ALLEN-BRADLEY
BULLETIN 1336
OUTPUT CONTACTOR

APPLICATION NOTE #10

January 2, 1997

PURPOSE

The purpose of this document is to provide guidelines for wiring and control schemes for the Bulletin 1336 AC Drive. This document is to be used as a suggestion only. Users must ensure that installations meet applicable codes and are suitable for the existing conditions.

The Bulletin 1336 User Manual should be used as a reference to ensure that proper wire selection,routing,and fusing guidelines are followed.

WHAT THIS NOTE CONTAINS

Suggested guidelines for applying an Output Contactor to a Bulletin 1336. The Output Contactor may also be utilized as part of an E-STOP circuit. Refer to application note #4 1336 E-STOP CIRCUITRY for additional information.

INTENDED AUDIENCE

This application note is intended to be used by personnel familiar with the hardware components and programming procedure necessary to operate the Bulletin 1336/1336VT.

WHERE IT IS USED

The diagrams, parameter settings, and auxiliary hardware used in this application note are designed to address specific issues in many different applications. Some changes by the Users may be necessary to apply the concepts of this document to a specific application.

TERMS AND DEFINITIONS

The Output Contactor (2K) is an electromechanical device wired between the adjustable frequency drive and the AC motor.

DESCRIPTION

The Output Contactor is used where it is desired to electrically isolate the drive from the motor, primarily during servicing of the motor. An ALLEN-BRADLEY Bulletin 100 (IEC) or Bulletin 500 (NEMA) contactor is recommended.

Figure 1 illustrates the coordination of the Output Contactor with the drive fault contact. Drive start/stop operation must ensure that 2K is energized prior to initiating a start command. The drive fault contact ensures that the drive output is off before opening the Output Contactor.

Figure 2 utilizes a timer circuit to interrupt power to the Output Contactor. This is useful for applications that have RAMP-TO-STOP or DC INJECTION BRAKING, Parameter 10 set to a value of 1 or 2. The time delay should be set to a value greater than the DECEL TIME or the INJECTION BRAKE TIME. This will ensure that the drive output is off prior to opening the contactor.

Figure 3 uses the start command to energize the Output Contactor and the RUN contact to hold-in the contactor until the drive output is off. This scheme is useful for the controlled stop modes of operation.

APPLICATION CONSIDERATIONS

The output contactor should be closed before the drive begins to run and should open after the drive has been stopped. If not operated this way voltage transients sent back to the drive can do one or all of the following......

1. Cause the drive to fault on over current.
2. Cause the drive to fault on over voltage.
3. Degrade the life of the drive.

See the schematics on the following pages for a suggested wiring schemes for the output contactor. Notice that the contactor is never closing or opening while the drive is running.

For 3-wire start/stop control refer to application note #8 2-WIRE & 3-WIRE START/STOP WITH MOD-L1,L2,L3.

For use on ungrounded 120V AC systems refer to application note #12, 120V AC INTERFACE GROUNDED/UNGROUNDED.

OUTPUT CONTACTOR WITH FAULT CONTACT CONTROL

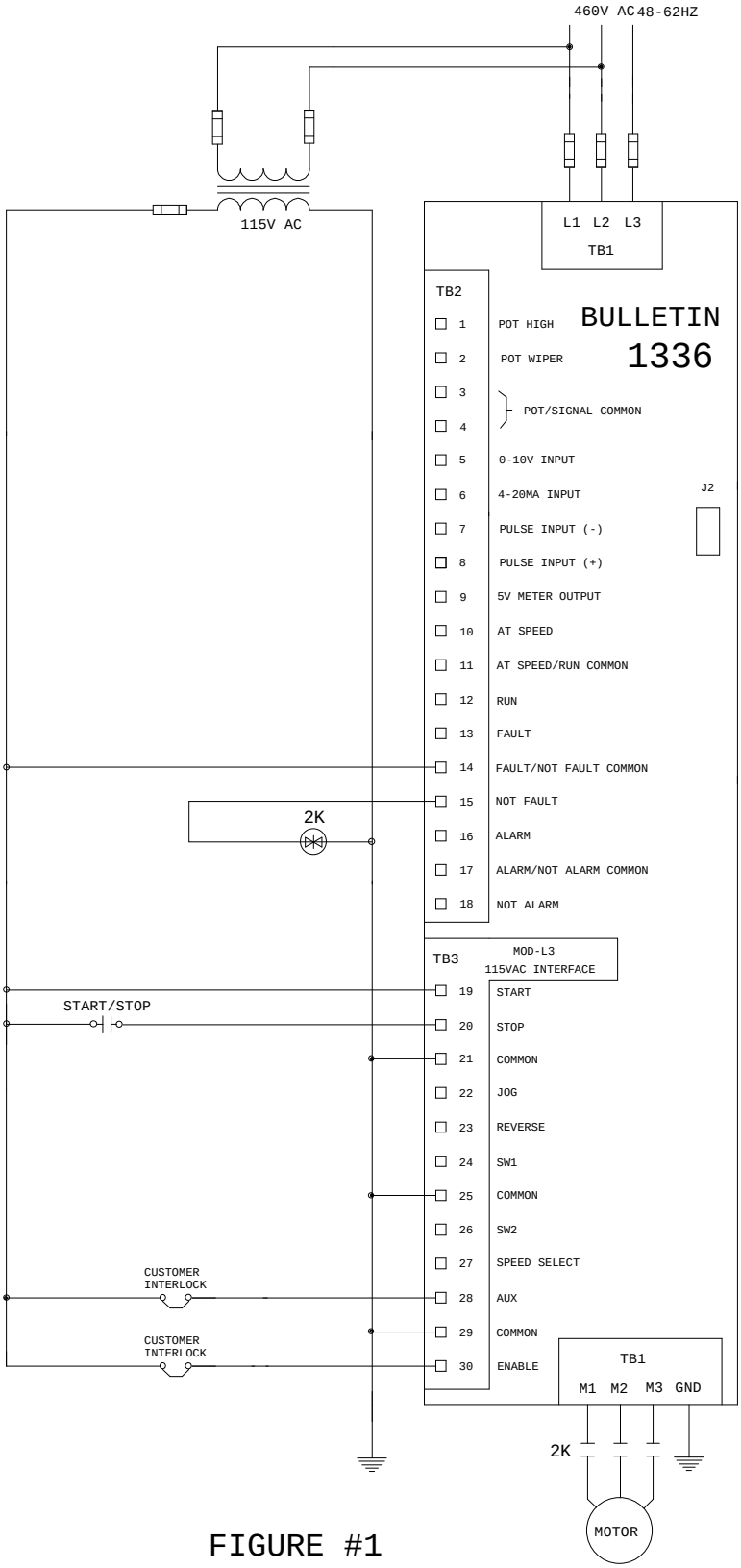

FIGURE #1

OUTPUT CONTACTOR WITH TIMER CONTROL

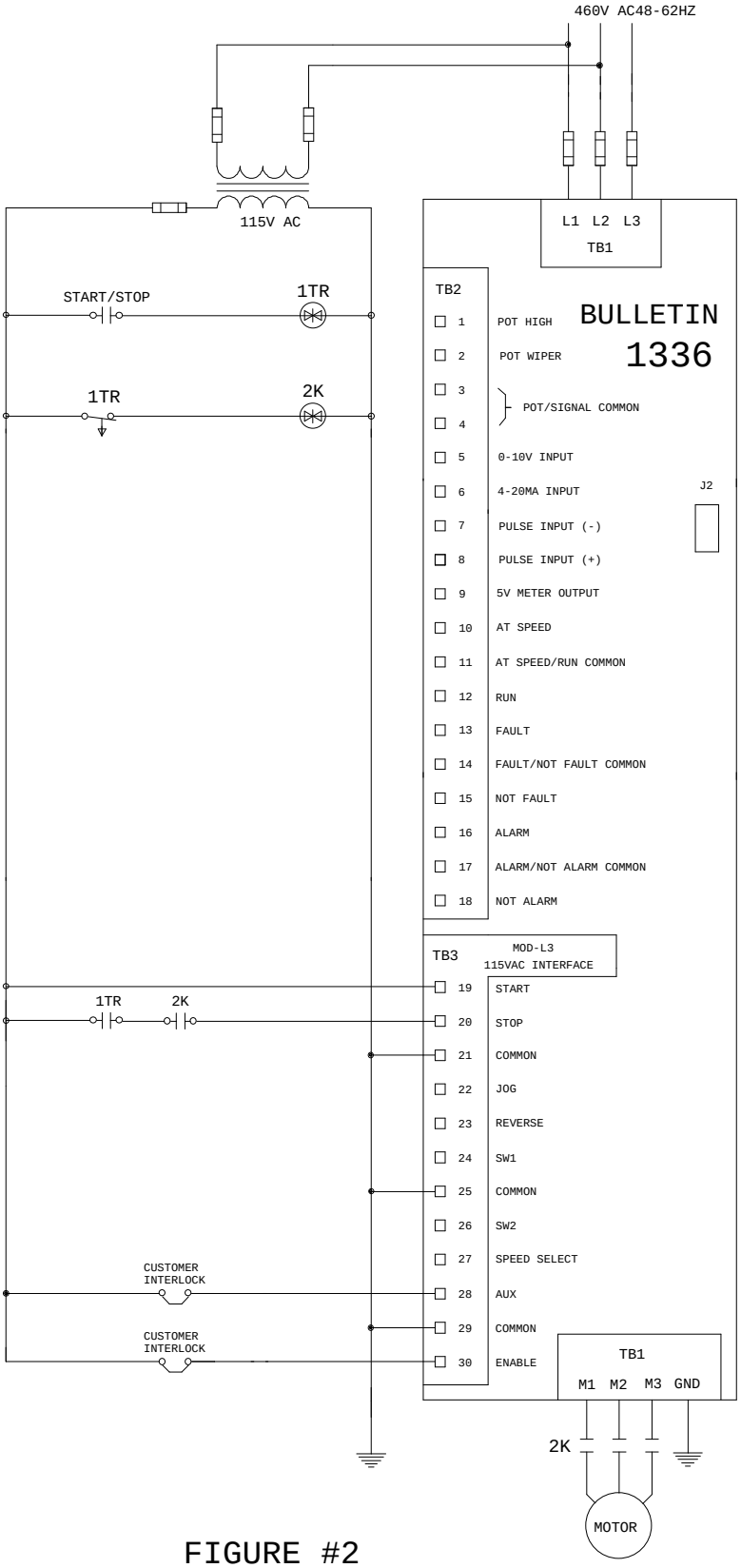

FIGURE #2

OUTPUT CONTACTOR WITH RUN CONTACT CONTROL

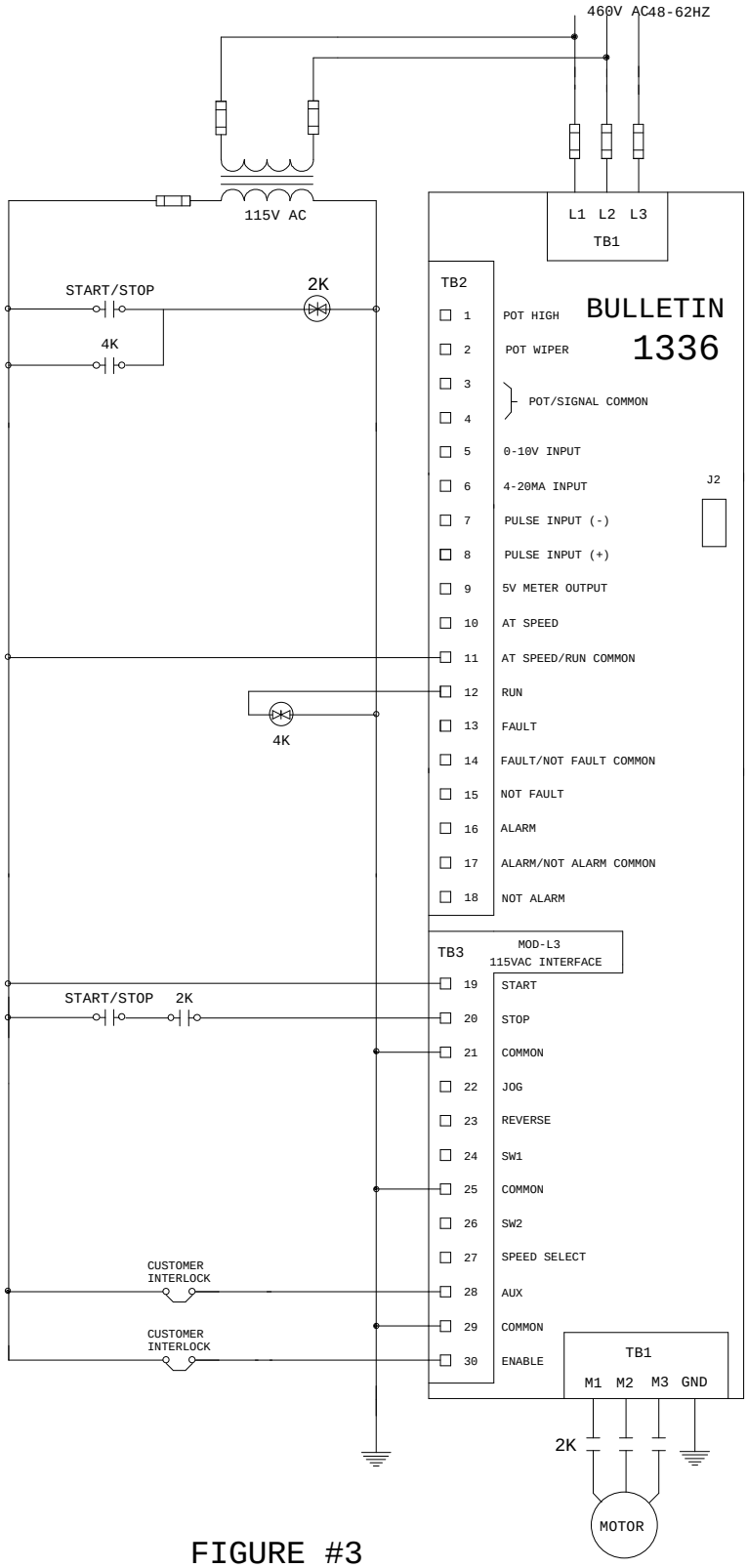

FIGURE #3