

DCNLR SERIES

60V DC Max Contactor Relay



DCNLR100NB



DCNLR200NB48

Specifications

Max Voltage Rating (V DC):	60
Current Rating Continuous (A):	100, 200
Coil Voltage Rating (V DC):	12, 24, 48, 60
Ingress Protection:	IP67
Operating Temperature (°C):	-40 to +85

Approvals

UL File Number:	E47258 Recognized
CE:	EN 60947-4-1, 2018

Features and Benefits

- Available with a continuous current rating of 100A or 200A
- Thermoplastic housing and an IP67 rating enable use in harsh automotive environments and heavy equipment applications
- Remote-operated, space-saving design can be easily mounted in any orientation
- Main contacts are rated for 48V (typical) and 60V (max)
- Common coil voltage options of 12V, 24V, 48V, and 60V
- Non-polarized copper alloy main contacts
- Integral coil suppression
- It is filled with high-purity inert gas inside, which can significantly increase the electrical life and effectively solve the problem that the contacts of ordinary relays do not conduct due to the condensation of internal air at low temperatures

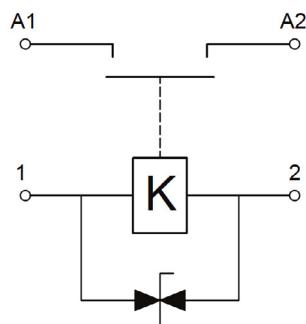
Applications

- Battery Electric Vehicles
- Hybrid Electric Vehicles
- Material Handling Equipment
- Telecom Power Supplies
- Battery Energy Storage Systems
- Construction Machinery
- Heavy-Duty Trucks
- Buses

Web Resources

Download 2D print, installation guide and technical resources at: littelfuse.com/DCNLR

Electrical Diagram



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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)					
DCNLR100NB12	100	48	60	BOTTOM	12	Single	No	No
DCNLR100NB24	100	48	60	BOTTOM	24	Single	No	No
DCNLR100NB48	100	48	60	BOTTOM	48	Single	No	No
DCNLR200NB12	200	48	60	BOTTOM	12	Single	No	No
DCNLR200NB24	200	48	60	BOTTOM	24	Single	No	No
DCNLR200NB48	200	48	60	BOTTOM	48	Single	No	No
DCNLR200NB60	200	48	60	BOTTOM	60	Single	No	No

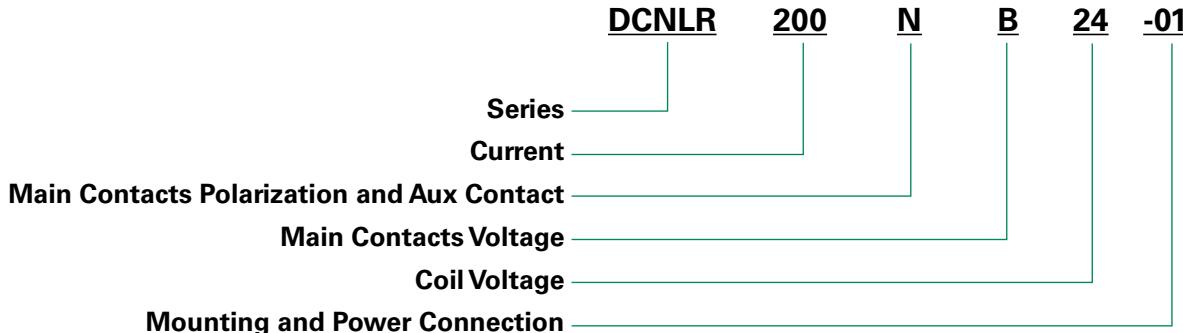
Performance Data

MAIN CONTACT			LIFE		
Contact Arrangement		SPST NO		100,000 cycles @ 24V DC 30,000 cycles @ 48V DC 10,000 cycles @ 60V DC	
Rated Operating Voltage		48V DC		Mechanical Life	
Max Short Circuit Current		DCNLR100	400A @ 48V DC		200,000
DCNLR200		800A @ 48V DC		OPERATE / RELEASE TIME	
Dielectric Withstand Voltage		DCNLR100	2000V AC		Close (ms)
DCNLR200		2200V AC		Release (ms)	
Insulation Resistance		$\geq 100M\Omega$ @ 500V DC		ENVIRONMENTAL DATA	
Max Voltage Drop		DCNLR100	$\leq 50mV$ @ 100A		Shock
DCNLR200		$\leq 80mV$ @ 200A		Shock, 11ms ½ Sine, Peak, Operating 20G	
COIL DATA			Vibration		Vibration, Sine, 80-2000Hz., Peak 20G
Voltage Rating (V DC)		12 24 48 60	Operating Ambient Temperature		-40°C~+85°C
Pickup Voltage @ 25°C (V DC MAX)		9 18 36 45	Weight (g)		DCNLR100 193
Dropout Voltage @ 25°C (V DC MIN)		1 2 4 5	DCNLR200 350		
Hold Current (A)		DCNLR100 0.48 0.24 0.12 -			
DCNLR200 0.78 0.39 0.2 0.16					
Coil Watts @ 25°C (W)		DCNLR100 8			
DCNLR200 9.5					

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Part Number System



MAIN CONTACTS POLARIZATION AND AUX CONTACT	
POLARIZED?	INCLUDE AUX CONTACT?
N:	No

MAIN CONTACTS VOLTAGE RATING		
B:	48	V DC

COIL VOLTAGE		
12:	12	V DC
24:	24	V DC
48:	48	V DC
60:	60	V DC

POWER RELAYS

60V DC MAX CONTACTOR RELAY

60V DC Max Contactor Relay

Application Notes & Definitions

- Be sure to use a washer to prevent screws from loosening. Tighten the screw so that the torque is in the range specified below. Exceeding the maximum torque can lead to product rupture.

Contact torque (M8): 80 - 100 lb.in (8.8 - 11 N.m)
Mounting torque: 15 - 30 lb.in (1.7 - 3.3 N.m)
- Please refer to the drawing for connection polarity.
- Do not use dropped products.
- Avoid installing the product in a strong magnetic field (Close to the transformer or magnet), or near an object with heat radiation.
- Electrical life
Please use under load capability and life cycle so as not to cause a function failure. (Please also treat the contactor as a product with specified life and replace it when necessary). It is possible to make parts burn around the contactor once operating failure happens. So it is necessary to take layout into account to make sure power shall be cut off within 1 second.
- Lifetime of internal gas diffusion
The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (Ambient temperature + Temperature rising by contact energizing). Therefore environment temperature should be from -40 to +85°C.
- Do not let particle and oil stain on the main terminal with which the load shall make a reliable contact or it will cause a lot of heat.

PRODUCT SERIES	PRODUCT MODEL	CONTACT TERMINAL		COIL TERMINAL		MOUNTING REFERENCE TORQUE
		HOLE OR BOLT	REFERENCE TORQUE	HOLE/BOLT/WIRE/TERMINAL	REFERENCE TORQUE	
DCNLR100NB	DCNLR100NB12	Bolt : M6	3.5~4.5N.m	Terminal	-	3.5~4.5N.m
	DCNLR100NB24					
	DCNLR100NB48					
DCNLR200NB	DCNLR200NB12	Bolt : M8	8~12N.m	Bolt: M4	1.0~1.6N.m	2.0~2.8N.m
	DCNLR200NB24					
	DCNLR200NB48					
	DCNLR200NB60					