

### 3.2 Standard Connection Diagram

Connect the drive and peripheral devices as shown in [Figure 3.1](#). It is possible to run the drive via the digital operator without connecting digital I/O wiring. This section does not discuss drive operation; [Refer to Start-Up Programming & Operation on page 67](#) for instructions on operating the drive.

**NOTICE:** *Inadequate branch short circuit protection could result in damage to the drive. Install adequate branch circuit short circuit protection per applicable codes. The drive is suitable for circuits capable of delivering not more than 30,000 RMS symmetrical amperes, 240 Vac maximum (200 V Class) and 480 Vac maximum (400 V Class).*

**NOTICE:** *When the input voltage is 440 V or higher or the wiring distance is greater than 100 meters, pay special attention to the motor insulation voltage or use a drive duty motor. Failure to comply could lead to motor insulation breakdown.*

**NOTICE:** *Do not connect AC control circuit ground to drive enclosure. Improper drive grounding can cause control circuit malfunction.*

**NOTICE:** *The minimum load for the multi-function relay output MA-MB-MC is 10 mA.*

## 3.2 Standard Connection Diagram

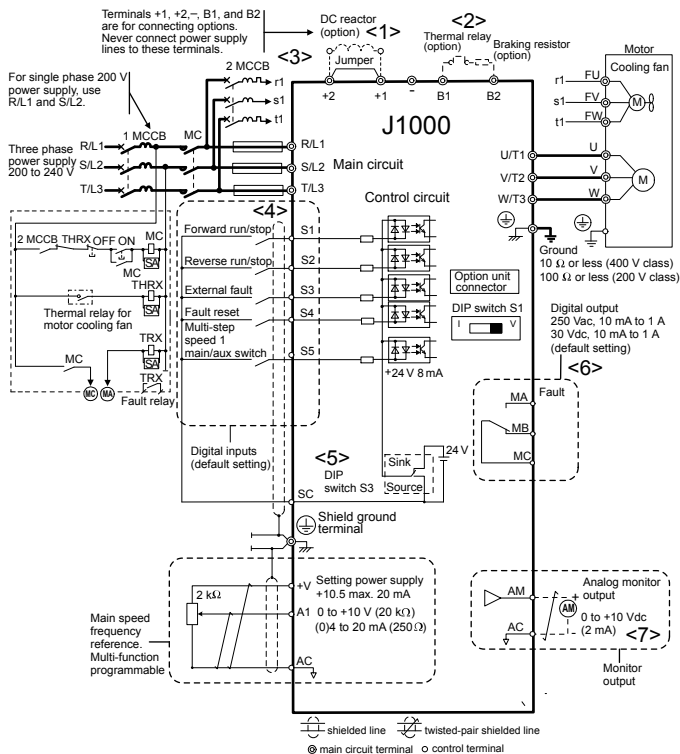


Figure 3.1 Drive Standard Connection Diagram (200 V Class Example)

- <1> Remove the jumper when installing an optional DC reactor.
- <2> The MC on the input side of the main circuit should open when the thermal relay is triggered.
- <3> Self-cooled motors do not require separate cooling fan motor wiring.
- <4> Connected using sequence input signal (S1 to S5) from NPN transistor; Default: sink mode (0 V com).
- <5> Use only a +24 V internal power supply in sinking mode; the source mode requires an external power supply *Refer to I/O Connections on page 57.*
- <6> Minimum load: 5 Vdc, 10 mA (reference value).
- <7> Monitor outputs work with devices such as analog frequency meters, ammeters, voltmeters and wattmeters; they are not intended for use as a feedback-type of signal.

## 3.2 Standard Connection Diagram

**WARNING!** Sudden Movement Hazard. Do not close the wiring for the control circuit unless the multifunction input terminal parameter is properly set (S5 for 3-Wire; H1-05 = "0"). Improper sequencing of run/stop circuitry could result in death or serious injury from moving equipment.

**WARNING!** Sudden Movement Hazard. Ensure start/stop and safety circuits are wired properly and in the correct state before energizing the drive. Failure to comply could result in death or serious injury from moving equipment. When programmed for 3-Wire control, a momentary closure on terminal S1 may cause the drive to start.

**WARNING!** When 3-Wire sequence is used, set the drive to 3-Wire sequence before wiring the control terminals and ensure parameter b1-17 is set to 0 (drive does not accept a run command at power up (default)). If the drive is wired for 3-Wire sequence but set up for 2-Wire sequence (default) and if parameter b1-17 is set to 1 (drive accepts a Run command at power up), the motor will rotate in reverse direction at power up of the drive and may cause injury.

Figure 3.2 illustrates an example of a 3-Wire sequence.

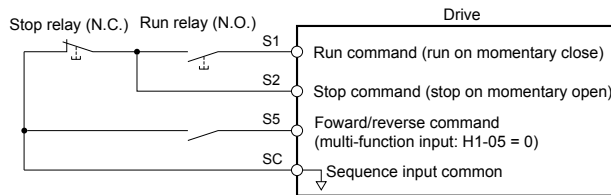


Figure 3.2 3-Wire Sequence

### 3.3 Main Circuit Connection Diagram

## 3.3 Main Circuit Connection Diagram

Refer to diagrams in this section for the Main Circuit wiring connections. Connections may vary based on drive capacity. The main circuit DC power supply powers the control circuit.

**NOTICE:** Do not use the negative DC bus terminal “-” as a ground terminal. This terminal is at high voltage DC potential. Improper wiring connections could result in damage to the drive.

### ◆ Single-Phase 200 V Class (CIMR-J□BA0001 ~ 0010)

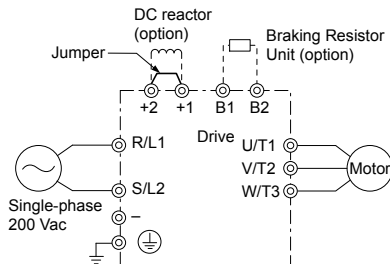


Figure 3.3 Connecting Single-Phase Main Circuit Terminals

**NOTICE:** Do not connect T/L3 terminal when using single-phase power supply input. Incorrect wiring may damage the drive.

◆ **Three-Phase 200 V Class (CIMR-J□2A0001 ~ 0020);  
Three-Phase 400 V Class (CIMR-J□4A0001 ~ 0011)**

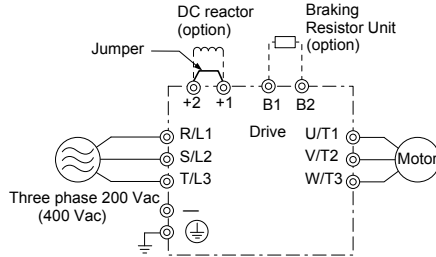


Figure 3.4 Connecting Three-Phase Main Circuit Terminals

### 3.4 Terminal Block Configuration

The figures in this section provide illustrations of the main circuit terminal block configurations of the different drive sizes.

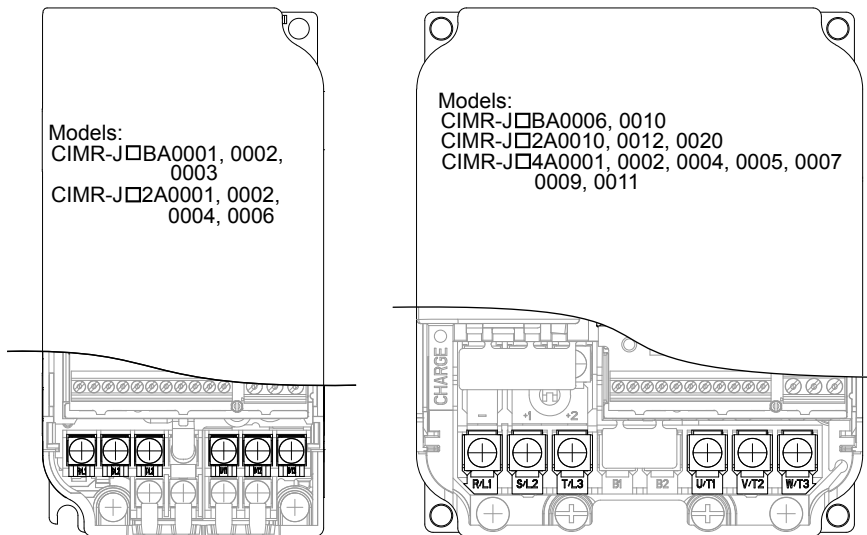


Figure 3.5 Main Circuit Terminal Block Configurations