)
	DCNHR250, DCNHR300	Vibration, Sine, 80-2000Hz., Peak 20G
Operating Ambient Temperature	-40°C--+85°C	
Weight (g)	DCNHR100	198
	DCNHR250, DCNHR300	398

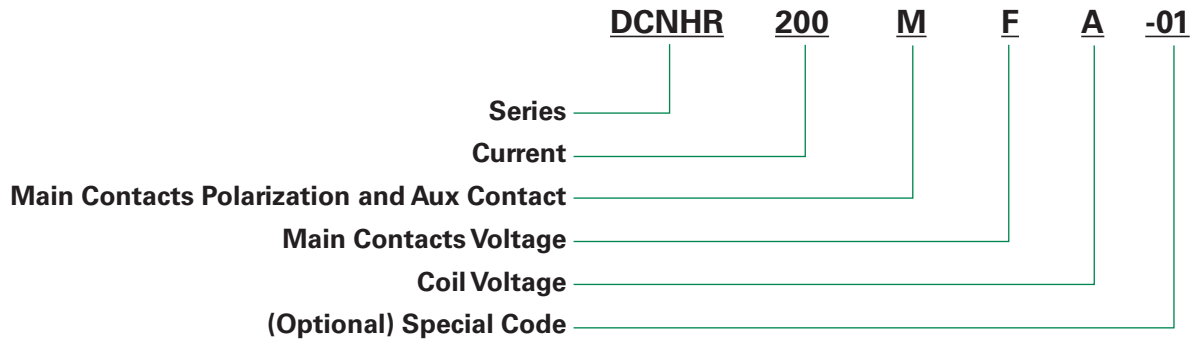
AUX CONTACTS	
Contact Arrangement	Normal Open
Max. Rating	2A @ 24V DC
Min. Rating	0.1A @ 5V DC
Max. Resistance	≤500mΩ

Note: Estimated Make Break Charts and Time Current Curves Coming Soon

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### Part Number System



MAIN CONTACTS POLARIZATION AND AUX CONTACT		
	POLARIZED?	INCLUDE AUX CONTACT?
M:	No	Yes
N:	No	No
P:	Yes	No
Q:	Yes	Yes

MAIN CONTACTS VOLTAGE RATING		
F:	450	V DC

COIL VOLTAGE		
12:	12	V DC
24:	24	V DC
48:	48	V DC
A:	9 - 36	V DC