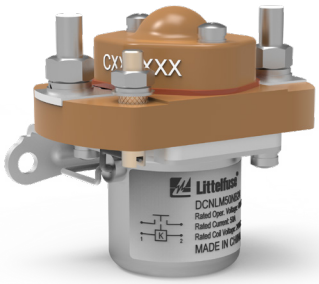
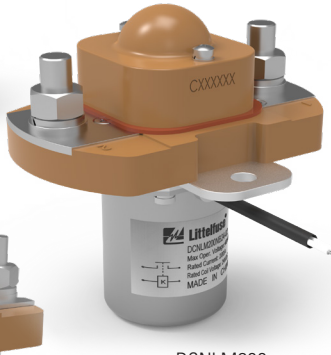
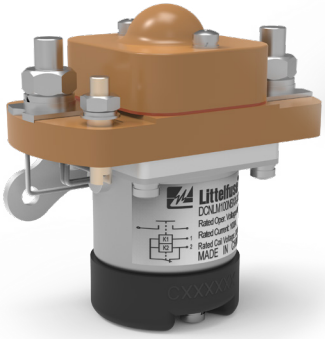
DCNLM Series
60V DC MAX Contactor Relays



DCNLM50



DCNLM200



DCNLM100

Description

The DCNLM Series 48V High-Current DC Contactor Relay is available with up to 400A contact switching capability as well as multiple coil voltage options to suit a wide variety of stationary applications, including use in electrical control systems for communication power supplies, industrial machines, and uninterruptible power supplies (UPS).

The DCNLM normally open, high-current DC contactor features 48V non-polarized main contacts and is available in single-coil and double-coil configurations.

Web Resources

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

Specifications

Max Voltage Rating (V DC):	60
Current Rating Continuous (A):	50, 100, 200, 400
Coil Voltage Rating (V DC):	12, 24, 48, 60
Ingress Protection:	IP 40
Operating Temperature (°C):	-40°C to +70°C
Approvals:	400A have CCC and are UL Recognized UL File No. E47258

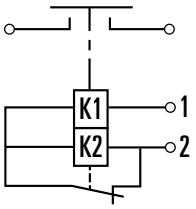
Applications

- Communication Power Supplies
- UPS

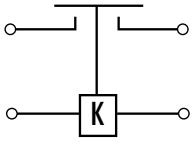
Features and Benefits

- Available with up to 400A contact switching capability
- Main contacts are rated for 48V (typical) and 60V (max)
- Coil voltage options include 12V, 24V, 48V, and 60V
- Available in single-coil and double-coil configurations
- Normally open, monostable relay design
- Non-polarized main contacts

Electrical Diagram



DCNLM100NBxx-01
DCNLM200NB12xx
DCNLM400NB12
DCNLM400NB24-01
DCNLM400NB48-01



DCNLM50NBxx
DCNLM100NBxx
DCNLM200NBxx-01
DCNLM200NB24-02
DCNLM400NBxx

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DCNLM Series
60V DC MAX Contactor Relays

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)						
DCNLM50NB12	50	48	60	SIDE MOUNT	12	Single	No	No	
DCNLM50NB24	50	48	60	SIDE MOUNT	24	Single	No	No	
DCNLM50NB48	50	48	60	SIDE MOUNT	48	Single	No	No	
DCNLM50NB60	50	48	60	SIDE MOUNT	60	Single	No	No	
DCNLM100NB12-01	100	48	60	SIDE MOUNT	12	Dual	No	No	
DCNLM100NB24-01	100	48	60	SIDE MOUNT	24	Dual	No	No	
DCNLM100NB48-01	100	48	60	SIDE MOUNT	48	Dual	No	No	
DCNLM100NB12	100	48	60	SIDE MOUNT	12	Single	No	No	
DCNLM100NB24	100	48	60	SIDE MOUNT	24	Single	No	No	
DCNLM100NB48	100	48	60	SIDE MOUNT	48	Single	No	No	
DCNLM200NB12	200	48	60	SIDE MOUNT	12	Dual	No	No	
DCNLM200NB24	200	48	60	SIDE MOUNT	24	Dual	No	No	
DCNLM200NB48	200	48	60	SIDE MOUNT	48	Dual	No	No	
DCNLM200NB12-01	200	48	60	SIDE MOUNT	12	Single	No	No	
DCNLM200NB24-01	200	48	60	SIDE MOUNT	24	Single	No	No	
DCNLM200NB24-02	200	48	60	TOP MOUNT	24	Single	No	No	
DCNLM200NB48-01	200	48	60	SIDE MOUNT	48	Single	No	No	
DCNLM400NB12	400	48	60	SIDE MOUNT	12	Dual	No	No	
DCNLM400NB24	400	48	60	SIDE MOUNT	24	Single	No	No	
DCNLM400NB48	400	48	60	SIDE MOUNT	48	Single	No	No	
DCNLM400NB24-01	400	48	60	SIDE MOUNT	24	Dual	No	No	
DCNLM400NB48-01	400	48	60	SIDE MOUNT	48	Dual	No	No	

Performance Data

MAIN CONTACT		
Contact Arrangement		SPST NO
Rated Operating Voltage		48V DC
Max Short Circuit Current	DCNLM50	200A @ 48V DC
	DCNLM100	400A @ 48V DC
	DCNLM200	800A @ 48V DC
	DCNLM400	1600A @ 48V DC
Dielectric Withstand Voltage		1000V AC
Insulation Resistence		≥50MΩ @ 500V DC
Max Voltage Drop	DCNLM50	≤50mV @ 50 A
	DCNLM100	≤80mV @ 100 A
	DCNLM200, 400	≤50mV @ 100A

OPERATE / RELEASE TIME		
Close (ms)	DCNLM50	40
	DCNLM100	30
	DCNLM200	50
	DCNLM400	50
Release (ms)	DCNLM50	20
	DCNLM100	30
	DCNLM200	25
	DCNLM400	25

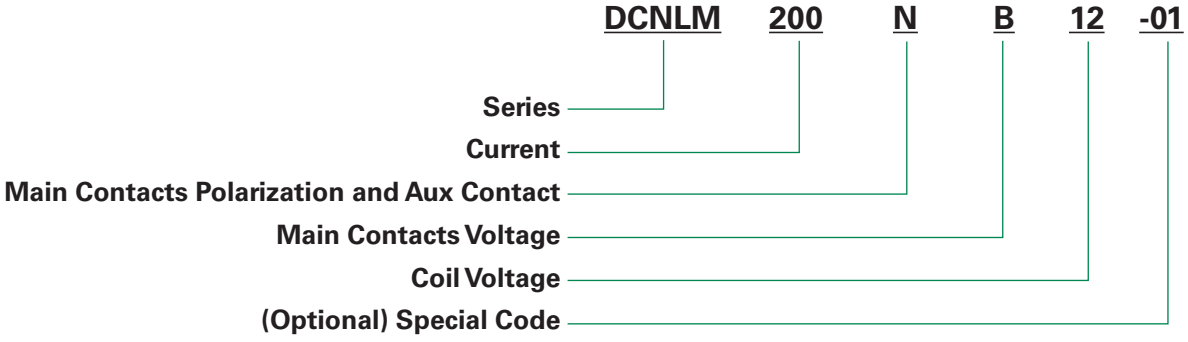
ENVIRONMENTAL DATA		
Shock		DCNLM50NB DVP 50G, 6ms
Vibration		1~50Hz (freq.1~10Hz, amp;.25/f²; freq.10~50Hz, ampl.250/f²)
Operating Ambient Temperature		-40°C~+70°C
Weight (g)	DCNLM50	157
	DCNLM100NBxx	283
	DCNLM100NBxx-01	193.3
	DCNLM200NBxx	445.1
	DCNLM200NBxx-0x	439
	DCNLM400NBxx	866
	DCNLM400NBxx-01	888

LIFE	
Electrical Life	6000 Cycles
Mechanical Life	100,000

PART NUMBER	COIL VOLTAGE (V DC)	COIL TYPE	PICKUP VOLTAGE @ 25°C (V DC MAX)	DROPOUT VOLTAGE @ 25°C (V DC MIN)	HOLD CURRENT (A)	COIL WATTS @ 25°C (W)	
						Start Up	Hold
DCNLM50NB12	12	Single	8.4	1	0.71	9	-
DCNLM50NB24	24	Single	16.8	2	0.35	9	-
DCNLM50NB48	48	Single	33.6	4	0.18	9	-
DCNLM50NB60	60	Single	42	5	0.13	9	-
DCNLM100NB12-01	12	Dual	8.4	1	0.75	150	9
DCNLM100NB24-01	24	Dual	16.8	2	0.35	150	9
DCNLM100NB48-01	48	Dual	33.6	4	0.15	150	9
DCNLM100NB12	12	Single	8.4	1	0.48	6	-
DCNLM100NB24	24	Single	16.8	2	0.2	6	-
DCNLM100NB48	48	Single	33.6	4	0.08	6	-
DCNLM200NB12	12	Dual	8.4	1	0.7	180	8.5
DCNLM200NB24	24	Dual	16.8	2	0.37	170	9
DCNLM200NB48	48	Dual	33.6	4	0.15	180	8
DCNLM200NB12-01	12	Single	8.4	1	0.84	10	-
DCNLM200NB24-01	24	Single	16.8	2	0.4	10	-
DCNLM200NB48-01	48	Single	33.6	4	0.21	10.5	-
DCNLM200NB24-02	24	Single	16.8	2	0.4	10	-
DCNLM400NB24	24	Single	16.8	2	0.39	10	-
DCNLM400NB48	48	Single	33.6	4	0.24	11.5	-
DCNLM400NB12	12	Dual	8.4	1	0.77	80	9.5
DCNLM400NB24-01	24	Dual	16.8	2	0.45	175	11
DCNLM400NB48-01	48	Dual	33.6	4	0.1	154	5

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Part Number System



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

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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. See chart below.
- 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.

PRODUCT SERIES	PRODUCT MODEL	CONTACT TERMINAL		COIL TERMINAL		MOUNTING	
		HOLE OR BOLT	REFERENCE TORQUE	HOLE/BOLT/WIRE/ TERMINAL	REFERENCE TORQUE	REFERENCE TORQUE	REFERENCE BOLT SIZE
DCNLM50NB	DCNLM50NB12 DCNLM50NB24 DCNLM50NB48 DCNLM50NB60	Bolt : M5	4~5N.m	Bolt : M4	1.7~2.5N.m	1.7~2.5N.m	M4
DCNLM100NB	DCNLM100NB12 DCNLM100NB24 DCNLM100NB48 DCNLM100NB12-01 DCNLM100NB24-01 DCNLM100NB48-01	Bolt : M6	4~6N.m	Bolt : M4	1.7~2.5N.m	1.7~2.5N.m	M4
DCNLM200NB	DCNLM200NB12 DCNLM200NB24 DCNLM200NB48 DCNLM200NB12-01 DCNLM200NB24-01 DCNLM200NB48-01	Bolt : M8	9~11N.m	Bolt : M4	1.7~2.5N.m	4~5N.m	M5
	DCNLM200NB24-02	Bolt : M8	9~11N.m	Wire	-	4~5N.m	M5
DCNLM400NB	DCNLM400NB24 DCNLM400NB48 DCNLM400NB12 DCNLM400NB24-01	Bolt : M10	15~18N.m	Bolt : M4	1.7~2.5N.m	6~8N.m	M6

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