

# NXS Three Contactor Bypass Assemblies

## INSTALLATION INSTRUCTIONS

### APPLICATION

The NXS Three Contactor Bypass Assemblies channel electrical power either through or around the variable frequency drive (VFD).

### INSTALLATION

#### When Installing This Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

#### **WARNING**

**Can Cause Serious Injury or Death.**  
**Installation requires work with high voltage.**  
Disconnect power supply before installation.

#### **CAUTION**

**Equipment Damage Hazard.**  
**Can short equipment circuitry.**  
Disconnect power supply before installation.

#### Location and Mounting

Locate the device in a clean, dry, well-ventilated area with an ambient temperature below 125°F (52°C).

### WIRING

#### **CAUTION**

**Equipment Damage Hazard.**  
**Can short equipment circuitry.**  
Disconnect power supply before installation.

#### **IMPORTANT**

*All wiring must agree with applicable codes, ordinances and regulations.*

1. Ensure that bypass box voltage corresponds with that of the power supply.
2. To access the wiring compartment:
  - a. Ensure handle is in the *OFF* position.
  - b. Rotate latch 3/4-turn counterclockwise.
  - c. Open the cover.

#### **IMPORTANT**

*Use only copper wire with 167°F (75°C) minimum.*

3. Refer to Fig. 1 for typical wiring.
4. If you intend to use the bypass box to manually operate the motor, set the motor overload dial to the motor full load amp (FLA) rating.

### OPERATION

Bypass boxes have four operating positions:

- *VFD*: Device directs power to VFD first, then to the motor. VFD controls the motor as it would without the bypass box.
- *OFF*: Device stops power. Power reaches neither the motor nor the VFD.
- *TEST*: Device directs power to VFD *only*. This allows for VFD calibration, adjustments, and diagnostics.
- *BYPASS*: Device directs power to motor *only*. No power reaches the VFD. The motor operates at full speed with full power.



## Operation Using the VFD

To set bypass box to use VFD to control the motor as it would without the bypass box:

1. Stop the motor.
2. Wait five seconds.
3. Rotate handle to *DRIVE*.
4. Start the VFD (see VFD instructions for details).

## VFD Bypass

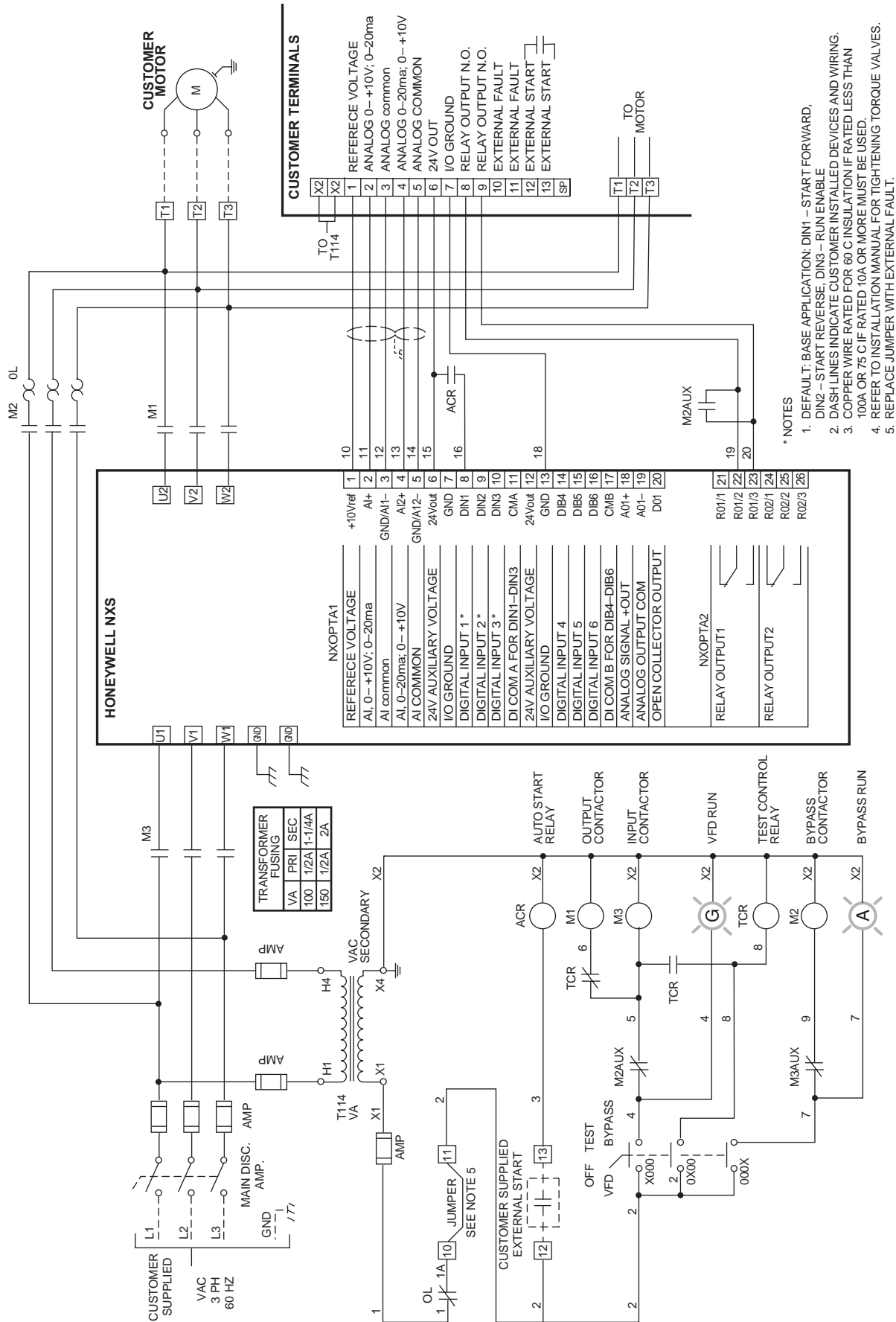
To set bypass box to direct power *only* to motor:

1. Rotate handle from *VFD* to *OFF*.
2. Wait five seconds.

### **IMPORTANT**

*Switching the bypass box control handle to **BYPASS** can immediately turn the motor on.*

3. Rotate handle to *BYPASS*.



- \* NOTES
1. DEFAULT: BASE APPLICATION; DIN1 - START FORWARD, DIN2 - START REVERSE, DIN3 - RUN ENABLE
  2. DASH LINES INDICATE CUSTOMER INSTALLED DEVICES AND WIRING.
  3. COPPER WIRE RATED FOR 60 C INSULATION IF RATED LESS THAN 100A OR 75 C IF RATED 10A OR MORE MUST BE USED.
  4. REFER TO INSTALLATION MANUAL FOR TIGHTENING TORQUE VALVES.
  5. REPLACE JUMPER WITH EXTERNAL FAULT.

Fig. 1. NXS wiring.

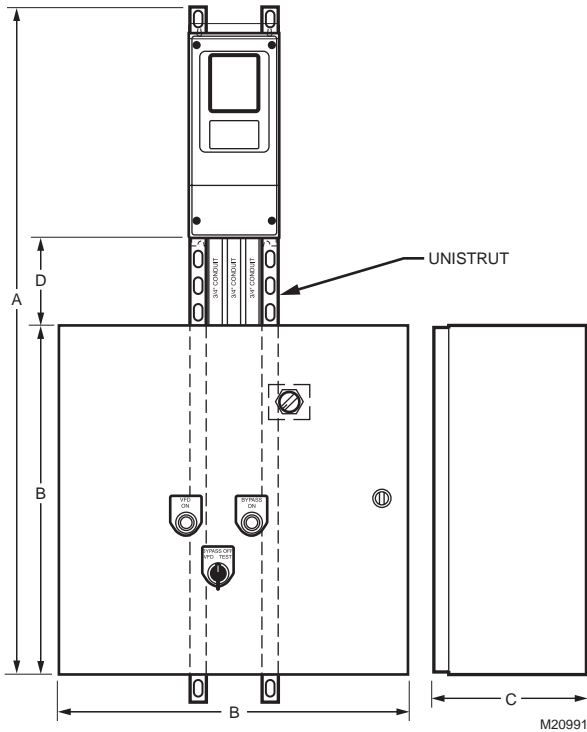


Fig. 2. Dimensions of the NXS NEMA1 Assemblies.

Table 1. NXS NEMA1 Assembly Dimension Details.

Model Number	HP	Weight (lbs)	A B C D				Motor Terminal Torque Rating (lb-in.)	Volts AC		
			(inches)							
NXS0015J	1.5	53	33-1/2	16	7	5	18 - 20	480		
NXS0020J	2									
NXS0030J	3									
NXS0040J	4									
NXS0050J	5									
NXS0075J	7.5	68								
NXS0100J	10	70								
NXS0150J	15	70	37-1/2	16	9					
NXS0200J	20	98	41-1/2	20						
NXS0250J	25	98	41-1/2	20	9	5			32 - 35	
NXS0300J	30	98	46-1/2							
NXS0400J	40	150	46-1/2	24						
NXS0500J	50	150	46-1/2	24	9	6	45 - 50			
NXS0600J	60	150	49-1/2							
NXS0010S	1	53	33-1/2	16	7	5	18 - 20	230		
NXS0015S	1.5									
NXS0020S	2									
NXS0030S	3	68								
NXS0040S	4									
NXS0050S	5	70	33-1/2							
NXS0075S	7.5	70	37-1/2	16	9					
NXS0100S	10	98	41-1/2	20						
NXS0150S	15	98	41-1/2	20	9	5			32 - 35	
NXS0200S	20	150	46-1/2	24						
NXS0250S	25	150	46-1/2	24	9	6	45 - 50			
NXS0300S	30	150	49-1/2							
NXS0010K	1	53	33-1/2	16	7	5	18 - 20	200 / 208		
NXS0015K	1.5									
NXS0020K	2									
NXS0030K	3	68								
NXS0040K	4									
NXS0050K	5	70								
NXS0075K	7.5	98	41-1/2	20	9					
NXS0100K	10	98	41-1/2	20	9	5			32 - 35	
NXS0150K	15	150	46-1/2	24						
NXS0200K	20	150	46-1/2	24	9	6			45 - 50	
NXS0250K	25	150	49-1/2							
NXS0300K	30									

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