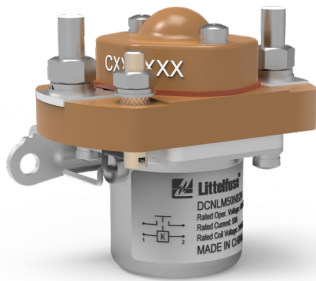
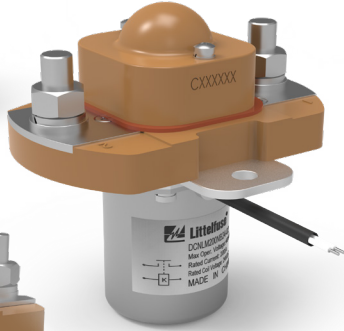


# DCNLM SERIES

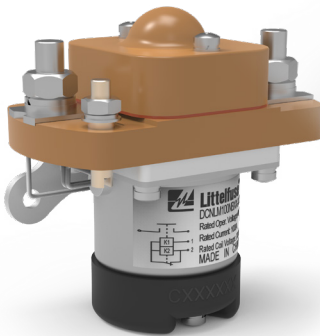
## 60V DC MAX CONTACTOR RELAY



DCNLM50



DCNLM200



DCNLM100

### Description

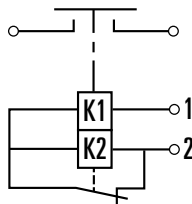
The DCNLM Series 48V High-Current DC Contactor Relay is available up to 400A contact switching capability as well as multiple coil voltage options to suit a wide variety of applications, including use in electrical control systems for communication power supplies, industrial machines, and uninterruptible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

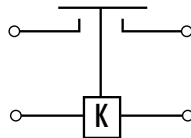
### Web Resources

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

### Electrical Diagram



DCNLM100NBxx-01  
 DCNLM200NB12xx  
 DCNLM400NB12  
 DCNLM400NB24-01  
 DCNLM400NB48-01



DCNLM50NBxx  
 DCNLM200NBxx-01  
 DCNLM200NB24-02  
 DCNLM400NBxx

### Specifications

<b>Max Voltage Rating (V DC):</b>	60
<b>Current Rating Continuous (A):</b>	50, 100, 200, 400
<b>Coil Voltage Rating (V DC):</b>	12, 24, 48, 60
<b>Ingress Protection:</b>	IP 40
<b>Operating Temperature (°C):</b>	-40°C to +70°C
<b>Approvals:</b>	400A have CCC, UL

### Applications

- Communication Power Supplies
- UPS

### Features and Benefits

- Available 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

# DCNLM SERIES

## 60V DC MAX CONTACTOR RELAY

### 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)					
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
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
DCNLM200NB48-01	200	48	60	SIDE MOUNT	48	Single	No	No
DCNLM200NB24-02	200	48	60	TOP MOUNT	24	Single	No	No
DCNLM400NB24	400	48	60	SIDE MOUNT	24	Single	No	No
DCNLM400NB48	400	48	60	SIDE MOUNT	48	Single	No	No
DCNLM400NB12	400	48	60	SIDE MOUNT	12	Dual	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 Resistance	≥50MΩ @ 500V DC		
Max Voltage Drop	DCNLM50	≤50mV @ 50 A	
	DCNLM100	≤80mV @ 100 A	
	DCNLM200, 400		≤50mV @ 100A

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	5	
Hold Current (A)	DCNLM50	0.71	0.35	0.18	0.13
	DCNLM100(D)	0.75	0.35	0.15	/
	DCNLM200(S)	0.84	0.4	0.21	/
	DCNLM200(D)	0.7	0.37	0.15	/
	DCNLM400(S)	/	0.39	0.24	/
	DCNLM400(D)	0.77	0.45	0.1	/
Coil Watts @ 25°C (W)	DCNLM50	9	9	9	9
	DCNLM100(D)	150/9	150/9	150/9	/
	DCNLM200(S)	10	10	10.5	/
	DCNLM200(D)	180/8.5	170/9	180/8	/
	DCNLM400(S)	/	10	11.5	/
	DCNLM400(D)	80/9.5	175/11	154/5	/

LIFE	
Electrical Life	6000 Cycles
Mechanical Life	100,000

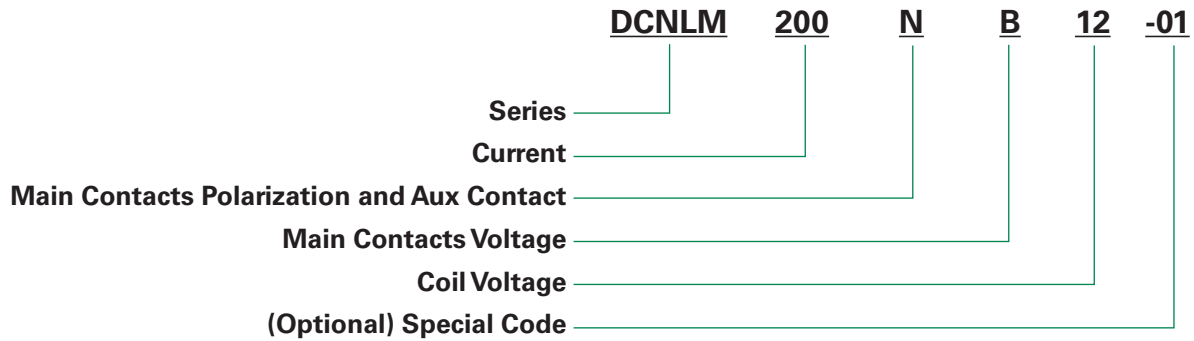
OPERATE / RELEASE TIME		
Close (ms)	DCNLM50	40
	DCNLM100	30
	DCNLM200	50
	DCNLM400	50
Release (ms)	DCNLM50	20
	DCNLM100	30
	DCNLM200	25
	DCNLM400	25

ENVIRONMENTAL DATA		
Shock	DCNLM50NB DVP 50G, 6ms	
Vibration	1~50Hz (freq.1~10Hz, amp;.25/f <sup>2</sup> ; freq.10~50Hz, ampl.250/f <sup>2</sup> )	
Operating Ambient Temperature	-40°C~+70°C	
Weight (g)	DCNLM50	157
	DCNLM100NBxx-01	193.3
	DCNLM200NBxx	445.1
	DCNLM200NBxx-0x	439
	DCNLM400NBxx	866
	DCNLM400NBxx-01	888

# DCNLM SERIES

## 60V DC MAX CONTACTOR RELAY

### 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

# DCNLM SERIES

## 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. 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
DCNLM50NB	DCNLM50NB12	Bolt : M5	4~5N.m	Bolt : M4	1.7~2.5N.m	1.7~2.5N.m
	DCNLM50NB24					
	DCNLM50NB48					
	DCNLM50NB60					
DCNLM100NB	DCNLM100NB12-01	Bolt : M6	4~6N.m	Bolt : M4	1.7~2.5N.m	1.7~2.5N.m
	DCNLM100NB24-01					
	DCNLM100NB48-01					
DCNLM200NB	DCNLM200NB12	Bolt : M8	9~11N.m	Bolt : M4	1.7~2.5N.m	4~5N.m
	DCNLM200NB24					
	DCNLM200NB48					
	DCNLM200NB12-01					
	DCNLM200NB24-01					
	DCNLM200NB48-01					
DCNLM200NB24-02	Bolt : M8	9~11N.m	Wire	-	4~5N.m	
DCNLM400NB	DCNLM400NB24	Bolt : M10	15~18N.m	Bolt : M4	1.7~2.5N.m	6~8N.m
	DCNLM400NB48					
	DCNLM400NB12					
	DCNLM400NB24-01					