

# DCNLJ Series

60V and 110V MAX High-Current High-Voltage DC Contactor Relays



DCNLJ250PD12



DCNLJ125PD60

## Description

The DCNLJ Series Max High-Current High-Voltage DC Contactor Relay is designed for high-current contact switching in electric control systems of communication power supplies and uninterruptible power supplies (UPS) as well as other industrial and vehicle applications.

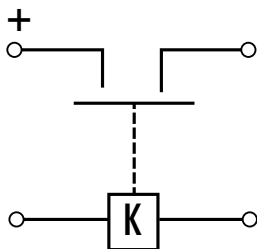
This normally open relay comes in a variety of configurations to suit your application requirements. Polarized models with main contacts rated for 96V (110V max) and non-polarized models with main contacts rated for 48V (60V max) are available with a continuous current rating of 125A, 200A, or 250A.

Available coil options for the DCNLJ contactor relay vary depending on the model's continuous current rating and include 12V, 24V, 48V, and 60V.

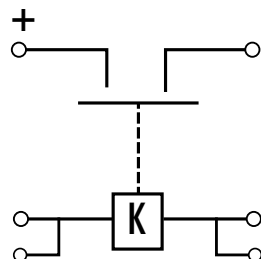
## Web Resources

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

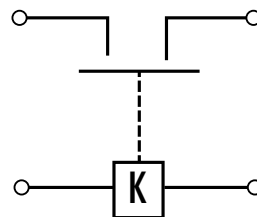
## Electrical Diagram



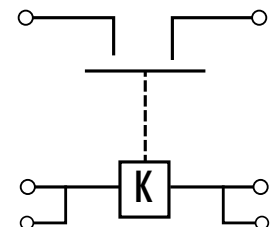
DCNLJ250PD12



DCNLJ125PD12, DCNLJ125PD24,  
DCNLJ125PD60, DCNLJ200PD24



DCNLJ250NB12-01



DCNLJ125NB12, DCNLJ125NB24,  
DCNLJ125NB60, DCNLJ200NB24  
DCNLJ200NB48, DCNLJ200NB60

## Specifications

<b>Max Voltage Rating (V DC):</b>	60, 110
<b>Current Rating Continuous (A):</b>	125, 200, 250
<b>Coil Voltage Rating (V DC):</b>	12, 60
<b>Ingress Protection:</b>	IP 40
<b>Operating Temperature (°C):</b>	-40 to +85

## Applications

- Communication Power Supplies
- UPS
- Material Handling
- Industrial Machinery

## Features and Benefits

- Available with a 125A, 200A, or 250A continuous current rating for high-current contact switching
- Main contacts rated for 48V typical (60V max) or 96V typical (110V max)
- 48V units have non-polarized magnets and 96V units have polarized magnets
- Single-pole, single-throw (SPST), normally open contact arrangement
- Coil rating options include 12V, 24V, 48V, and 60V (availability varies with the unit's continuous current rating)
- Robust standard industrial footprint

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### 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)						
<a href="#">DCNLJ125NB12</a>	125	48	60	SIDE MOUNT	12	Single	No	No	<a href="#">↓</a>
<a href="#">DCNLJ125NB24</a>	125	48	60	SIDE MOUNT	24	Single	No	No	<a href="#">↓</a>
<a href="#">DCNLJ125NB60</a>	125	48	60	SIDE MOUNT	60	Single	No	No	<a href="#">↓</a>
<a href="#">DCNLJ125PD12</a>	125	96	110	SIDE MOUNT	12	Single	No	Yes	<a href="#">↓</a>
<a href="#">DCNLJ125PD24</a>	125	96	110	SIDE MOUNT	24	Single	No	Yes	<a href="#">↓</a>
<a href="#">DCNLJ125PD60</a>	125	96	110	SIDE MOUNT	60	Single	No	Yes	<a href="#">↓</a>
<a href="#">DCNLJ200NB24</a>	200	48	60	SIDE MOUNT	24	Single	No	No	<a href="#">↓</a>
<a href="#">DCNLJ200NB48</a>	200	48	60	SIDE MOUNT	48	Single	No	No	<a href="#">↓</a>
<a href="#">DCNLJ200NB60</a>	200	48	60	SIDE MOUNT	60	Single	No	No	<a href="#">↓</a>
<a href="#">DCNLJ200PD24</a>	200	96	110	SIDE MOUNT	24	Single	No	Yes	<a href="#">↓</a>
<a href="#">DCNLJ250PD12</a>	250	96	110	SIDE MOUNT	12	Single	No	Yes	<a href="#">↓</a>
<a href="#">DCNLJ250NB12-01<sup>1</sup></a>	250	48	60	SIDE MOUNT	12	Single	No	No	<a href="#">↓</a>

<sup>1</sup> Includes coil wires and connector. Refer to the 2D print for details.

### Performance Data

MAIN CONTACT		
Contact Arrangement	SPST NO	
Rated Operating Voltage	DCNLJ125PDXX DCNLJ200PDXX DCNLJ250PDXX	96V DC
	DCNLJ125NBXX DCNLJ200NBXX DCNLJ250NBXX	48V DC
	DCNLJ125NBXX	500A @48V DC
Max Short Circuit Current	DCNLJ125PDXX	500A @96V DC
	DCNLJ200NBXX	800A @48V DC
	DCNLJ200PDXX	800A @96V DC
	DCNLJ250PD12	1000A @96V DC
	DCNLJ250NB12-01	1000A @48V DC
Dielectric Withstand Voltage	1000V AC	
Insulation Resistance	DCNLJ125, DCNLJ200	≥50MΩ @ 500V DC
	DCNLJ250	≥50MΩ @ 500V DC
Max Voltage Drop	DCNLJ125	≤80mV @ 100A
	DCNLJ200, DCNLJ250	≤50mV @ 100A

LIFE	
Electrical Life	6,000
Mechanical Life	300,000

OPERATE / RELEASE TIME		
Close (ms)	DCNLJ125, DCNLJ250	60
	DCNLJ200	50
Release (ms)		25

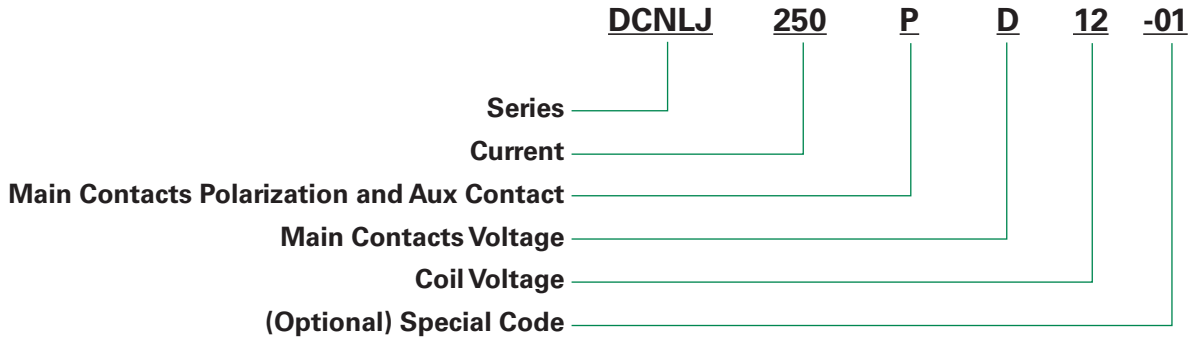
ENVIRONMENTAL DATA	
Shock	3G
Vibration	1~50Hz (freq.1~10Hz, amp;.25/f <sup>2</sup> ; freq.10~50Hz, ampl.250/f <sup>2</sup> )
Operating Ambient Temperature	-40°C~+85°C
Weight (g)	776

COIL DATA					
Voltage Rating (V DC)	12	24	48	60	
Pickup Voltage @ 25°C (V DC MAX)	8.4	16.8	33.6	42	
Dropout Voltage @ 25°C (V DC MIN)	1	2	4	6	
Hold Current (A)	DCNLJ125	0.92	0.46	-	0.18
	DCNLJ200	/	0.6	0.31	0.28
	DCNLJ250	1.3	-	-	-
Coil Watts @ 25°C (W)	DCNLJ125	11W	11W	-	11W
	DCNLJ200	-	15W	15W	16.5W
	DCNLJ250	16	-	-	-

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## Part Number System



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

MAIN CONTACTS VOLTAGE RATING		
B:	48	V DC
D:	96	V DC

COIL VOLTAGE		
12:	12	V DC

## 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.

PRODUCT SERIES	PRODUCT MODEL	CONTACT TERMINAL		COIL TERMINAL		MOUNTING	
		HOLE OR BOLT	REFERENCE TORQUE	HOLE/BOLT/WIRE/TERMINAL	REFERENCE TORQUE	REFERENCE BOLT SIZE	REFERENCE TORQUE
DCNLJ125	DCNLJ125NB12	Bolt : M8	7N.m~10N.m	6.3mm (0.25") tab style terminal	/	M4	1.5~1.8N.m
	DCNLJ125NB24						
	DCNLJ125NB60						
	DCNLJ125PD12						
	DCNLJ125PD24						
	DCNLJ125PD60						
DCNLJ200	DCNLJ200NB24	Bolt : M8	8~9N.m	6.3mm (0.25") tab style terminal	/	M4	4~5N.m
	DCNLJ200PD24						
	DCNLJ200NB48						
	DCNLJ200NB60						
DCNLJ250	DCNLJ250PD12	Bolt : M10	9~11N.m	TE Connector # 1-178128-2	/	M8	12~15N.m
	DCNLJ250NB12-01			TE Connector # 1-178128-3			

- 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.
- 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.