

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.

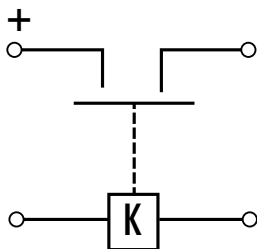
This normally open relay comes in a variety of configurations to suit your application requirements. Polarized models with main contacts rated for 96V (110V max) and non-polarized models with main contacts rated for 48V (60V max) are available with a continuous current rating of 125A, 200A, or 250A.

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

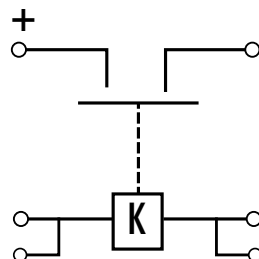
Web Resources

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

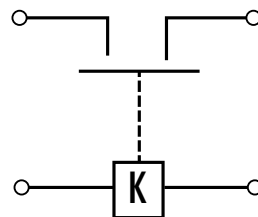
Electrical Diagram



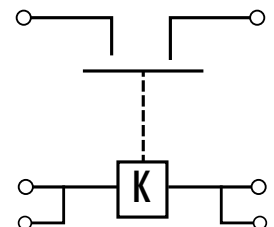
DCNLJ250PD12



DCNLJ125PD12, DCNLJ125PD24,
DCNLJ125PD60, DCNLJ200PD24



DCNLJ250NB12-01



DCNLJ125NB12, DCNLJ125NB24,
DCNLJ125NB60, DCNLJ200NB24
DCNLJ200NB48, DCNLJ200NB60

Specifications

| | |
|---------------------------------------|---------------|
| Max Voltage Rating (V DC): | 60, 110 |
| Current Rating Continuous (A): | 125, 200, 250 |
| Coil Voltage Rating (V DC): | 12, 60 |
| Ingress Protection: | IP 40 |
| Operating Temperature (°C): | -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) | | | | | | |
| DCNLJ125NB12 | 125 | 48 | 60 | SIDE MOUNT | 12 | Single | No | No | ↓ |
| DCNLJ125NB24 | 125 | 48 | 60 | SIDE MOUNT | 24 | Single | No | No | ↓ |
| DCNLJ125NB60 | 125 | 48 | 60 | SIDE MOUNT | 60 | Single | No | No | ↓ |
| DCNLJ125PD12 | 125 | 96 | 110 | SIDE MOUNT | 12 | Single | No | Yes | ↓ |
| DCNLJ125PD24 | 125 | 96 | 110 | SIDE MOUNT | 24 | Single | No | Yes | ↓ |
| DCNLJ125PD60 | 125 | 96 | 110 | SIDE MOUNT | 60 | Single | No | Yes | ↓ |
| DCNLJ200NB24 | 200 | 48 | 60 | SIDE MOUNT | 24 | Single | No | No | ↓ |
| DCNLJ200NB48 | 200 | 48 | 60 | SIDE MOUNT | 48 | Single | No | No | ↓ |
| DCNLJ200NB60 | 200 | 48 | 60 | SIDE MOUNT | 60 | Single | No | No | ↓ |
| DCNLJ200PD24 | 200 | 96 | 110 | SIDE MOUNT | 24 | Single | No | Yes | ↓ |
| DCNLJ250PD12 | 250 | 96 | 110 | SIDE MOUNT | 12 | Single | No | Yes | ↓ |
| DCNLJ250NB12-01¹ | 250 | 48 | 60 | SIDE MOUNT | 12 | Single | No | No | ↓ |

¹ 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 |
| Max Short Circuit Current | DCNLJ125NBXX |
| | 500A @48V DC |
| | 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 | DCNLJ125 DCNLJ200 |
| | 6,000 |
| | DCNLJ250 |
| | 100,000 |
| Mechanical Life | DCNLJ125 DCNLJ200 |
| | 300,000 |
| | DCNLJ250 |
| | 3,000,000 |

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

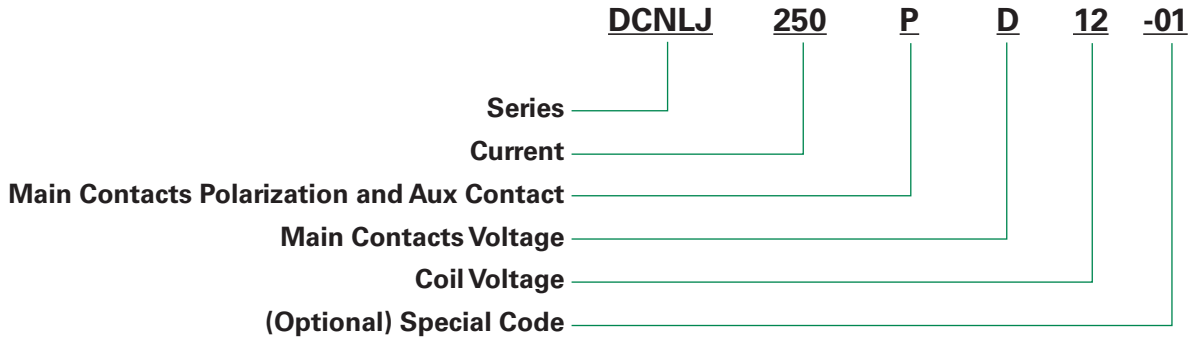
| ENVIRONMENTAL DATA | |
|-------------------------------|--|
| Shock | 3G |
| Vibration | 1~50Hz (freq.1~10Hz, amp;.25/f ² ; freq.10~50Hz, ampl.250/f ²) |
| Operating Ambient Temperature | -40°C~+85°C |
| Weight (g) | 776 |

| 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.