

Coolwave[®] 2 Contactor Upgrade



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.



WARNING: This equipment operates at high voltages up to 5000 Vdc and is therefore potentially dangerous. The electrician servicing this equipment must take all precautions.



WARNING: Isolate the equipment at the main disconnect or lockout before removing any of the cover panels.

Description

See Figure 1. Use this instruction sheet to upgrade the CR1 contactor on Coolwave[®] power supplies.

NOTE: Depending on model, CR2 contactor may not be present. However, the CR1 contactor is in the same location on all models.

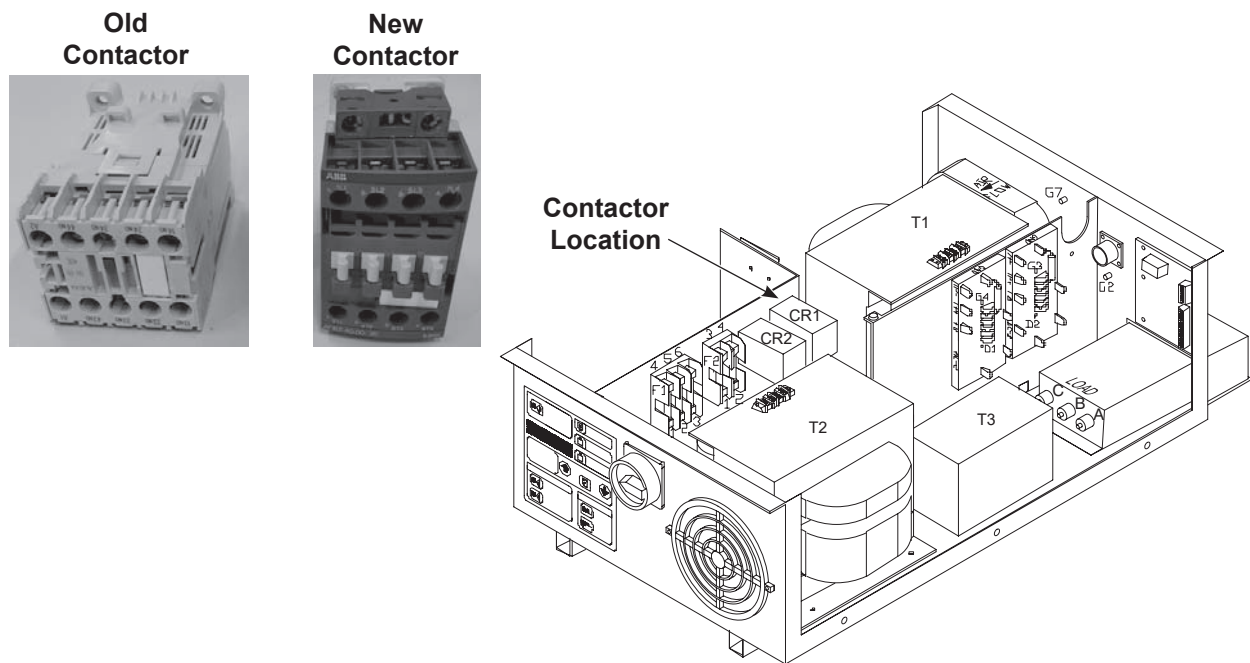


Figure 1 Old and New Contactor

Disassembly

1. See Figure 2. Remove the six M5 screws from the power supply cover. Remove the cover and set it aside.



Figure 2 Removing Cover Screws

2. See Figure 3. Remove transformer for access to contactor.

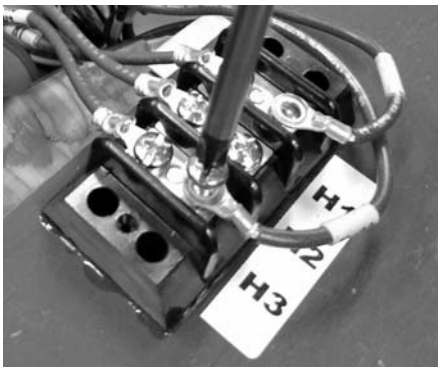


CAUTION: Transformer can weigh up to 100 lb. Use proper lifting equipment when removing transformer.

NOTE: Keep hardware for reassembly.

- a. Disconnect ring terminals by removing screws.
- b. Disconnect transformer terminals from diode block.
- c. Remove the four bolts, toothed washers, and washers securing transformer.
- d. Remove transformer from the power supply.

Disconnect Ring Terminals



Disconnect at Diode Blocks



Remove Hardware



Figure 3 Removing Transformer

3. See Figure 4. Remove main control board for access to contactor mounting hardware.

NOTE: Make note of the all connections to main control board.

- a. Disconnect all harnesses and ribbon cables from main control board.
- b. Remove the eight M3 screws and washers to remove board.

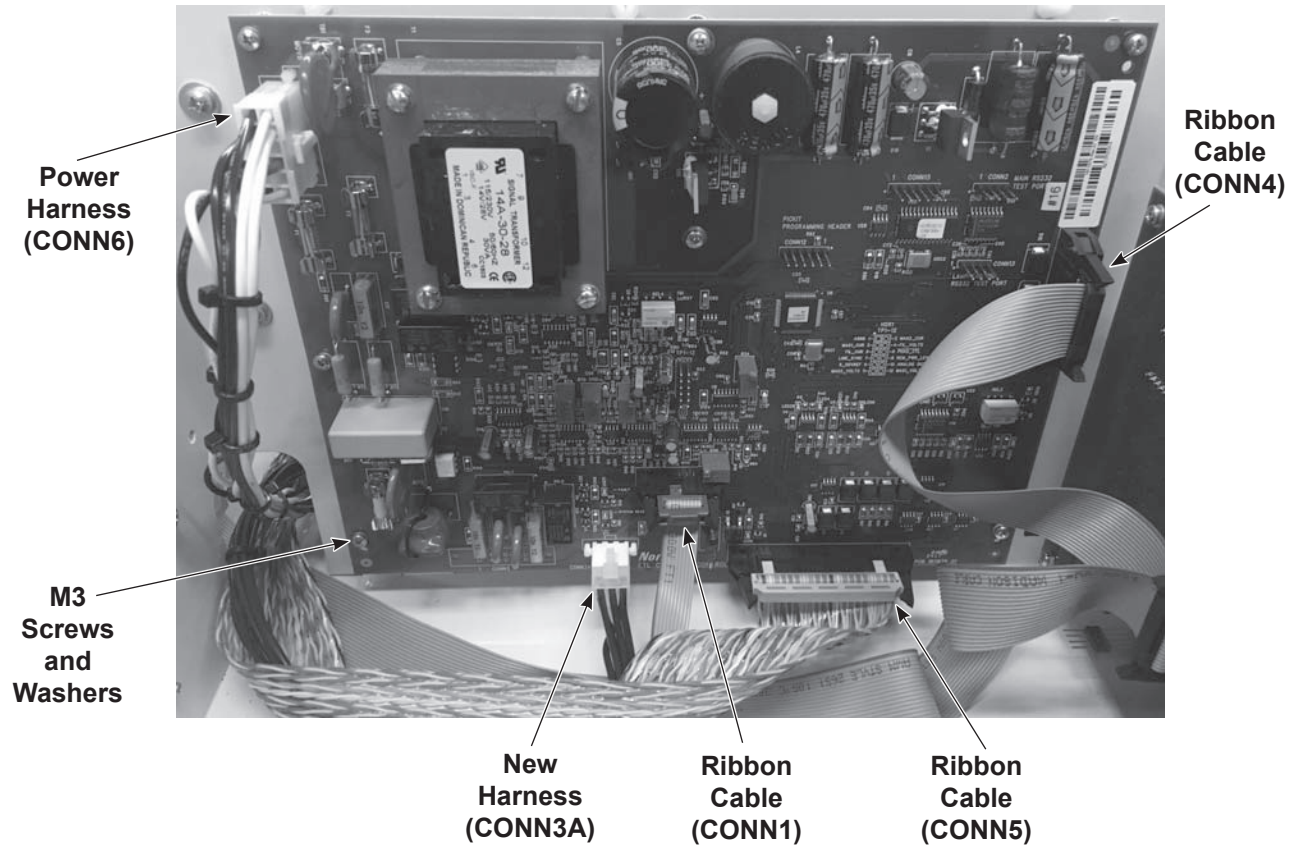


Figure 4 Board Connections and Mounting (shown with newest version of board)

4. See Figure 5. Disconnect terminals from old contactor.

5. Remove old contactor by removing four contactor screws.

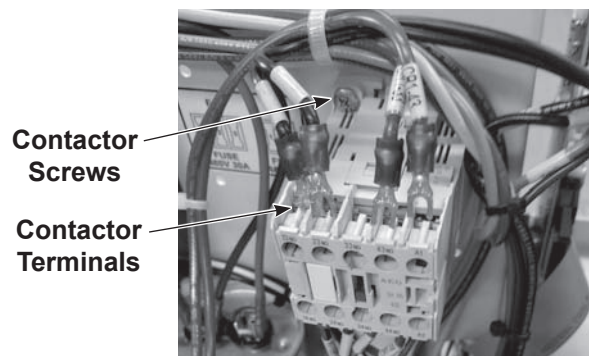


Figure 5 Removing Old Contactor

New Contactor Installation

NOTE: Installation of new contactor requires an extractor tool. Refer to the *Parts* section for part number.

1. See Figure 6. Install adapter plate onto new contactor using two M4 x 12 mm contactor screws and lock washers. Torque to 20 in-lb (2.3 N•m).
2. Install the contactor assembly to the power supply using four screws, flat washers, washers, and two nuts.

NOTE: Note the location of long and short screws as shown in Figure 6.

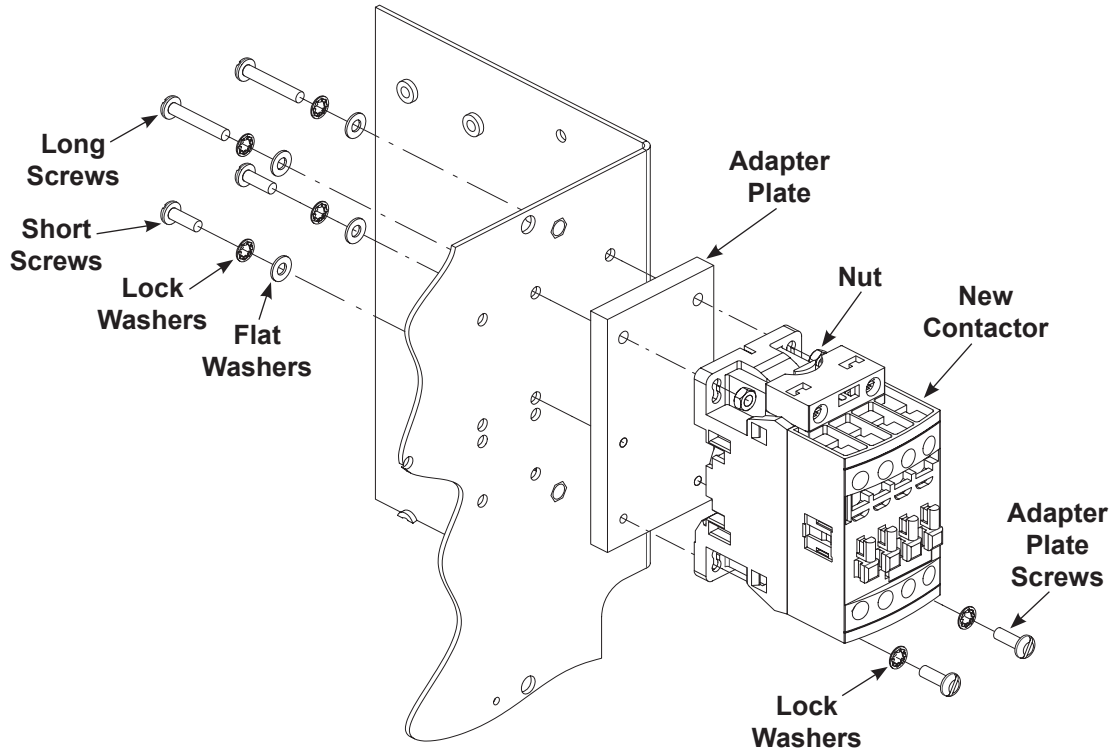


Figure 6 Installing New Contactor

3. See Figure 7. Remove red A1 wire at PIN 9 from the power harness (CONN6) using extractor tool.
4. Install new red A1 wire into power harness (CONN6-9).

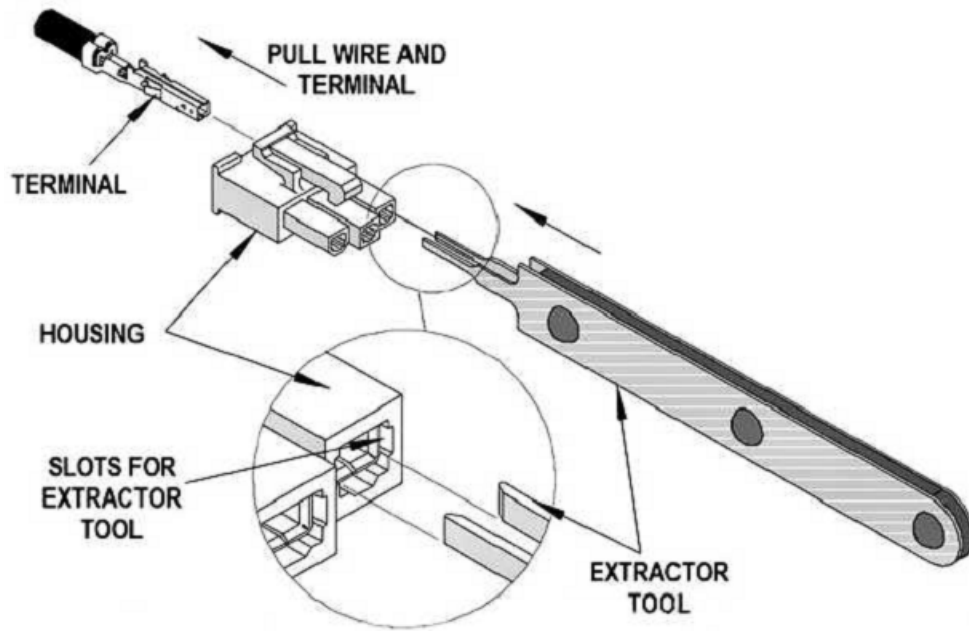


Figure 7 Using Extractor Tool to Remove Wire and Terminal from Connector

New Contactor Installation (contd)

5. Route new red wire along harness path to the new contactor.
6. See Figure 8 and Table 1. Secure all terminal connections, including new red A1 wire to the new contactor. Torque screws accordingly:
 - A1, A2: 11 in-lb (1.3 N•m)
 - 1L1, 3L2, 5L3, 7L4: 13 in-lb (1.5 N•m)
 - 2T1, 4T2, 6T3, 8T4: 13 in-lb (1.5 N•m)

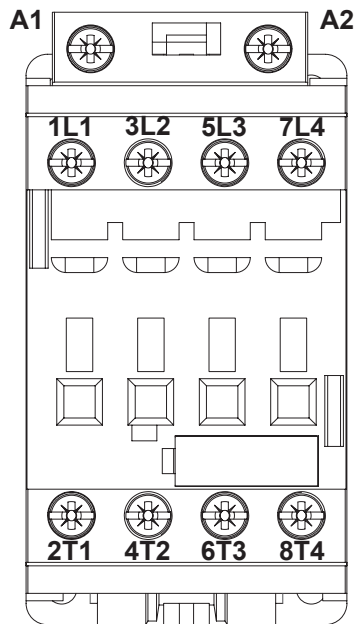


Figure 8 Terminals Connected to New Contactor

Table 1 Terminal Contactors

To Contactor	Wire Color	Wire Label
A1	Red	A1
A2	Black	A2
1L1	Black	CR1-13 or CR1-1L1
3L2	Black	CR1-23 or CR1-3L2
5L3	Red	CR1-33 or CR1-5L3
7L4	Red	CR1-43 or CR1-7L4
2T1	Black	CR1-14 or CR1-2T1
4T2	Black	CR1-24 or CR1-4T2
6T3	Red	CR1-34 or CR1-6T3
8T4	Red	CR1-44 or CR1-8T4
NOTE: Wire labels recently updated. Both versions of labeling provided.		

Reassembly



CAUTION: Transformer can weigh up to 100 lb. Use proper lifting equipment when installing transformer.

1. See Figure 9. Reinstall transformer.

NOTE: Be sure to clear all harnesses from underneath transformer when installing.

- a. Secure transformer back in power supply using four bolts, washers, and tooth washers. Torque to 70–80 in-lb (7.9–9.0 N•m).
- b. Secure terminals back onto diode block.
- c. Secure terminals back on top of transformer using screws.

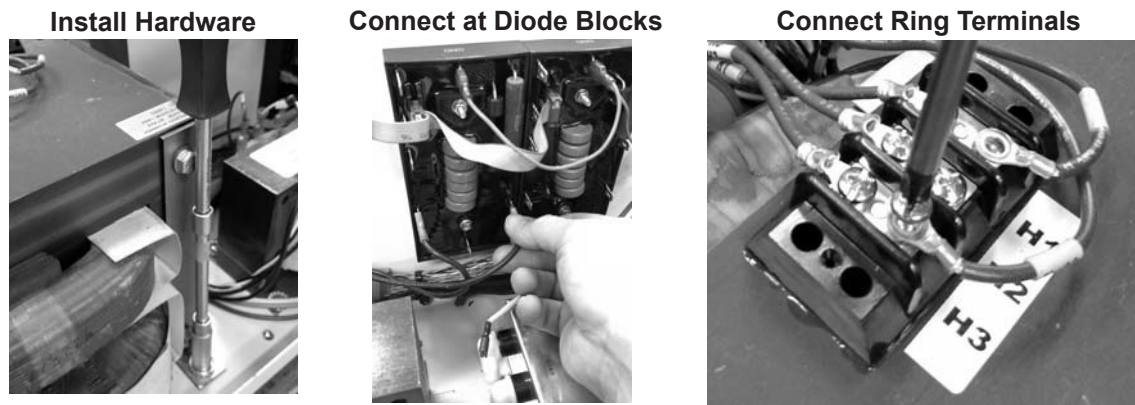


Figure 9 Installing Transformer

Reassembly (contd)

2. See Figure 10. Reinstall main control board using eight screws and washers.
3. Reconnect all harnesses and ribbon cables as shown.
4. Reinstall cover on power supply.

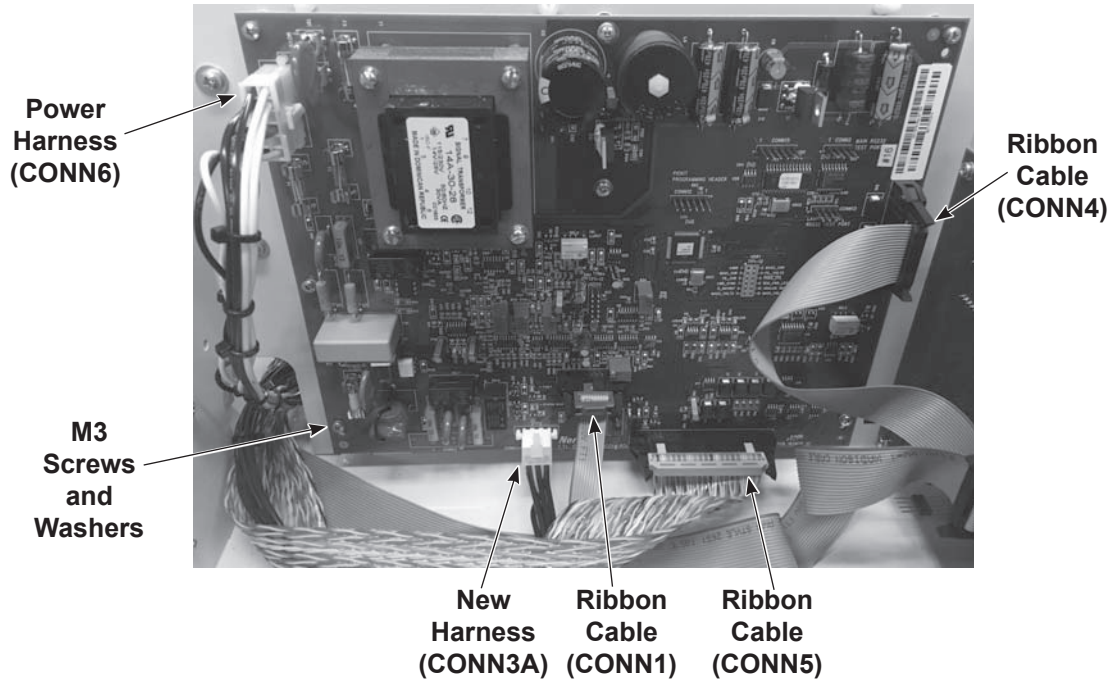


Figure 10 Board Connections and Mounting (shown with newest version of board)

Parts

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Contactor Upgrade Kit

Part	Description	Quantity	Note
1612364	KIT, contactor upgrade, Coolwave 2	1	
-----	• CONTACTOR, 4 pole, 600 V, 30 A, 24 Vdc coil, CR1	1	
-----	• EXTENDED WIRE, contactor	1	
-----	• HARNESS, power supply contactor, internal blower	1	
-----	• ADAPTER, contactor	1	
-----	• SCREW, pan head, slot, M4 x 25, zinc	2	
-----	• SCREW, socket, M4 x 12, stainless steel	4	
-----	• WASHER, lock, M, int, M4, steel, zinc	6	
-----	• WASHER, flat, M, oversized, M4, zinc	4	
-----	• NUT, hex, M4, steel, zinc	2	

Extractor Tool

Part	Description	Note
1102411	TOOL, extraction, pin, mini-fit	

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