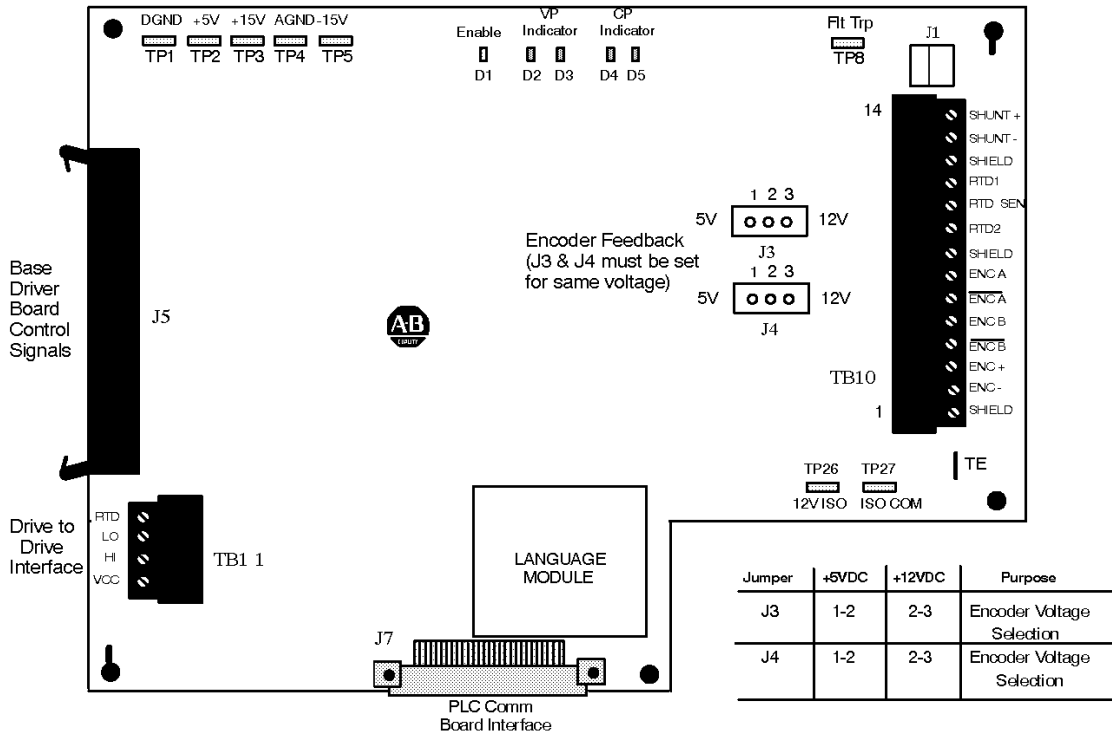


1336 FORCE Series A Installation Wiring

Encoder, Brake and Control Area Network connections are performed on the Motor Control Board (Fig. 1). The maximum and minimum wire size accepted by TB10 and TB11 on the Motor Control Board is 3.3 and 0.06 mm² (12 and 30 AWG). Maximum torque for both terminal blocks is 0.79 N-m (7 lb-in.). Use copper wire only.

Figure 1. Terminal Block Locations Motor Control Board



D1	Green	Drive Enable	ON - Drive Running, OFF - Drive Not Running
D2	Green	VP Indicator	ON - No Faults, OFF - See D3
D3	Red	VP Indicator	Refer to Fault Codes in Table 4.A
D4	Green	CP Indicator	ON - No Faults, OFF - See D5
D5	Red	CP Indicator	Refer to Fault Codes in Table 4.A

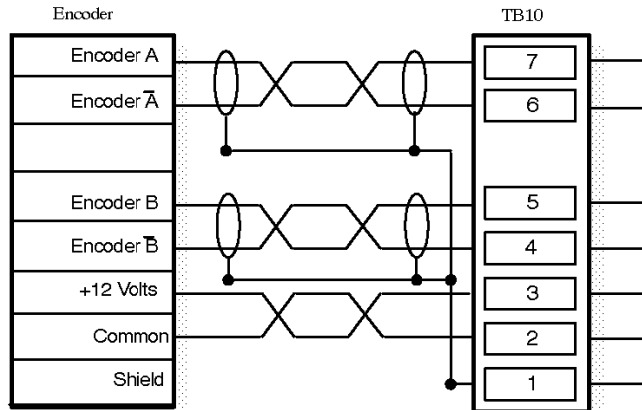


ATTENTION: When user installed control and signal wiring with an insulation rating of less than 600V is used, this wiring must be routed inside the drive enclosure so that it is separated from any other wiring and uninsulated live parts. Failure to do so could result in equipment damage or unsatisfactory Drive performance.

Encoder Connections

The Encoder connections are made at terminal block TB10 on the Motor Control Board as detailed in Figure 2.

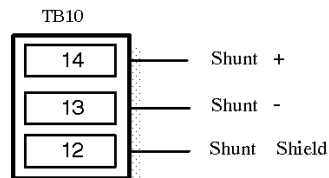
Figure 2. Encoder Connections



Brake Control Connections

The TB10 connector on the Motor Control Board (Figure 2.9) can be used to connect an optional Dynamic brake circuit.

Figure 3. Dynamic Brake Control Circuit Connections (Currently for Allen-Bradley Development use only).

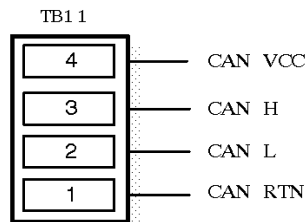


IMPORTANT: If you are using an Allen-Bradley brand brake this connection would not be used, as Allen-Bradley brakes are self monitoring.

Drive to Drive Communication (CAN Connections)

The TB11 connector on the Motor Control Board (Figure 2.10) is used to connect the Control Area Network.

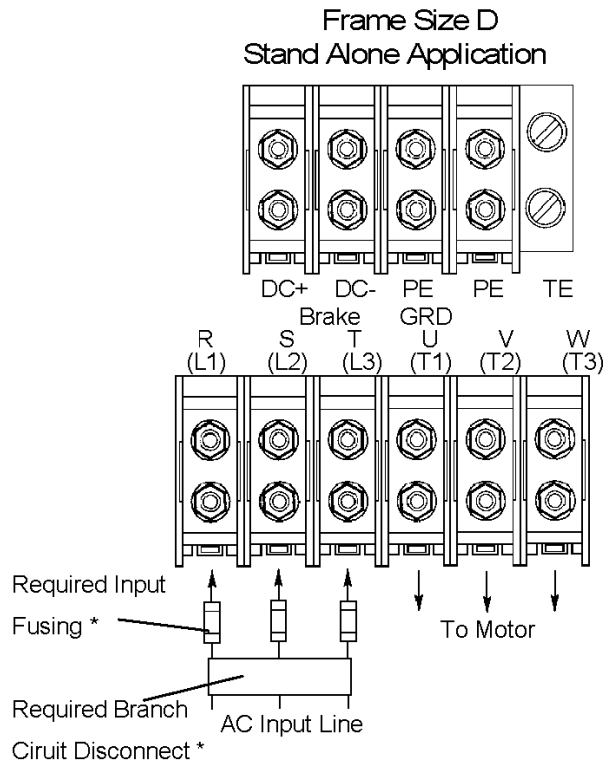
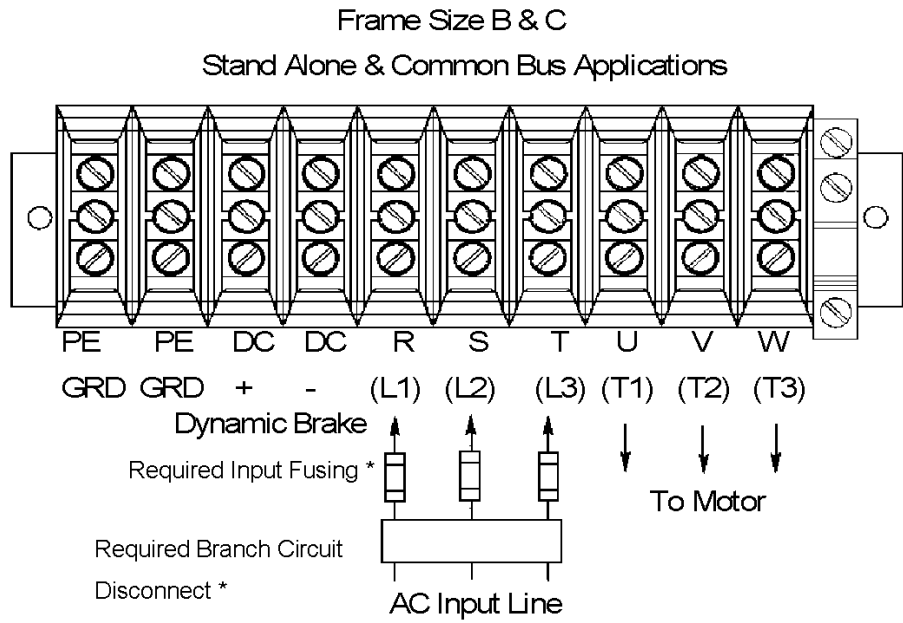
Figure 4. CAN Connections



Power Wiring

On 7.5 to 30 HP drives, input and output power connections are performed through a 10 position terminal block, TB1 located on the Gate Driver Board (see Figure 6 for location). On drives larger than 30 HP, input and output power connections are made at separate terminal strips located at the bottom of the drive. The 40 to 200 HP drive connections are illustrated in Figure 5. These configurations of TB1 are stud terminations and require the use of lug type connectors to terminate the field installed conductors. Cat. No. 1336-LUG-XXXX Lug Kits are available for use with these configurations of TB1. The wire size used is determined by selecting the proper lug kit based on the Cat. No. of the drive.

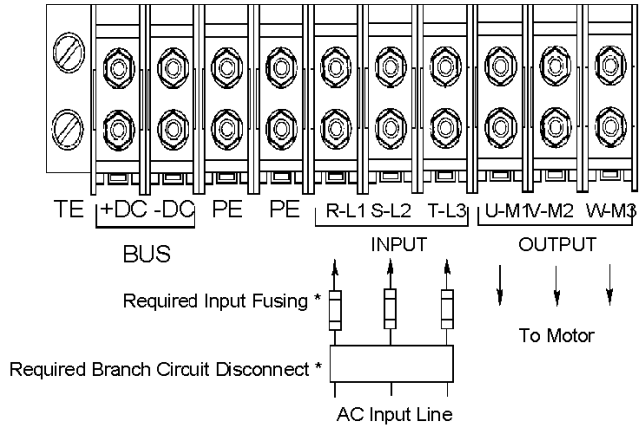
Figure 5. Terminal Block TB1



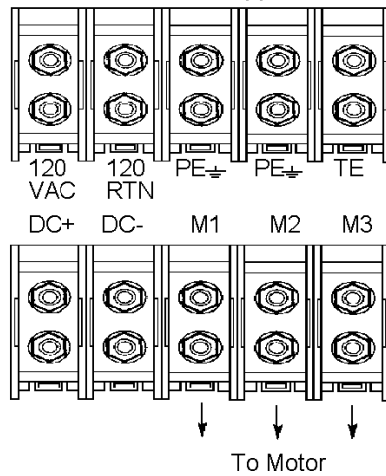
* User Supplied

Figure 5. cont. Terminal Block TB1

Frame Size E
Stand Alone Applications



Frame Size D
Common Bus Application



Frame Size E
Common Bus Applications

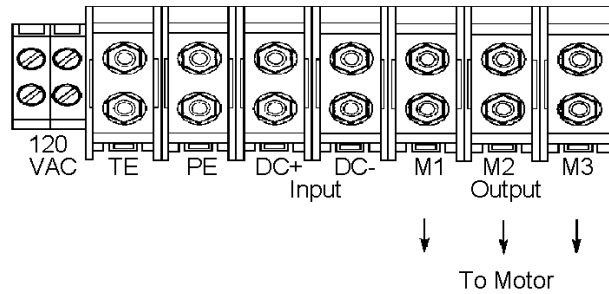
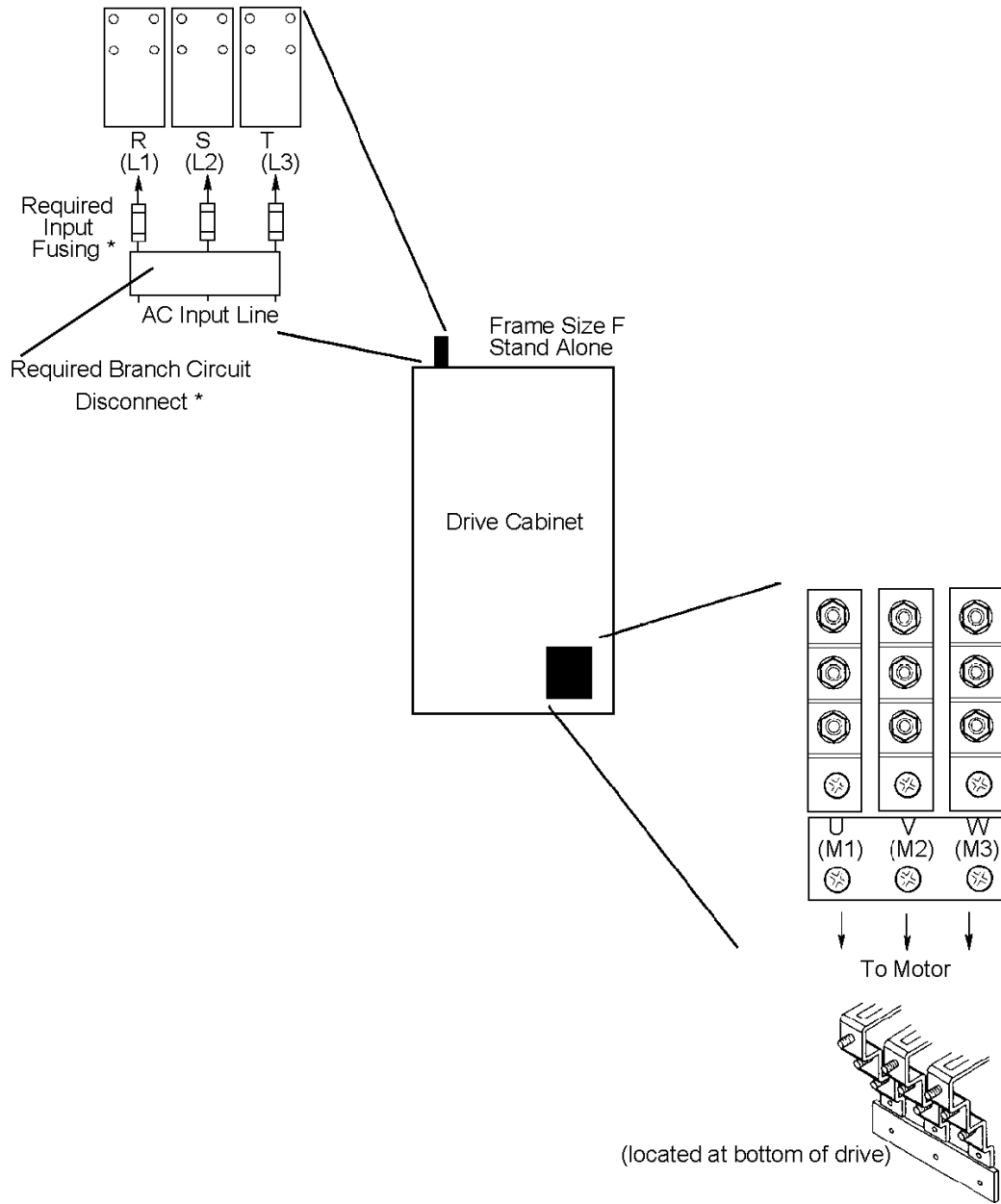


Figure 5. cont. Terminal Block TB1

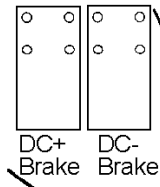
(typical terminal layout, located at top of drive)



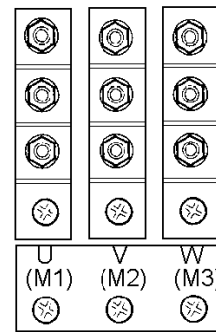
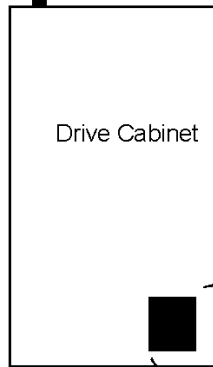
* User Supplied

Figure 5. cont. Terminal Block TB1

(typical terminal layout, located at top of drive)



Frame Size F
Common Bus



To Motor

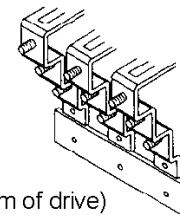


Figure 6. Frame Size B Gate Driver Board Connections

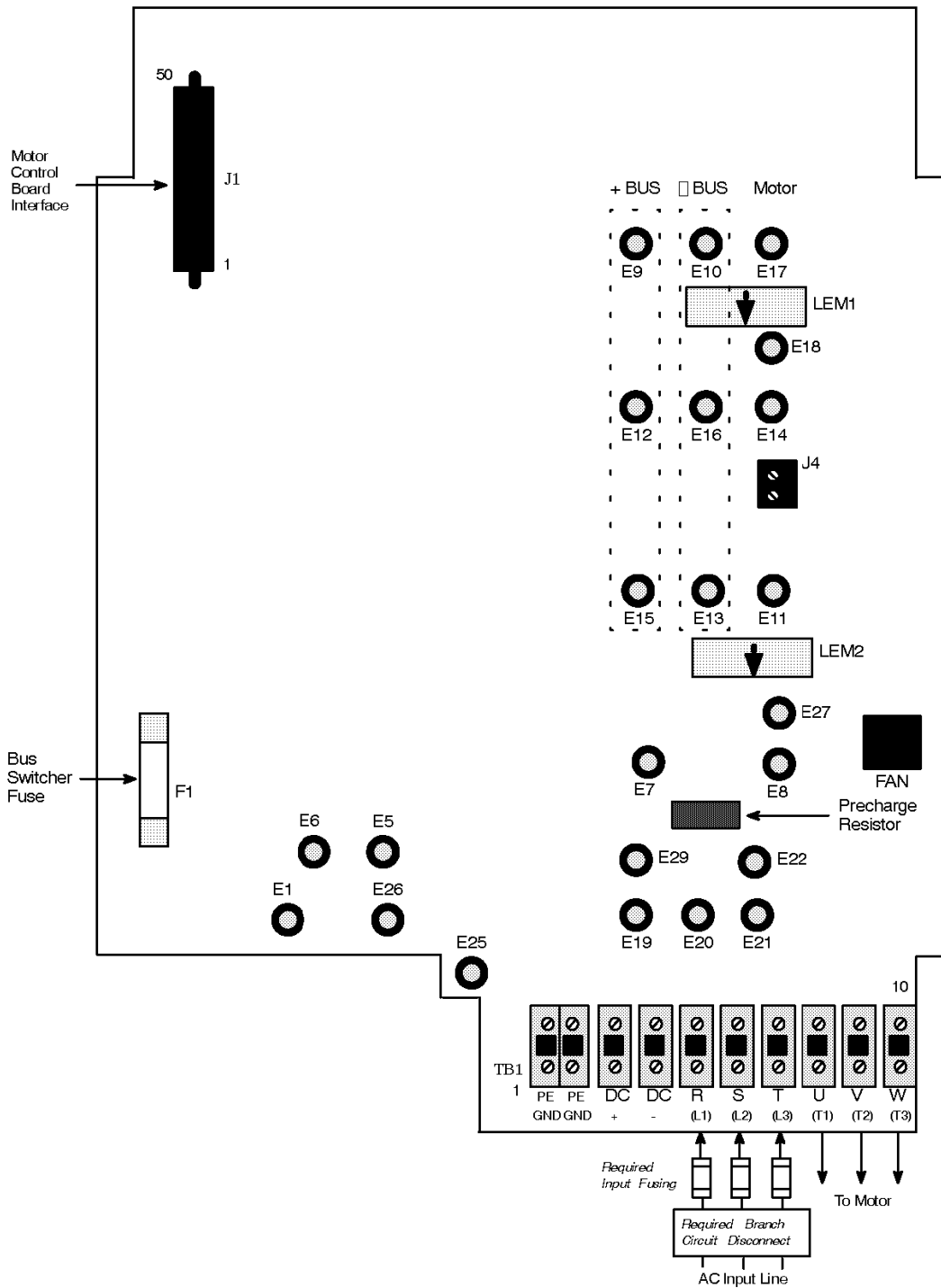


Figure 7. Frame Size C Gate Driver Board Connections

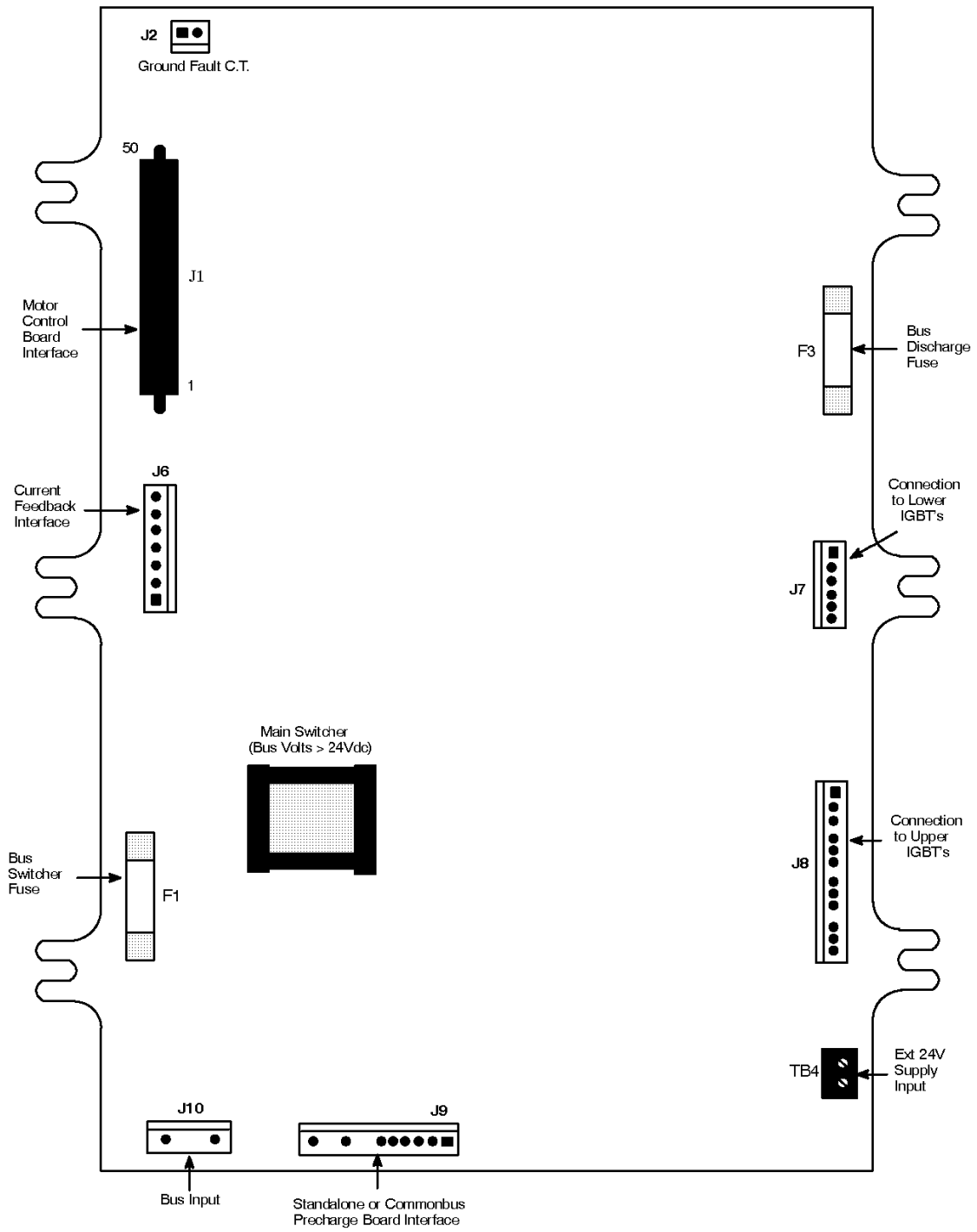
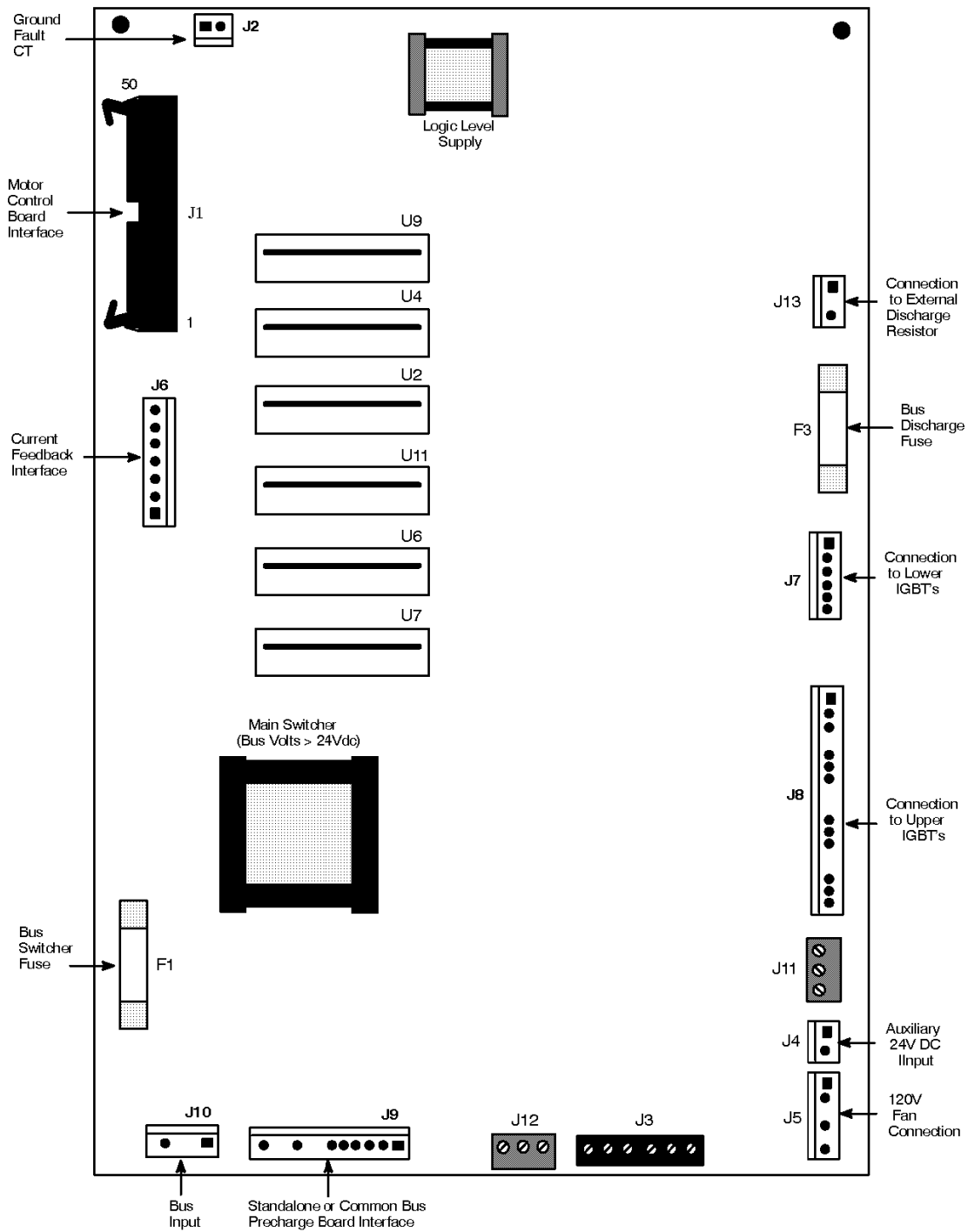


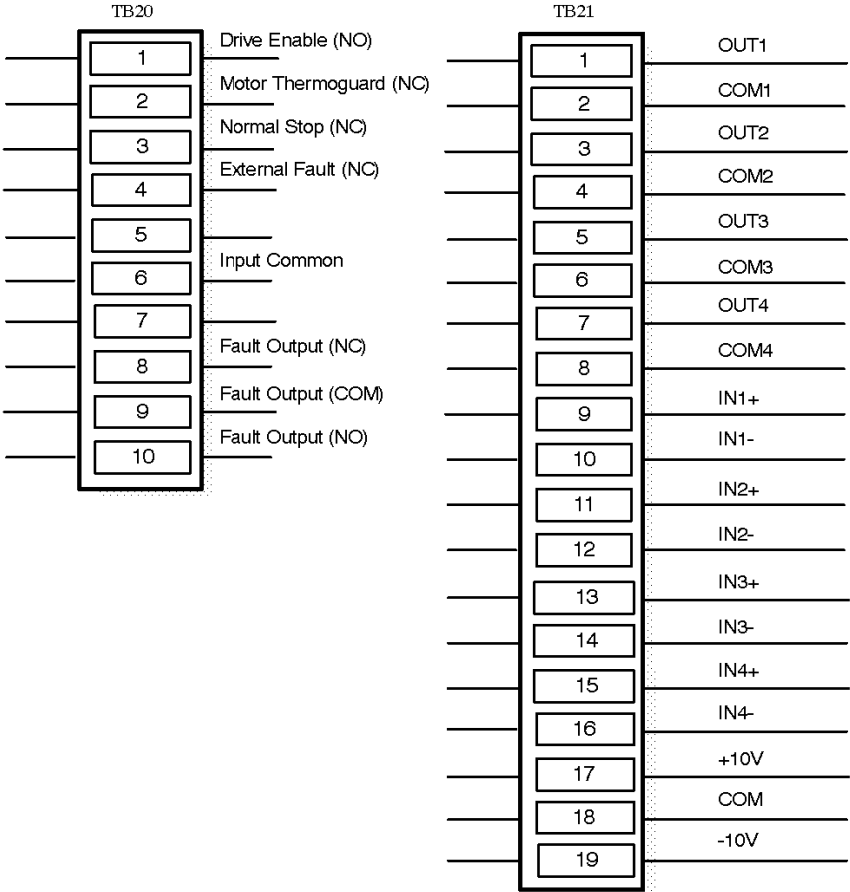
Figure 8. Frame Size D, E&F Gate Driver Board Connections



Control & Signal Wiring

If your 1336 FORCE Drive is equipped with a PLC Comm Adapter Board, terminal blocks TB20 & TB21 located at the bottom center of the PLC Comm Board (Figure 10) are used for control and signal wiring (Drive Permissives). Connector TB21 provides the interface for Analog Input and Output reference signals as detailed in Figure 9. The maximum and minimum wire size accepted by TB20, TB21, Channel A and Channel B is 3.3 and 0.06 mm² (12 and 30 AWG). Maximum torque for these terminal blocks is 0.79 N-m (7 lb. - in.). Only copper wire may be used.

Figure 9. Reference Signal Connections

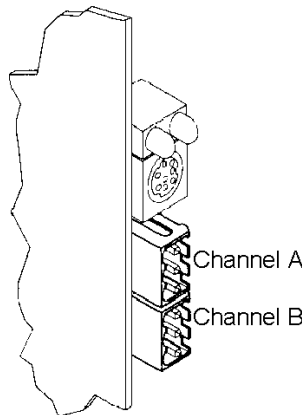
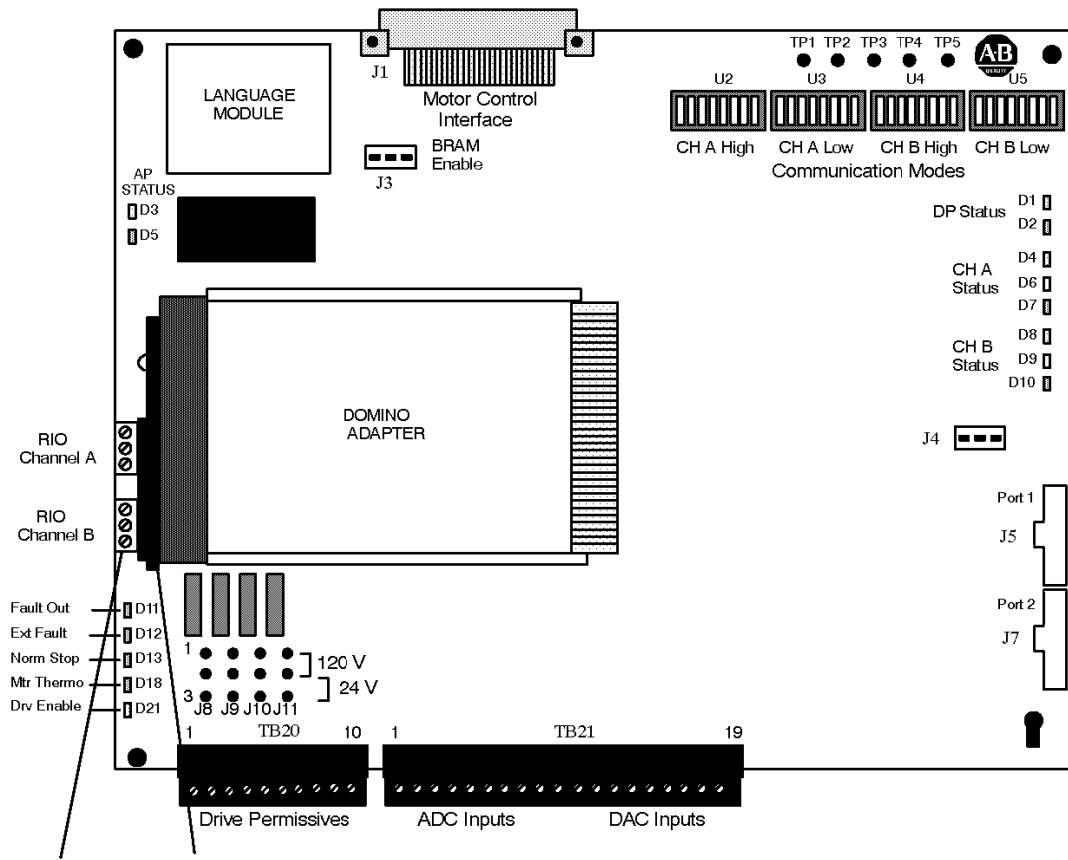


Pin jumper J3 on the PLC Comm Board Enables or Disables the BRAM Write function as follows:

- Jumpered 1 - 2 = Enabled
- Jumpered 2 - 3 = Disabled


The PLC Comm Board 120V/24V jumper settings for I/O circuits (J8 - J11) are detailed in the 1336 FORCE PLC Communications Adapter User Manual 1336 FORCE - 5.7.

Figure 10. PLC Comm Board Connections



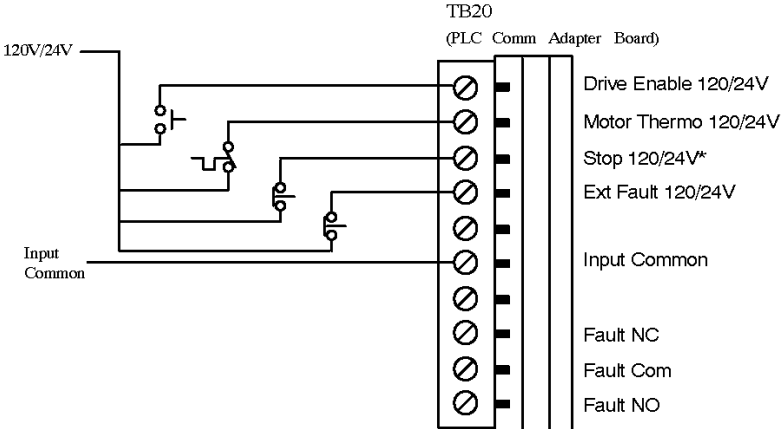
Switch Settings

There are DIP switches & jumpers located on the PLC Communications Board that have been preset at the factory. If there becomes a need to reconfigure the switches or jumpers the 1336 FORCE PLC Communications Adapter User Manual should be consulted. Starting & Stopping the Motor



ATTENTION: The 1336 FORCE Drive control circuitry includes solid-state components. If hazards due to accidental contact with moving machinery or unintentional flow of liquid, gas or solids exist, an additional hardwired stop circuit is required to remove AC line power to the drive. When AC input power is removed, there will be a loss of inherent regenerative braking effect and the motor will coast to a stop. An auxiliary braking method may be required.

Figure 11. Control Scheme



Note: Terminal Blocks TB20 & TB21 are pull apart terminal blocks to aid in making cable connections.

Both terminal blocks will accept wire sizes from 30-12 AWG (0.06 - 3.3 mm²).

*This is a configurable stop, see parameter 59 under the Drive Logic group for Start and Stop options.