

## M

## Bulletin 1335 Factory Installed Options

M.1

### Bulletin 1335

### Factory Installed Options

The following factory installed options are mounted on the Option Mounting Panel attached to the Drive chassis, but are not connected to Option Mounting Panel Terminal Block 101TB. These options have instead, their own terminals for direct customer connection.

Option S4 thru S8 DISCONNECT SWITCH

Option S12 thru S17 INPUT CIRCUIT BREAKER

Option 524 thru S32 MOTOR BRANCH CIRCUIT PROTECTION FUSES

The following factory installed options are mounted on the Option Mounting Panel and connected to Option Mounting Panel Terminal Block 101TB.

Option M2 AUXILIARY CONTROL TRANSFORMER

Option T14 thru T22 MOTOR OVERLOAD RELAY

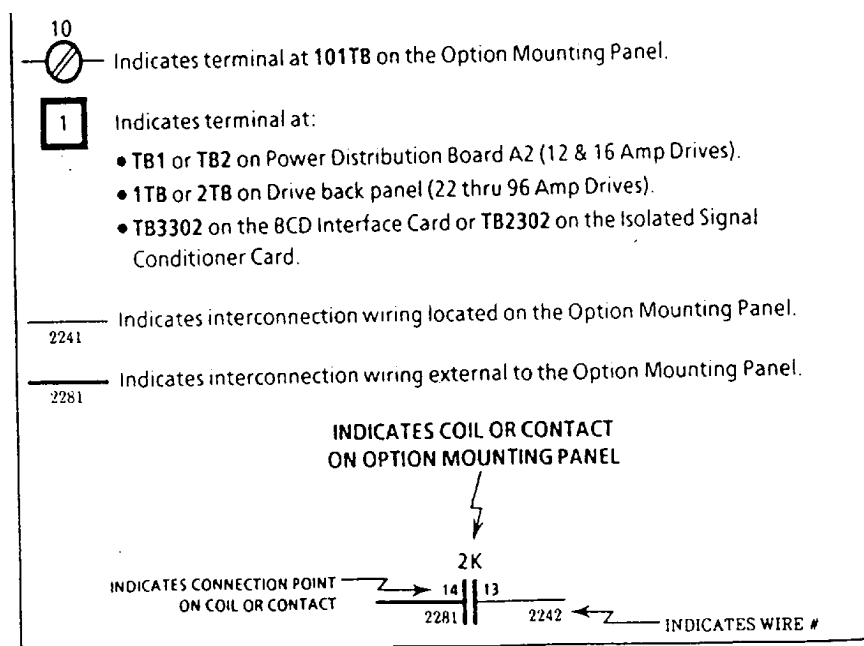
Option W5 RUN AUXILIARY CONTACTS

Option Y3 thru Y11 MANUAL BYPASS CONTROL

Option Z3 thru Z11 - DRIVE OUTPUT CONTACTOR

The following factory installed options are mounted on the enclosure door and connected to Option Mounting Panel Terminal Block 101TB. Option F4 AUTO/OFF/MANUAL SELECTOR SWITCH Option F5 DRIVE/OFF/BYPASS SELECTOR SWITCH Option F6 DRIVE RUN PILOT LIGHT

With the exception of the Disconnect Switch, Input Circuit Breaker and Motor Branch Circuit Protection Fuses, all control wiring interconnections and any field interconnections made to the options listed above should be to Terminal Block 101TB. The notes shown below apply to all interconnection drawings shown in Appendix M



**M.2**  
**Bulletin 1335**  
**Input Power Connections**

The input power connections to the Drive discussed in **section 4.3.3** are for the standard Bulletin 1335 Drive. Whenever any of the Input Protection Options are installed, input power connections to the Drive will be made as shown on pages M-3 & M-4.

**M.3**  
**Bulletin 1335**  
**Output Power Connections**

The output power connections to the Drive discussed in **section 4.3.3** are for the standard Bulletin 1335 Drive. Whenever the Option Mounting Panel is installed, output power connections to the motor will be made at Terminal Block 101TB, terminals A, B and C.

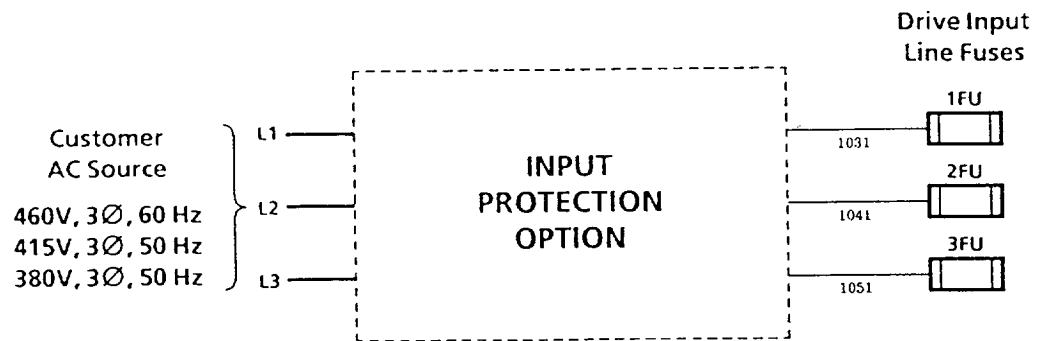
**M.4**  
**Bulletin 1335**  
**Control Wiring**

The control interconnection wiring to the Drive discussed in **section 4.4** are for the standard Bulletin 1335 Drive. Whenever any of the following options are installed, refer to these sections in Appendix M for correct control interconnection wiring.

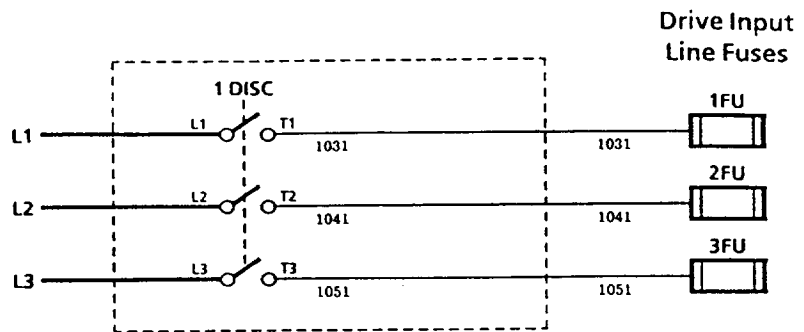
- section M.6 Option F4 AUTO/OFF/MANUALSELECTOR SWITCH
- section M.7 Option F5 DRIVE/OFF/BYPASS SELECTOR SWITCH
- section M.8 Option F6 DRIVE RUN PILOT LIGHT
- section M.10, 11, or 12 Option M2 AUXILIARY CONTROL XFMR.
- section M.9 Option T14 thru T22 MOTOR OVERLOAD RELAY
- section M 10 Option W5 RUN AUXILIARY CONTACTS section M.11
- Option Y3 thru Y11 MANUAL BYPASS CONTROL section M.12
- Option Z3 thru Z11 DRIVE OUTPUT CONTACTOR

**M.5**  
**Bulletin 1 335**  
**Input Protection Options**

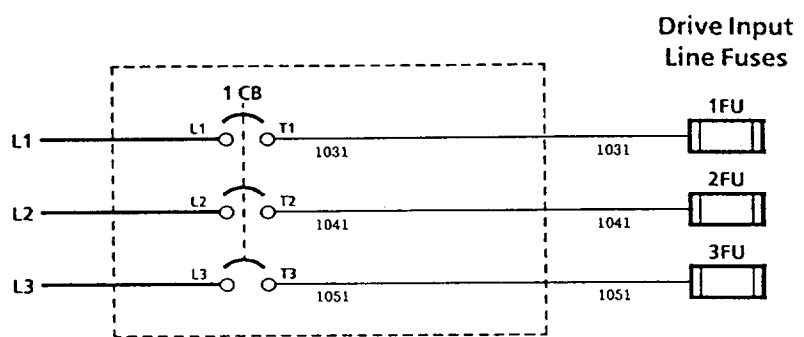
The following input protection options may be used in combination with any of the other factory installed options listed on page M-1



**M.5.1  
 Disconnect Switch  
 (Option 1335-S4 thru S8)**



**M.5.2  
 Input Circuit Breaker  
 (Option 1335-S12 thru S17)**



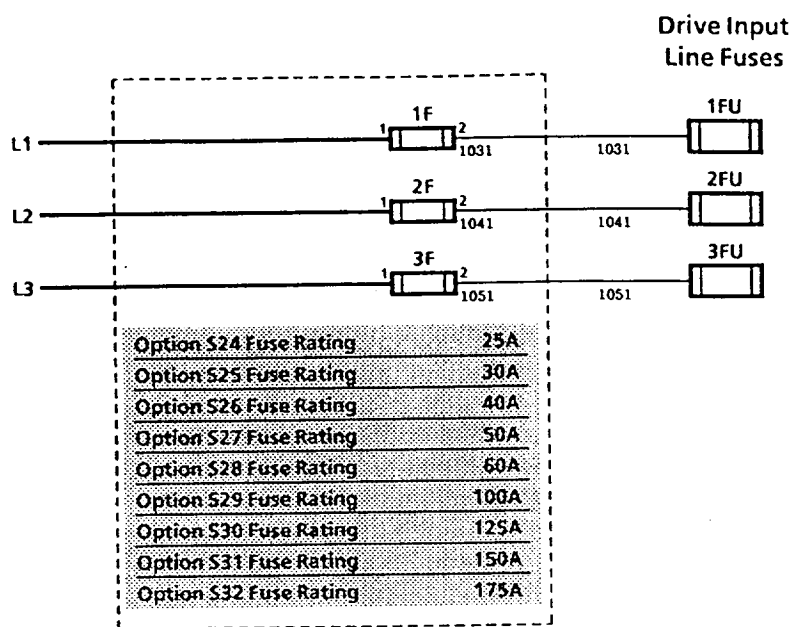
The HMCP Type Circuit Breaker installed on the Drive Option Mounting Panel is factory set at its minimum trip setting. Final trip setting must be made at the time of Drive installation and startup. The Allen-Bradley Company recommends that a trip setting of (10) times the motor nameplate full-load current be made. To adjust the trip mechanism, remove input power to the circuit breaker and place the circuit breaker handle in the OFF position. Use a screwdriver to depress the adjustment pointer and turn clockwise to the selected setting.

When the Circuit Breaker Option is used in conjunction with the Bypass Option, select the BYPASS mode of operation and initiate a motor start from the AC line. Advance the circuit breaker trip setting as required, so as to be able to start the motor from the AC line without experiencing a circuit breaker trip.

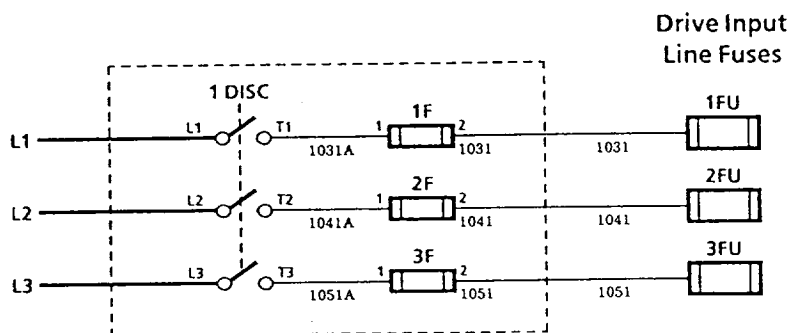
When the Circuit Breaker Option is only used as a disconnecting device for the AC input to the Drive, the minimum trip setting is recommended.

The trip setting of the circuit breaker should never exceed (13) times the motor full-load current. Refer to the National Electric Code for additional information regarding motor branch circuit protection.

**M.5.3  
 Motor Branch Circuit  
 Protection Fuses  
 (Option 1335-S24 thru S32)**



**M.5.4  
 Disconnect Switch  
 – when used with –  
 MANUAL BYPASS CONTROL  
 (Option 1335-Y3 thru Y11)**



**M.6  
 Bulletin 1335  
 AUTO/OFF/MANUAL  
 SELECTOR SWITCH  
 (Option 1335-F4)**

The Bulletin 1335 can accept (3) types of speed reference signals:

**Manual Speed Pot- Either** local or remote.

**Digital BCD Format - As** the input to option G4, the BCD Interface Card.

**Remote Analog Voltage or Current-** As the input to option N4, the Isolated Signal Conditioner Card.

Both the BCD Interface Card and the Isolated Signal Conditioner Card have a card mounted switch that selects either the MANUAL or AUTO mode of operation. The Auto/Off/Manual Selector Switch provides a (3) position selector switch mounted on the control panel of the Drive enclosure door.

M.6  
 Bulletin 1335  
 AUTO/OFF/MANUAL  
 SELECTOR SWITCH  
 (continued)

The AUTO position selects Drive remote speed reference from either the BCD Interface or the Isolated Signal Conditioner Card (only one option may be installed per Drive, either the BCD Interface or the Isolated Signal Conditioner Card).

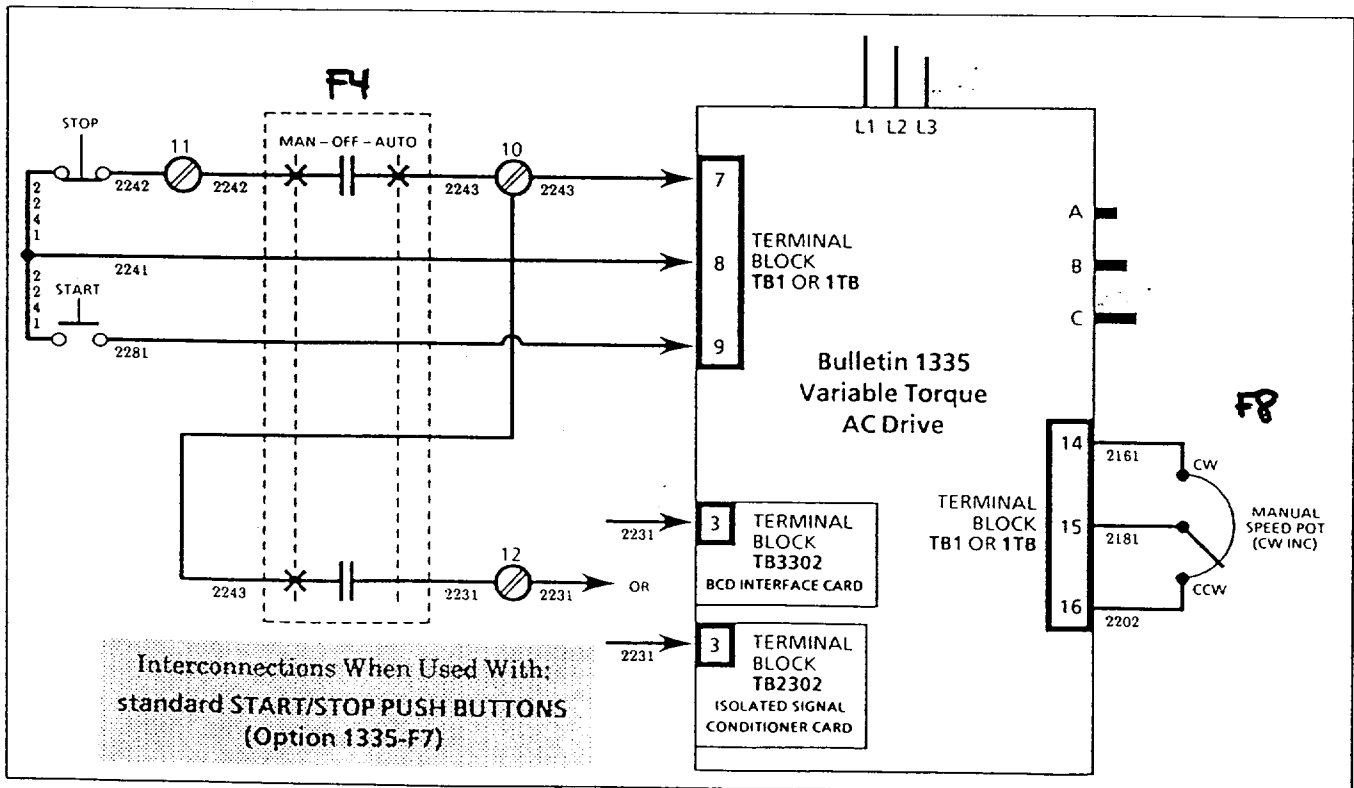
The OFF position is interlocked with the Drive START/STOP circuit to disable standard START/STOP push button Drive control.

The MANUAL position selects Drive local speed reference from the manual speed pot mounted on the control panel of the Drive enclosure door.

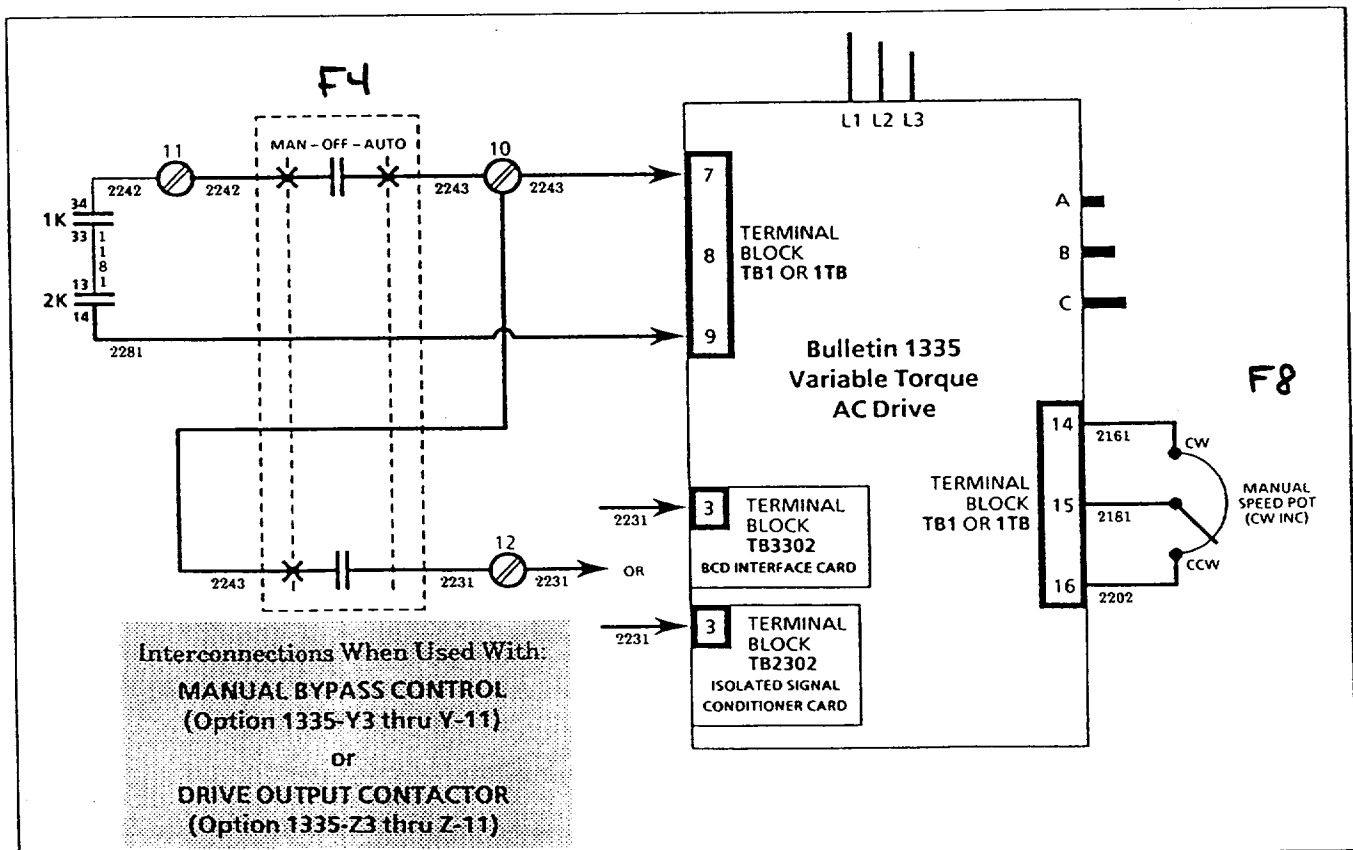
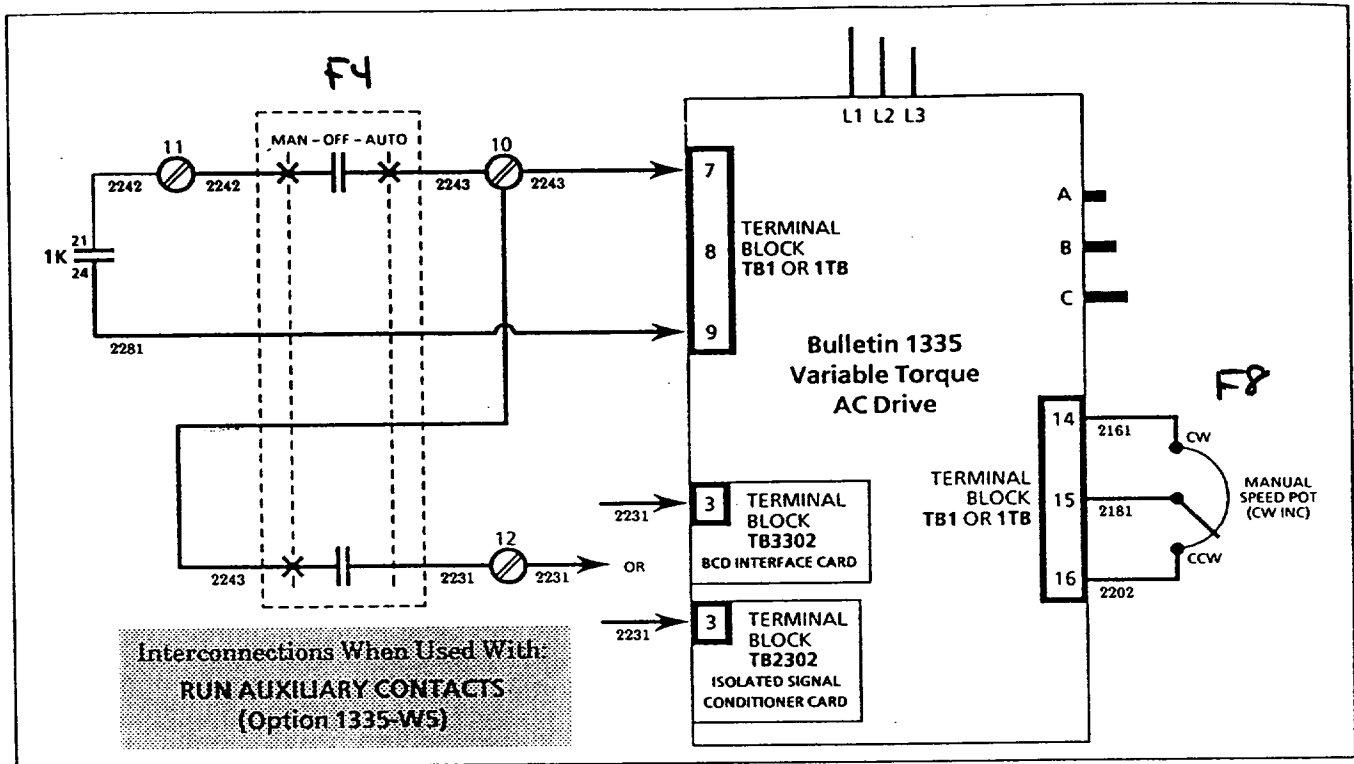
When the Auto/Off/Manual Switch is used with standard START/STOP push button Drive control, interconnections are made to Terminal Block 101 TB as shown on page M-6.

When the Auto/Off/Manual Switch is used with option W5, Y3 thru Z11, or Z3 thru Z11, interconnections are made to Terminal Block 101TB as shown on page M-6.

Bulletin 1335 AUTO/OFF/MANUAL SELECTOR SWITCH SCHEMATIC  
 (Option 1335-F4)



### Bulletin 1335 AUTO/OFF/MANUAL SELECTOR SWITCH SCHEMATICS (Option 1335-F4)



**M.7**  
**Bulletin 1335**  
**DRIVE/OFF/BYPASS**  
**SELECTOR SWITCH**  
**(Option 1335-F5)**

The Drive/Off/Bypass Selector Switch provides a (3) position selector switch mounted on the control panel of the Drive enclosure door.

The **DRIVE** position allows the Drive to control the Motor.

The **OFF** position is interlocked with the Drive **START/STOP** circuit to disable standard **START/STOP** pushbutton control.

The **BYPASS** position bypasses Drive speed control and selects operation of the motor directly from the AC power line.

Option Y3 thru Y11 is required for use with the Drive/Off/Bypass Selector Switch. The Selector Switch is wired to terminals **5, 6 & 7 of 101TB** on the Options Mounting Panel as shown in the following section.

**M.11**  
**Bulletin 1335**  
**MANUAL BYPASS CONTROL**  
**(Option 1335-Y3 thru Y11)** } page M-12 thru M-15

**M.8**  
**Bulletin 1335**  
**DRIVE RUN PILOT LIGHT**  
**(Option 1335-F6)**

The Drive Run Pilot Light is mounted on the control panel of the Drive enclosure door. When illuminated, it indicates that the Drive has received a **RUN** command.

Option W5, Y3 thru Y11, or Z3 thru Z11 is required for use with the Drive Run Pilot Light. The Pilot Light is wired to terminals 8 & 9 of **101TB** on the Options Mounting Panel as shown in the following sections.

**M.10**  
**Bulletin 1335**  
**RUN AUXILIARY CONTACTS**  
**(Option 1335-W5)** } page M-8 thru M-11

**M.11**  
**Bulletin 1335**  
**MANUAL BYPASS CONTROL**  
**(Option 1335-Y3 thru Y11)** } page M-12 thru M-15

**M.12**  
**Bulletin 1335**  
**DRIVE OUTPUT CONTACTOR**  
**(Option 1335-Z3 thru Z11)** } page M-16 thru M-19

**M.9**  
**Bulletin 1335**  
**MOTOR OVERLOAD RELAY**  
**(Option 1335-T14 thru T22)**

The Motor Overload Relay Option is mounted on the Options Mounting Panel attached to the Drive chassis. If any of the following options are installed, the N.C. contact of Motor Overload Relay **10L** is wired to terminals 2 & 3 of **101TB** on the Options Mounting Panel as shown in the following sections.

**M.10**  
**Bulletin 1335**  
**RUN AUXILIARY CONTACTS**  
**(Option 1335-W5)** } page M-8 thru M-11

**M.11**  
**Bulletin 1335**  
**MANUAL BYPASS CONTROL**  
**(Option 1335-Y3 thru Y11)** } page M-12 thru M-15

**M.12**  
**Bulletin 1335**  
**DRIVE OUTPUT CONTACTOR**  
**(Option 1335-Z3 thru Z11)** } page M-16 thru M-19

If, none of the above options are installed, then the N.C. Overload Relay Contact is wired to terminals 10 & 11 of Drive Control Terminal Block **TB1** or **1TB** as shown on pages 4-16 & 4-17 respectively.

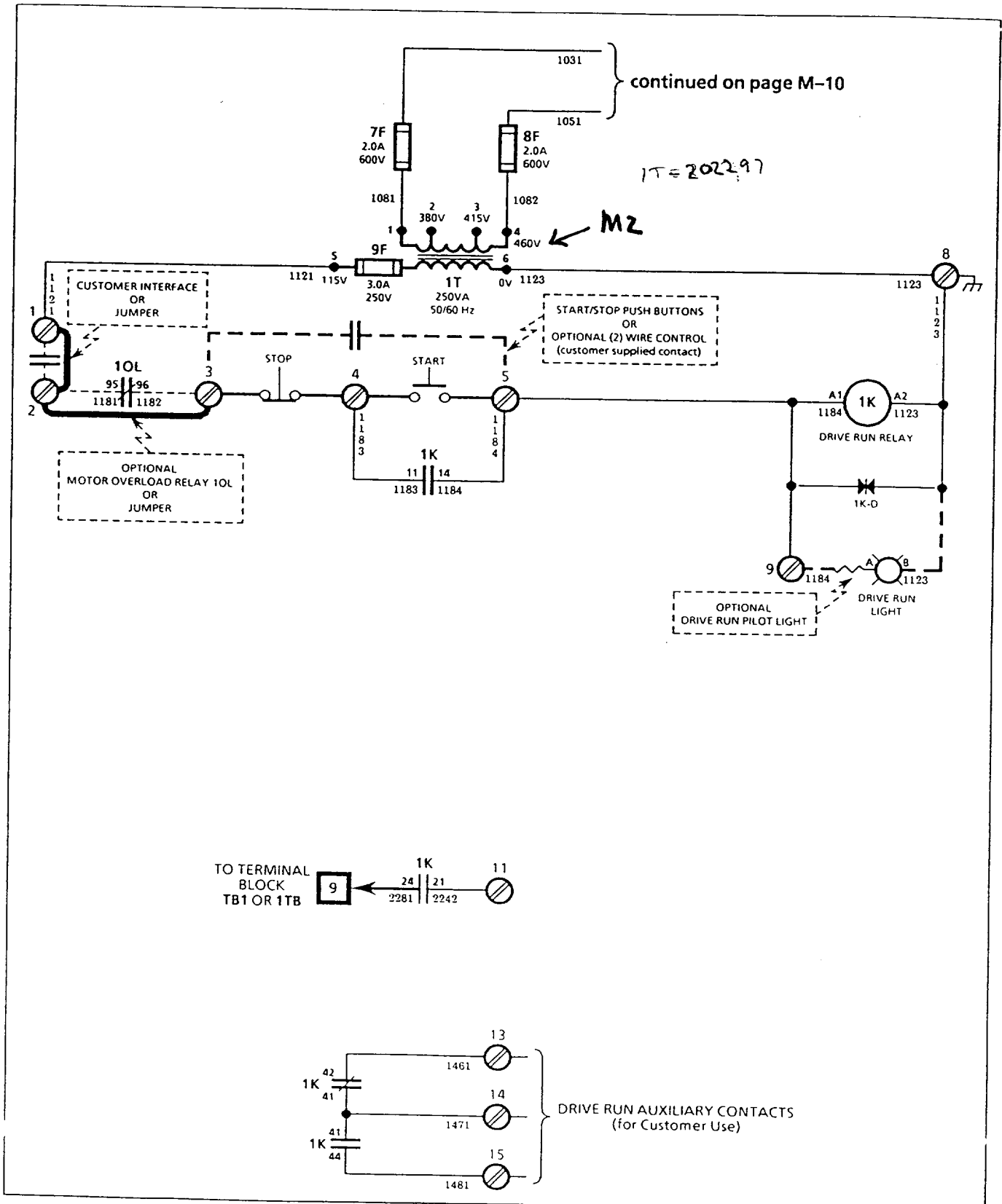
**M.10**  
**Bulletin 1335**  
**RUN AUXILIARY CONTACTS**  
**(Option 1335-W5)**

The Run Auxiliary Contacts Option includes Drive Run Relay 1K with one set of form-C contacts (1-N.O., 1-N.C.) used to annunciate the Drive **RUN** state. These contacts are for customer use and are wired to **101TR**.

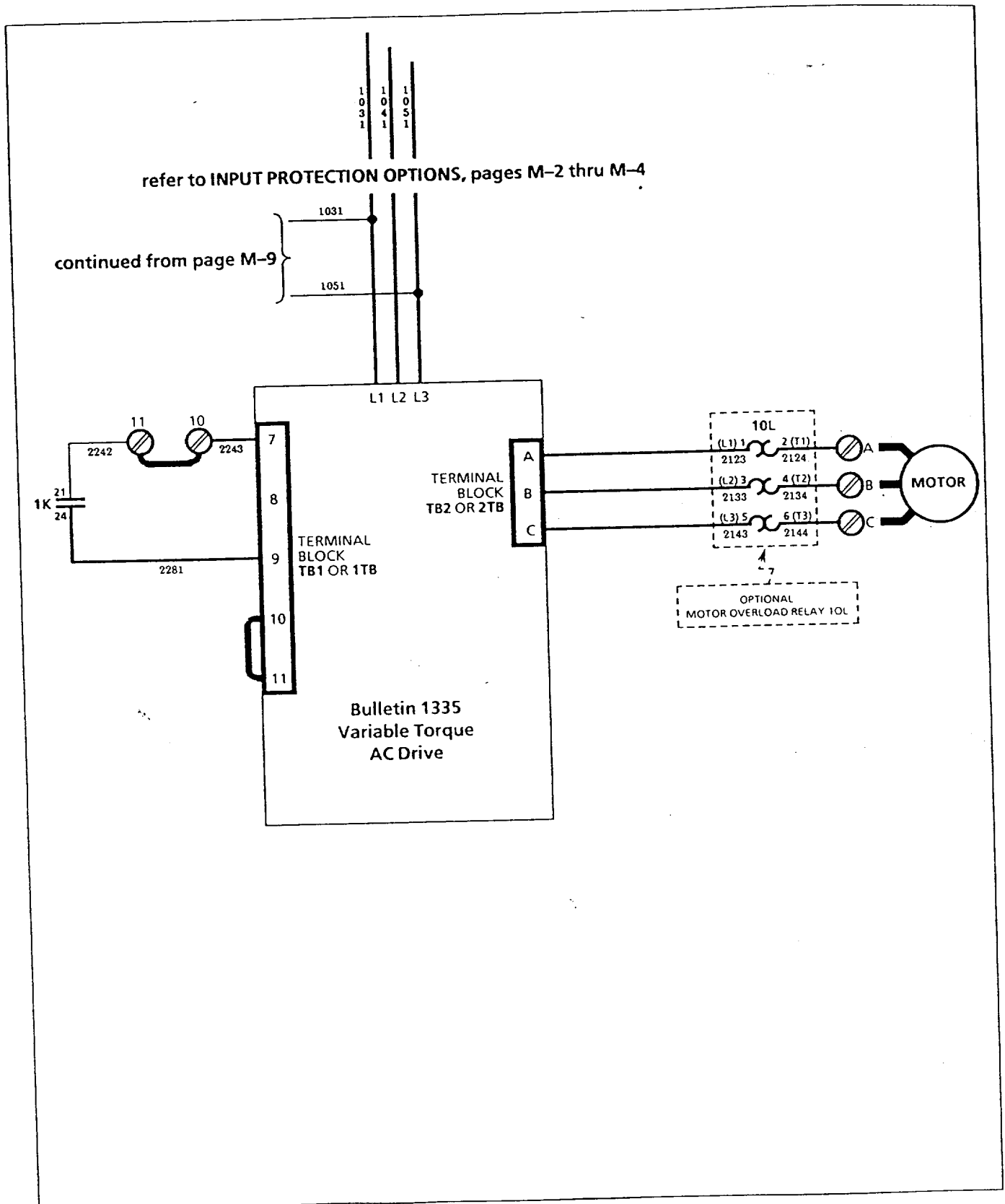
**Run Aux Contact Rating:** 125V AC  
3.0 Amp  
Resistive Load

Option M2, the Auxiliary Control Transformer, is required for use with this option. Included with option M2 are primary and secondary fuses **7F**, **8F**, & **9F**.

### Bulletin 1335 RUN AUXILIARY CONTACTS SCHEMATIC (Option 1335-W5)

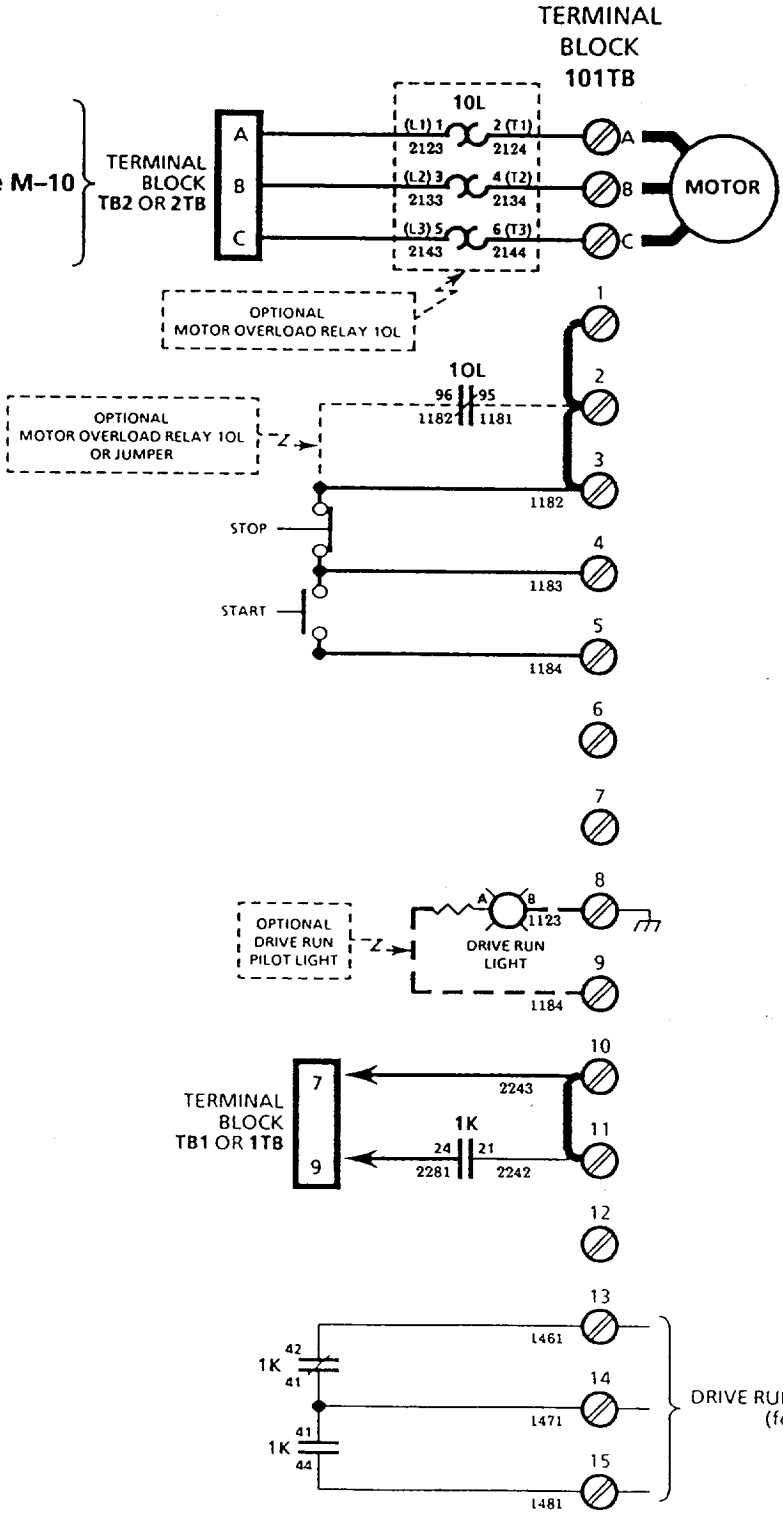


### Bulletin 1335 RUN AUXILIARY CONTACTS SCHEMATIC (Option 1335-W5)



Bulletin 1335 RUN AUXILIARY CONTACTS INTERCONNECTION DRAWING  
 (Option 1335-W5)

continued from page M-10



**M.11**  
**Bulletin 1335**  
**MANUAL BYPASS CONTROL**  
**(Option 1335-Y3 thru Y11)**

**IMPORTANT**

**Manual Bypass Control**

Manual Bypass Control provides a means for switch the motor leads from the Drive output to the AC line. Correct motor rotation must be established for both the DRIVE and BYPASS modes before making any interconnection control wiring Refer to Initial Operation, section 5.1 to establish correct bypass operation.

The Manual Bypass Control option allows the motor to be operated at either:

**Variable Speed** when the connected to the Drive output (**DRIVE** mode selected).

**Constant Speed** when connected to the AC line (**BYPASS** mode selected).

The Manual Bypass Option includes:

- Bypass Contactor **3K**
- Motor Overload Relay **1OL**
- Drive Run Relay **1K** With One Set of Form-C Contacts (1-N.O., 1-N.C.)
- Drive Output Contactor **2K**

Drive Run Relay **1K** provides a factory set timed contact that coordinates the control of Drive Output Contactor **2K** so that:

- Contactor **2K** is closed before the Drive is commanded to **RUN**.
- Contactor **2K** remains closed for approximately (1) second after the Drive is commanded to **STOP**.

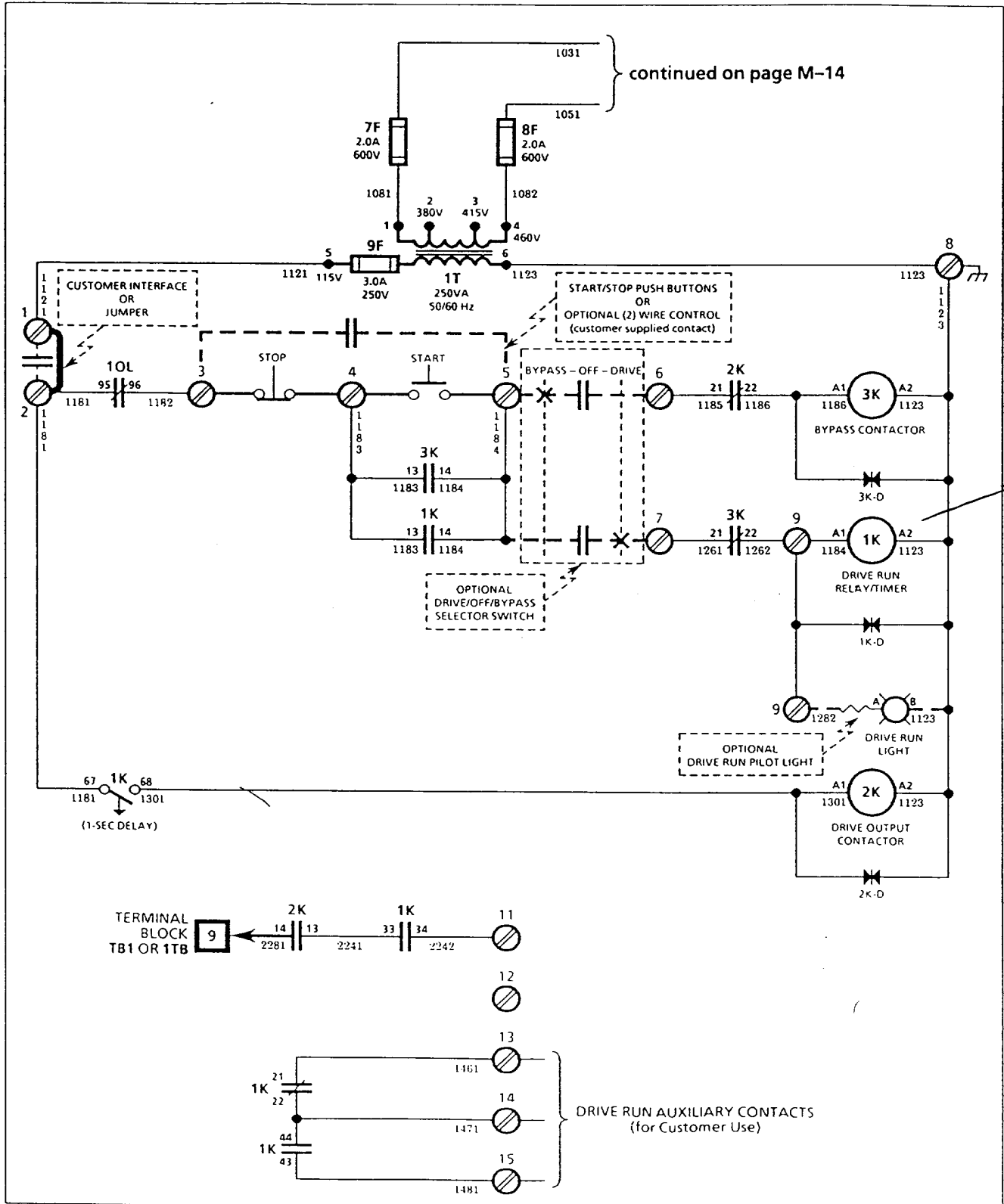
The main components are mounted on the Options Mounting Panel attached to the Drive chassis. All interconnections except for input AC line power are to Terminal Block **101TB** on the Options Mounting Panel. A set of form-C contacts are provided for customer use and are wired to **101TB**.

**Run Aux Contact Rating:**      120V AC  
   6.0 Amp  
   Resistive Load

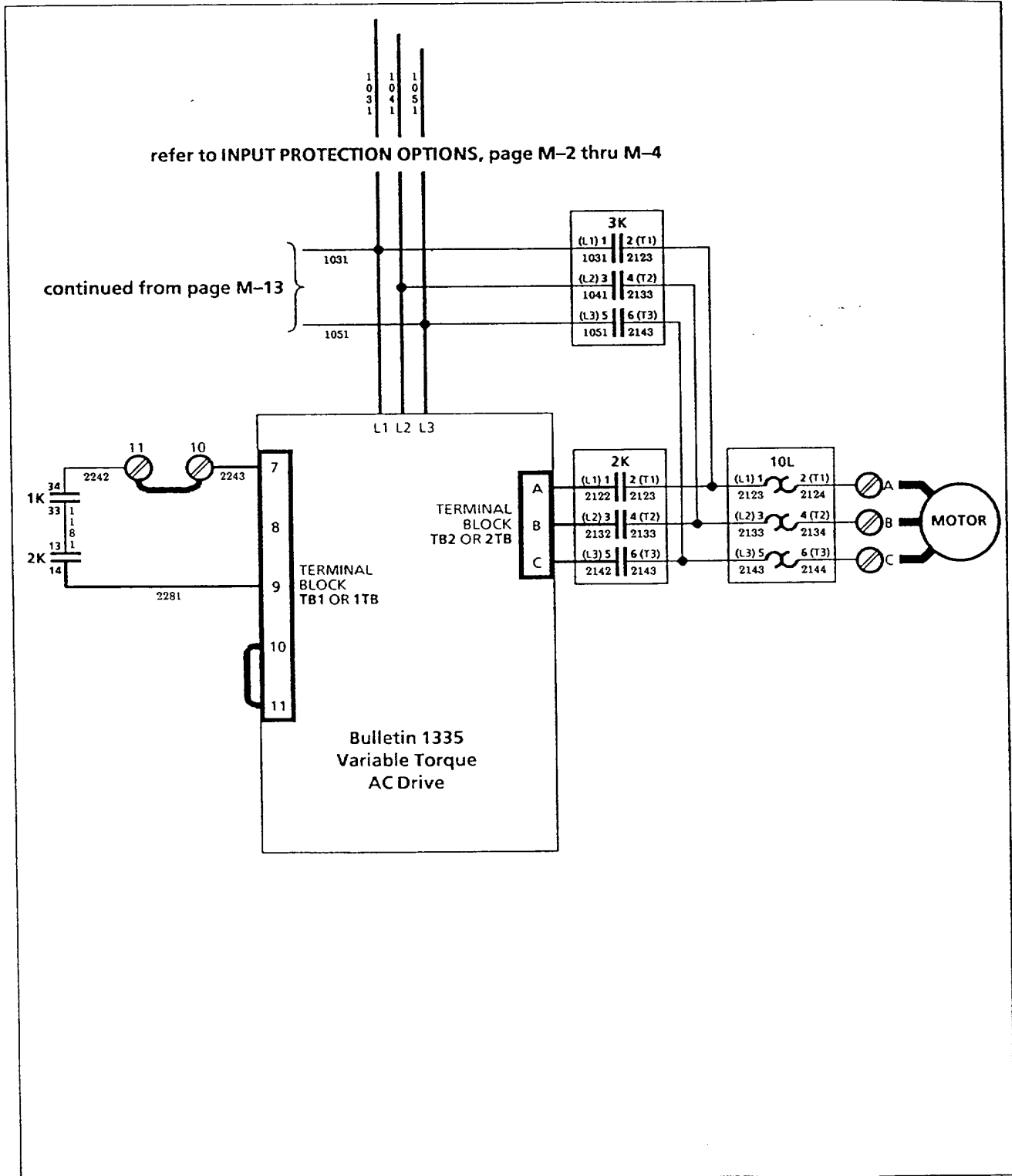
Option M2, the Auxiliary Control Transformer, is required for use with this option. Included with option M2 are primary and secondary fuses **7F, 8F, & 9F**.

# CONTROL LOGIC

## Bulletin 1335 MANUAL BYPASS CONTROL SCHEMATIC (Option 1335-Y3 thru Y11)

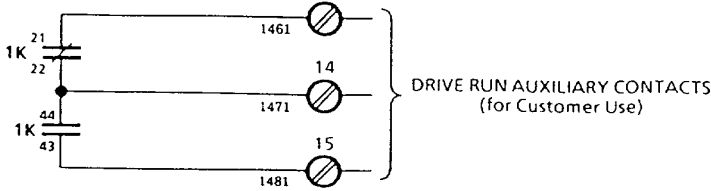
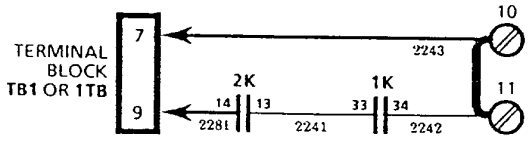
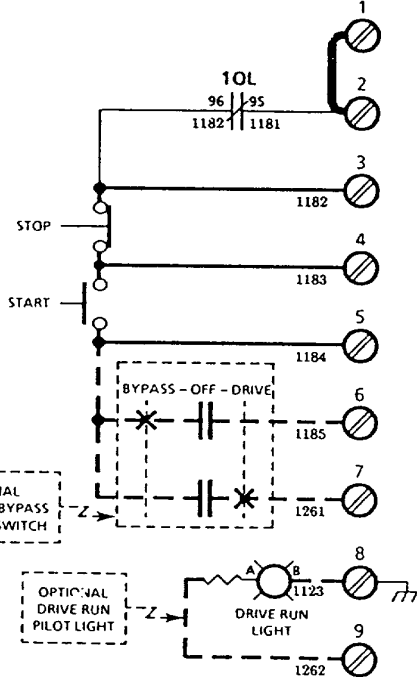
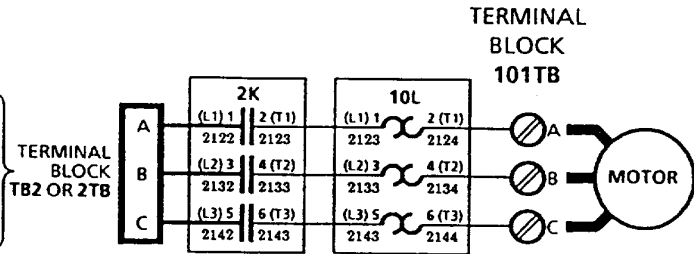


**Bulletin 1335 MANUAL BYPASS CONTROL SCHEMATIC  
 (Option 1335-Y3 thru Y11)**



Bulletin 1335 MANUAL BYPASS CONTROL INTERCONNECTION DIAGRAM  
 (Option 1335-Y3 thru Y11)

continued from page M-14



**M.12**  
**Bulletin 1335**  
**DRIVE OUTPUT CONTACTOR**  
**(Option 1335-Z] thru Z11)**

The Drive Output Contactor provides a horsepower rated contactor that is connected between the output of the Drive and the motor.

The main components are mounted on the Options Mounting Panel attached to the Drive **chassis**. **All interconnections** except

- The Drive Output Contactor Option includes:
- Drive Output Contactor **2K**
- Drive Run Relay **1K** With One Set of Form-C Contacts (1-N.O., 1\_N.C.) for Customer Use

for input AC line power are to Terminal Block **101TB** on the.

- Contactor **2K** is closed before the Drive is commanded (1) to RUN

Drive Run Relay **1K** provides a factory set timed contact that coordinates the control of Drive Output Contactor **2K** so that:

- Contactor **2K** remains closed for approximately (1) second after the Drive is commanded to STOP

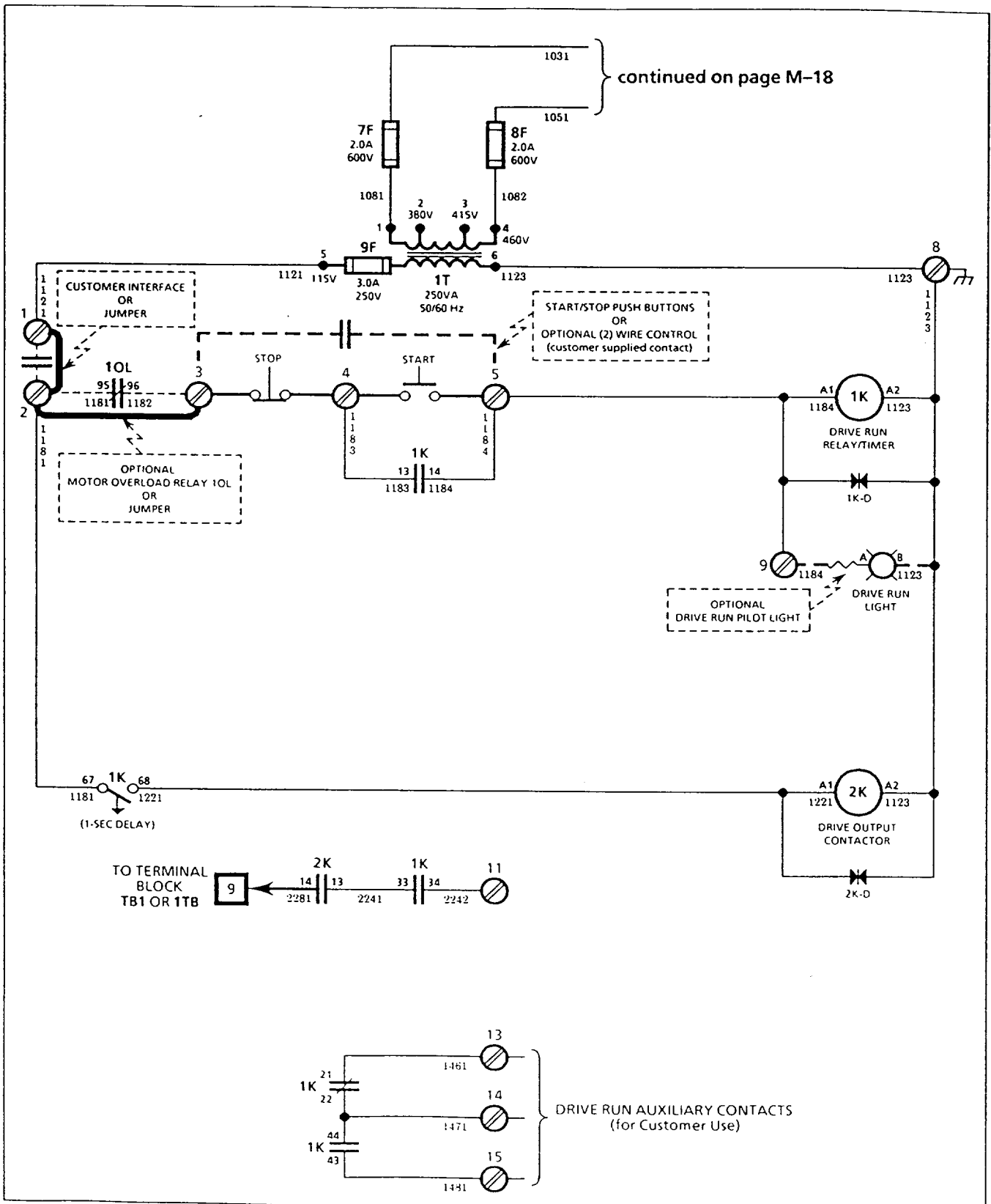
Option M2, the Auxiliary Control Transformer, is required for use with this option. Included with option M2 are primary and

The main components are mounted on the Options Mounting Panel attached to the Drive chassis. All interconnections except for input AC line power are to Terminal Block **101TB** on the Options Mounting Panel. A set of form-C contacts are provided for customer use and are wired to **101TB**.

**Run Aux Contact Rating:** 120V AC  
6.0 Amp  
Resistive Load

secondary fuses **7F, 8F, & 9F**.

### Bulletin 1335 DRIVE OUTPUT CONTACTOR SCHEMATIC (Option 1335-Z3 thru Z11)



### Bulletin 1335 DRIVE OUTPUT CONTACTOR SCHEMATIC (Option 1335-Z3 thru Z11)

