DCNLR SERIES 60V DC MAX CONTACTOR RELAY





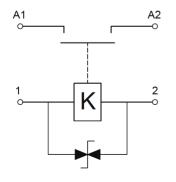
Description

Ideal for safely disconnecting DC energy sources in 48V applications that require continuous run time, the DCNLR Series 60V DC Max Contactor Relay features an IP67 rating for protection against water and dust common in harsh environmental conditions. The remote-operated contactor has a space-saving design and can be easily installed in any orientation, making it simple to incorporate into battery electric vehicles (BEV), hybrid electric vehicles (HEV), material handling equipment, telecom power supplies, battery energy storage systems, construction machinery, heavy-duty trucks, buses, and more. Configurations of the DCNLR Series remote DC contactor come with a continuous current rating of either 100A or 200A. The 200A DCNLR Series contactor models feature a 12V, 24V, 48V, or 60V coil, while the 100A models are available with a 12V, 24V, or 48V coil.

Web Resources

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

Electrical Diagram





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
UL File Number:	E47258

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

Applications

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



Ordering Information

PART	CONTINUOUS	VOLTAGE RATING			COIL	COIL	AUX	
NUMBER	CURRENT (A)	SYSTEM NOMINAL (V DC)	MAX VOLTAGE (V DC)	MOUNTING	VOLTAGE (V DC)	TYPE	CONTACT	POLARIZED
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							
Contact Arrangeme	SPST NO						
Rated Operating Vol	48V DC						
Max Short Circuit Current	DCNLR100	400A @ 48V DC					
Max Short Circuit Current	DCNLR200	800A @ 48V DC					
Dialastria Withstand Valtage	DCNLR100	2000V AC					
Dielectric Withstand Voltage	DCNLR200	2200V AC					
Insulation Resisten	\geq 100M Ω @ 500V DC						
May Valtage Drep	DCNLR100	≤ 50mV @ 100A					
Max Voltage Drop	DCNLR200	≤ 80mV @ 200A					

COIL DATA								
Voltage Rating (V	DC)	12	24	48	60			
Pickup Voltage @ 25°C (\	V DC MAX)	9	18	36	45			
Dropout Voltage @ 25°C	1	2	4	5				
Held Consent (A)	DCNLR100	0.48	0.24	0.12	-			
Hold Current (A)	DCNLR200	0.78	0.39	0.2	0.16			
Coil Motto @ 25°C (M)	DCNLR100		8					
Coil Watts @ 25°C (W)	DCNLR200		9.5					

LIFE						
Electrical Life (resistive load)	100,000 cycles @ 24V DC 30,000 cycles @ 48V DC 10,000 cycles @ 60V DC					
Mechanical Life	200,000					

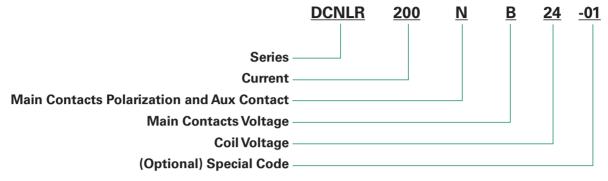
OPERATE / RELEASE TIME					
Close (ms)	25				
Release (ms)	12				

ENVIRONMENTAL DATA						
S	hock	Shock, 11ms ½ Sine, Peak, Operating 20G				
Vib	ration	Vibration, Sine, 80-2000Hz., Peak 20G				
Operating Ambient Temperature		-40°C~+85°C				
DCNLR100		193				
Weight (g)	DCNLR200	350				



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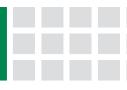
Part Number System



MAIN CONTACTS POLARIZATION AND AUX CONTACT		MAIN CONTACTS VOLTAGE RATING		COIL VOLTAGE				
	POLARIZED?	INCLUDE AUX CONTACT?	B: 48 V DC			12:	12	V DC
N:	No	No			'	24:	24	V DC
						48:	48	V DC
						60:	60	V DC

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

