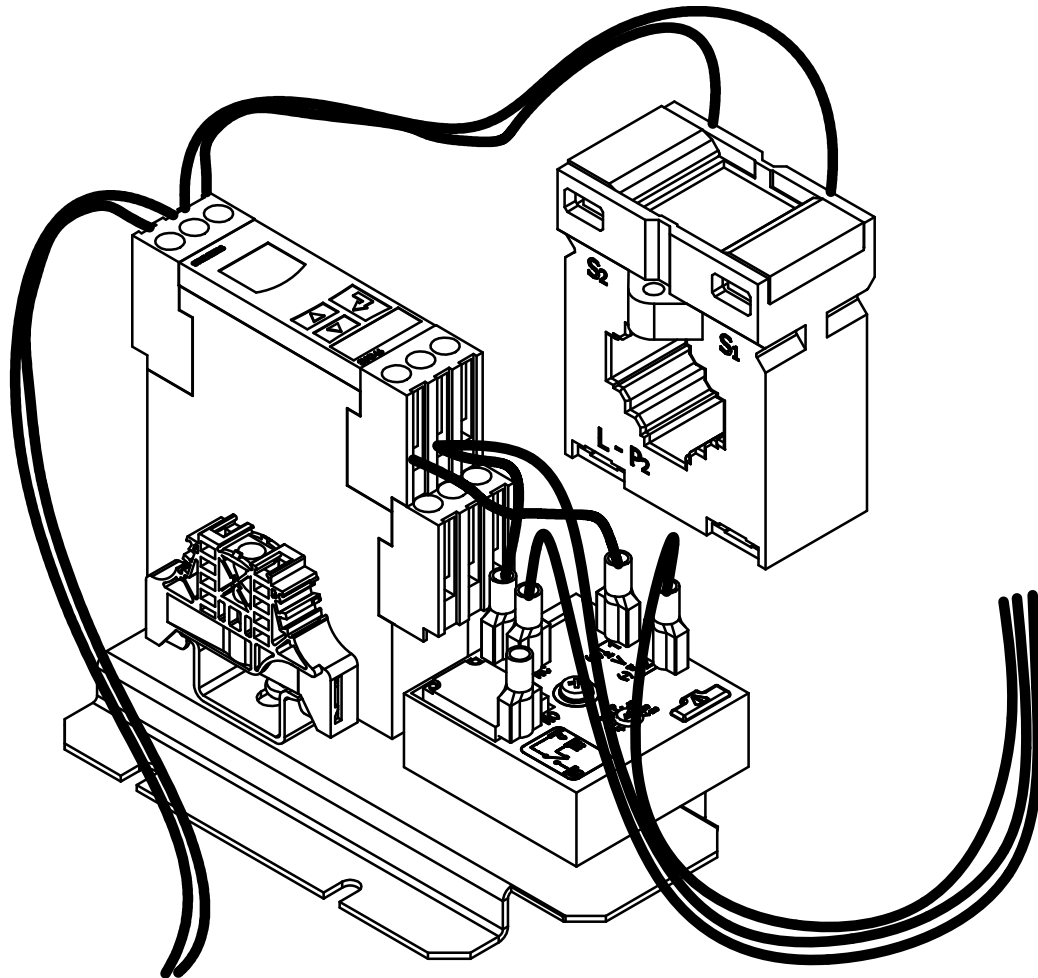


INSTRUCTIONS FOR 630G-001A MOTOR LOAD MONITOR



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REV. B
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INTRODUCTION

The 630G-001A Motor Load Monitor Kit provides a normally closed contact which opens when the load on a motor drops below a certain level for a selectable time delay (1-100 seconds). It could also be used to detect an overload on a motor but that feature is not normally used.

The kit was originally designed to be used in a Low Level Control Box (630C-001A) for shutting down augers when the wet storage tank ran out of grain. It may have other applications such as monitoring motor loads on transfer augers.

The load monitor can be used with 240 volt, single phase motors, up to 10 Hp. It can be used with 240 volt, 3 phase motors, up to 15 Hp, or 460 volt, 3 phase motors, up to 30 Hp. Contact the factory for other applications. The load monitor requires a 120 volt control voltage. The current transformer supplied with this kit is rated for 50 Amps maximum.

WIRING MOTOR LOAD MONITOR TO LOW LEVEL CONTROL (for wet bin empty shutdown)

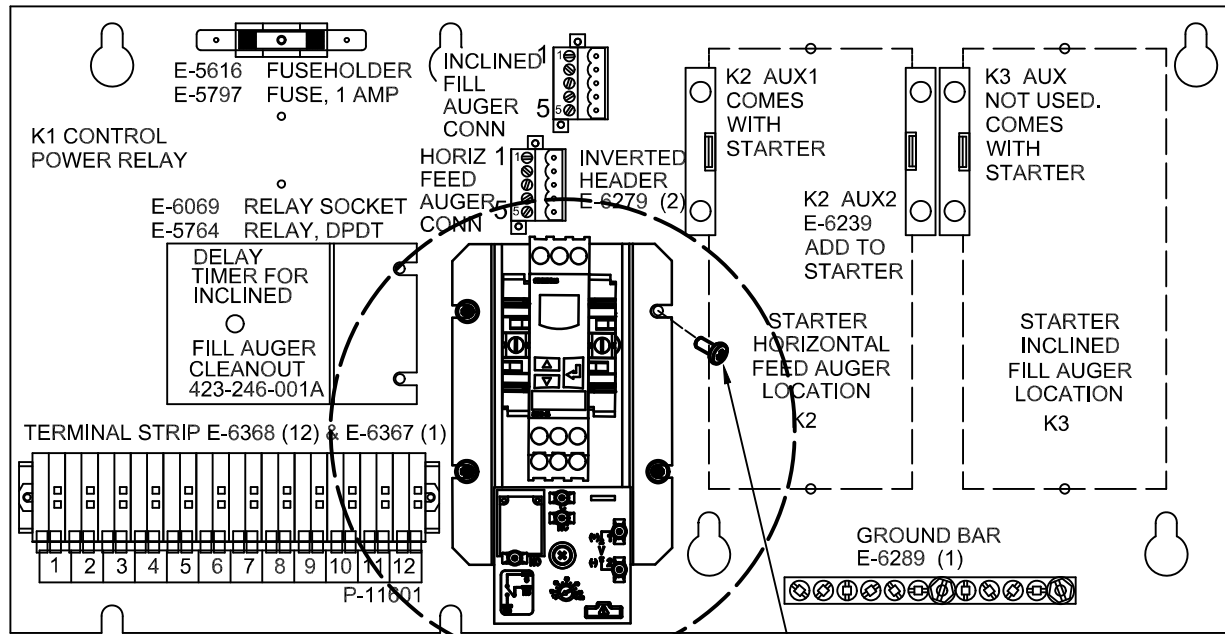


DANGER

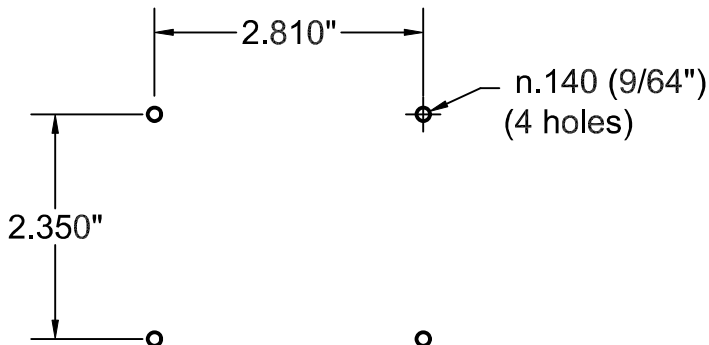
Electrocution Hazard - Make sure all power is disconnected and locked off.

1. Mount the Motor Load Monitor as shown. If there isn't room because of other installed equipment, a separate mounting enclosure may have to be provided.

630C-001A LOW LEVEL GRAIN DRYING CONTROL SYSTEM

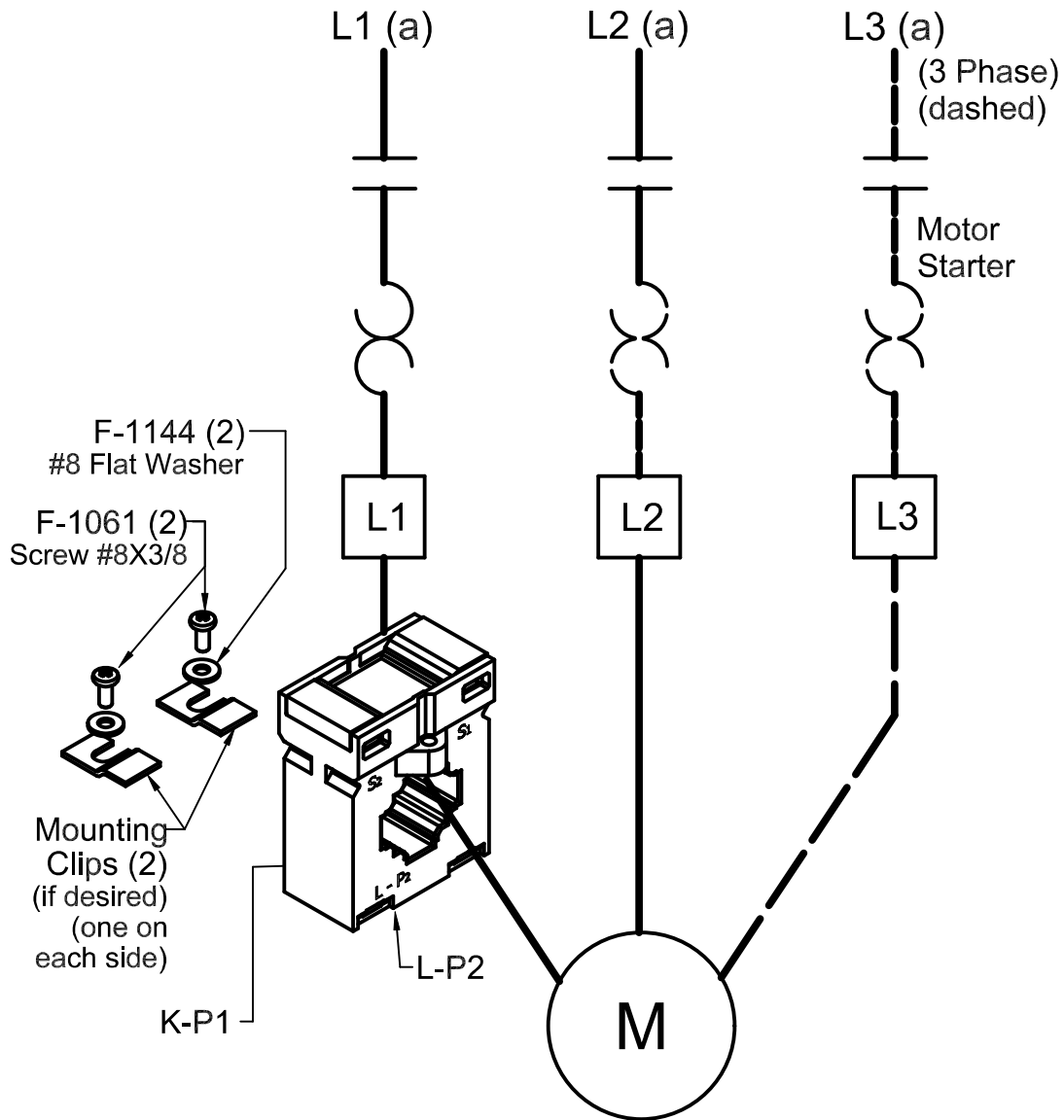


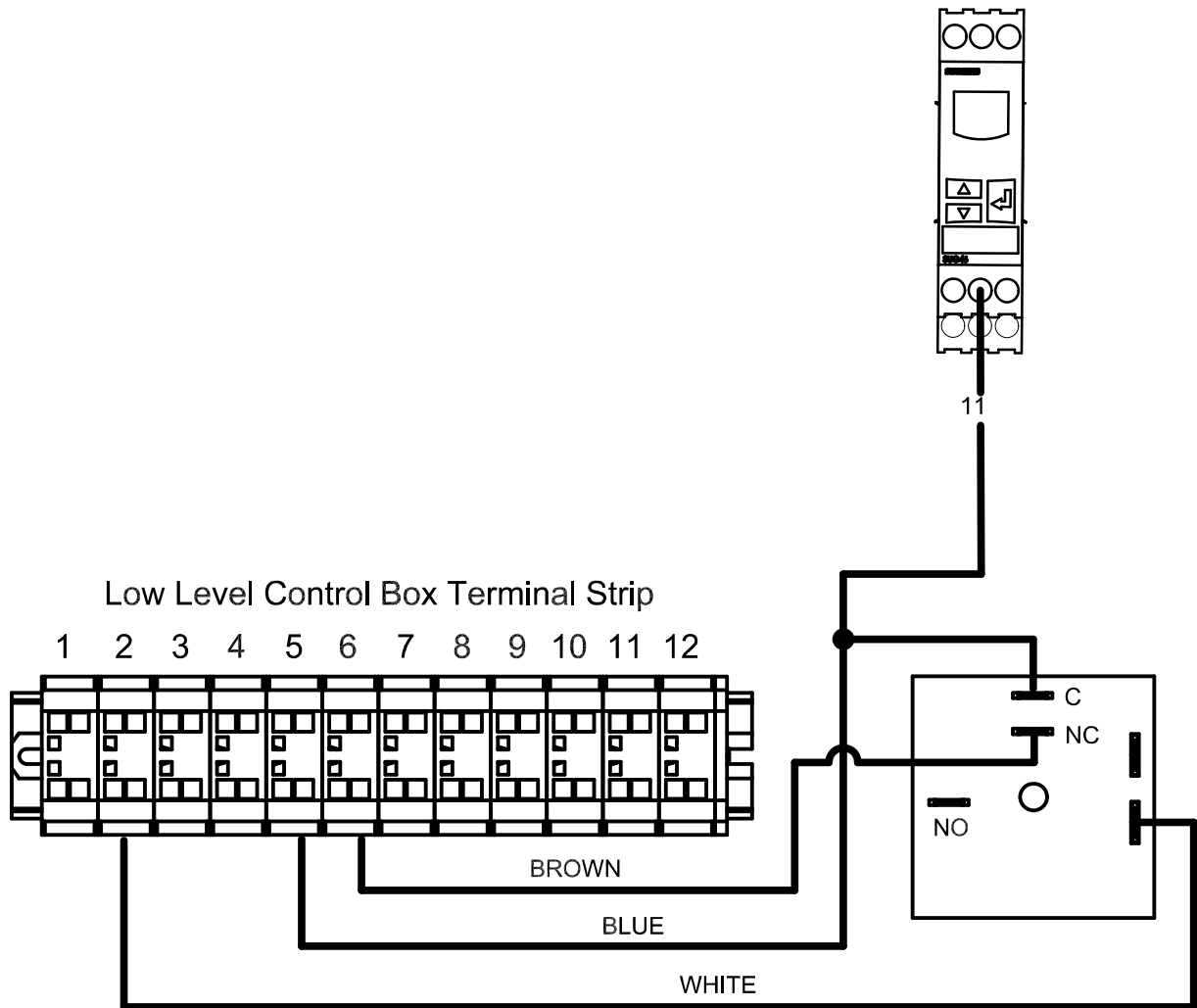
F-1061 (4)
#8 X 3/8"
Motor Load Monitor



Dimensions for mounting holes
(if mounting in a separate
enclosure).

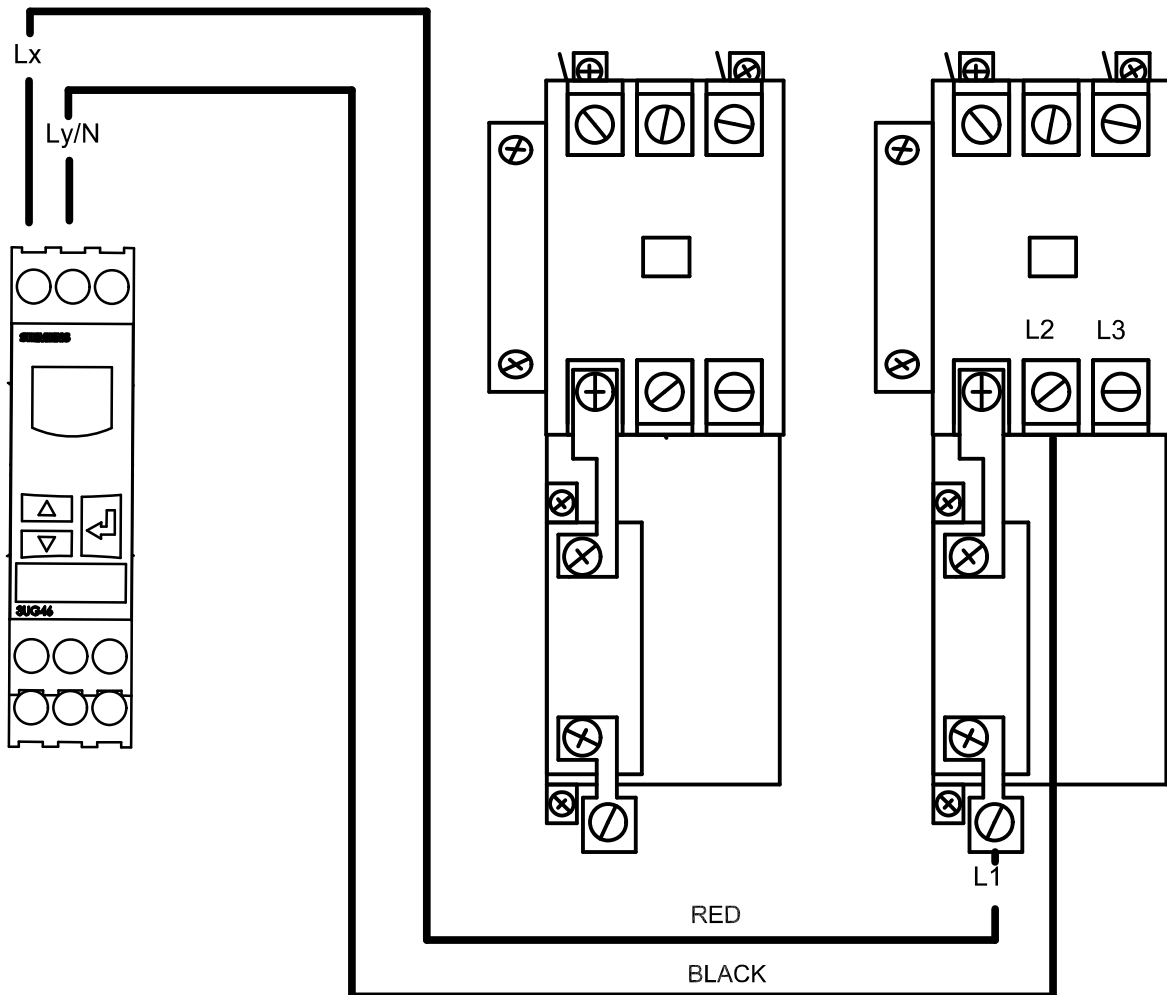
2. It is usually best to monitor the inclined or longest auger as it will have the greatest differential between loaded and unloaded conditions. Mount the Current Transformer and feed the L1 motor lead through the hole. It is OK to just let the current transformer hang on the wire without using the mounting clips. The starter side of the current transformer will be marked K-P1. The motor side will be marked L-P2.





3. Connect the white (Neutral) wire to terminal strip #2, 3, or 4.
4. Connect the blue wire to terminal strip #5.
5. Connect the brown wire to terminal strip #6

SINGLE or THREE PHASE



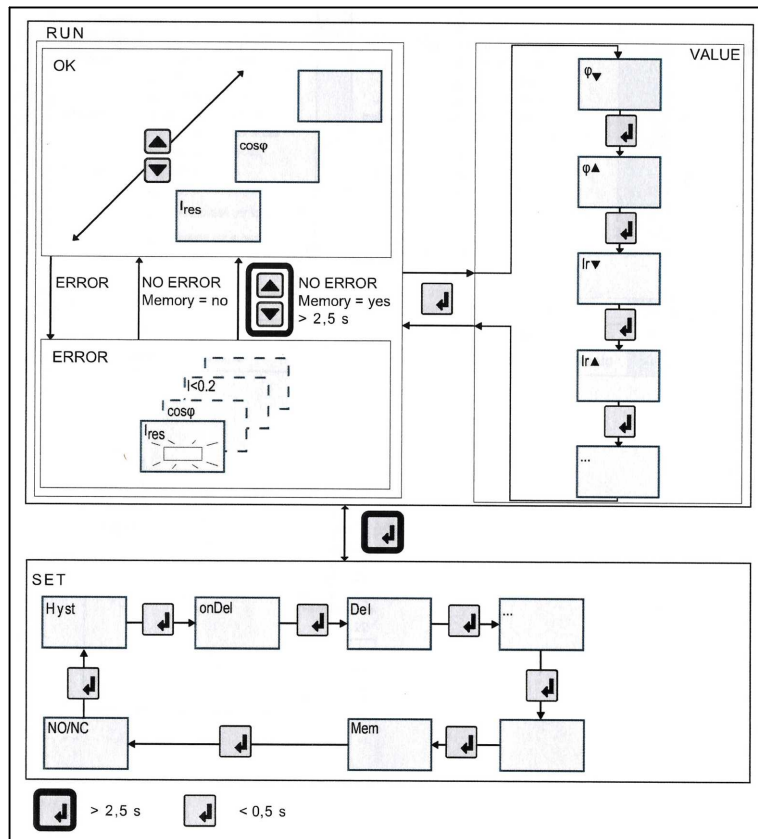
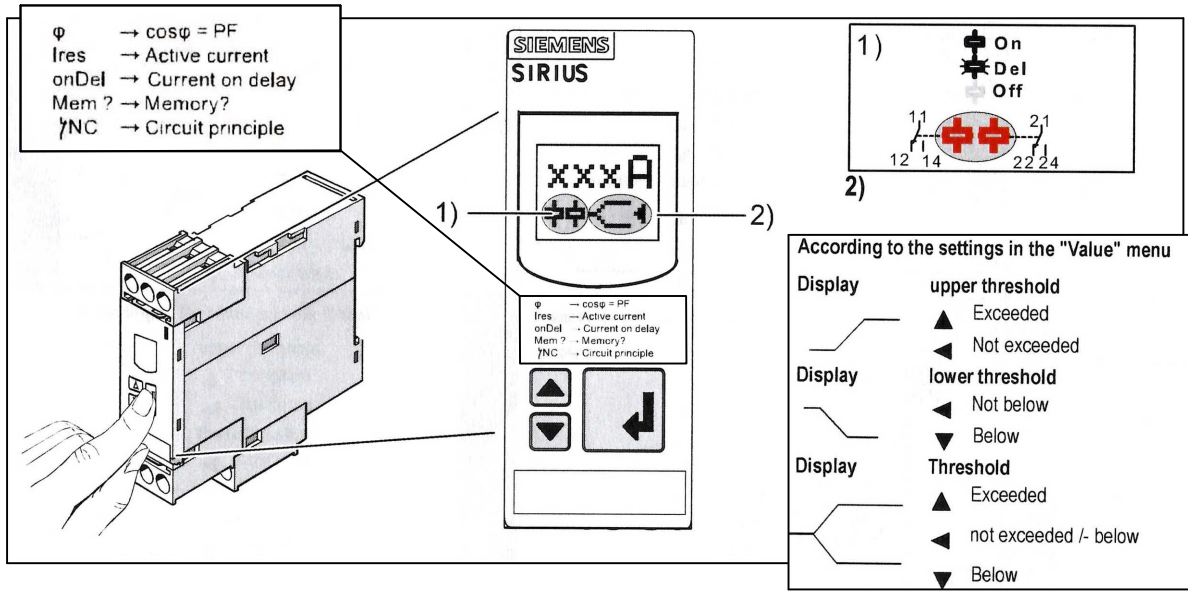
6. Connect the red wire (from Lx) to L1 on the bottom of the starter.
7. Connect the black wire (from Ly/N) to L2 on the bottom of the starter

SETTING THE TRIP LEVEL



Electrocution Hazard - Settings should only be done by trained electrical personnel.

Note: It is best to do settings with an empty auger and then with a full auger of the driest grain expected.



1. Set the shutdown delay on the cube timer to about 10-20 seconds.
2. Set ϕ ▼ to 0.10.
3. Set ϕ ▲ to Off.
4. Set Ir▼ to Off.
5. Set Ir▲ to Off.
6. Set hysteresis "Hyst" to 0.1A.
7. Set starting delay "onDel" to 6 sec.
8. Set response delay "Del" to 10 sec.
9. Close the input of the auger to be monitored so it won't have any grain. Make sure everyone is clear of the augers, and apply power to the system.
10. On the Low Level Control Box, set the "WET TANK" switch to AUTO. Set both auger switches to OFF. Press the "Control Power" switch to RUN, then START and release. The RUN light should come on and stay on.
11. Turn the switch for the auger to be monitored. Note, it may be necessary to turn on the other auger as well if there is a chance of grain plugging the auger to be monitored.
12. Wait for the starting delay (onDel) (about 6 seconds for this test) to elapse.
13. Increase ϕ ▼ value until the relay contact indicator starts flashing. Write this value down as a minimum in the following chart. After approximately 30 seconds, the auger should shut down. If it does not, check your wiring.
14. Open the input of the auger to be monitored so it will have grain, if possible. If not possible, go to step 17.
15. Restart the Low Level Control Box. The auger to be monitored should now be filling with grain. Wait until the auger is fully loaded.
16. Increase the ϕ ▼ value until the relay contact indicator starts flashing. Write this value down as a maximum in the following chart. After about 30 seconds, the auger should shut off full, so shut off the input grain. The more difference there is between the minimum and maximum values, the more consistent the device will work.

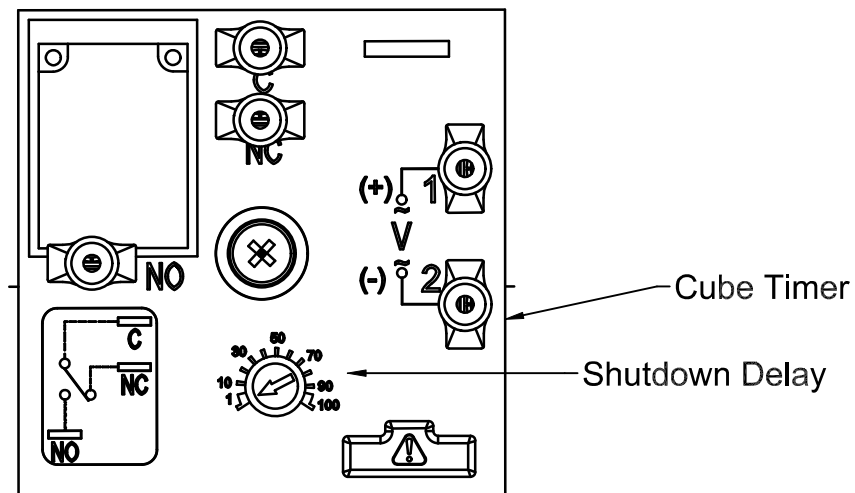
17. Set the ϕ value to about $\frac{1}{4}$ of the way between the minimum and maximum recorded values (or slightly above the minimum value if there was no grain to test with).

Date	Step 10 Setting Minimum	Step 13 Setting Maximum	Step 14 Setting (set 1/4 of the way between minimum and maximum)
example	0.3	0.7	0.4

18. Set the starting delay (onDel) to the desired startup delay (usually set at 30 seconds or higher).

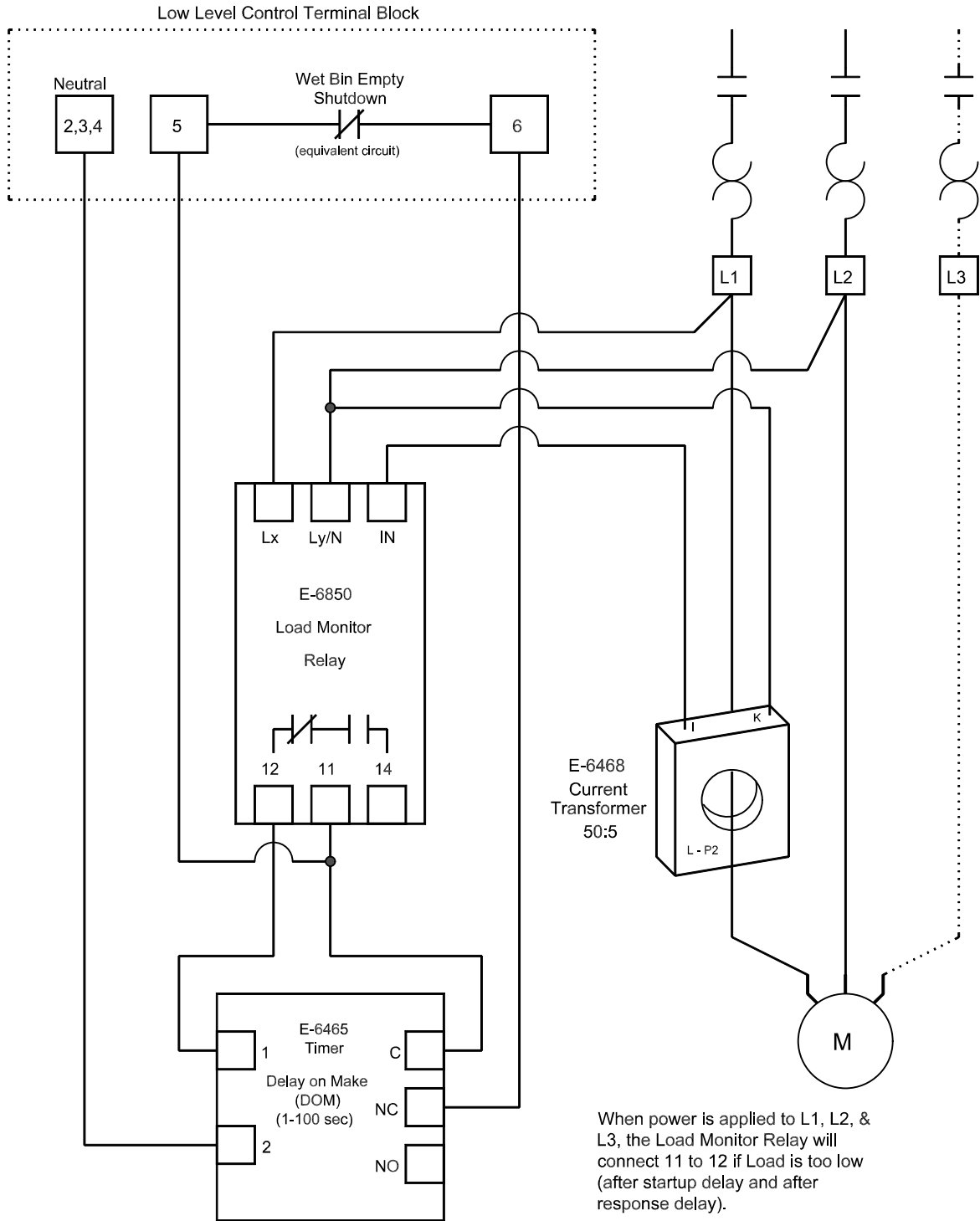
19. Set the cube timer shutdown delay to the desired setting (usually from 30 to 60 seconds, could go as high as 100 seconds).

20. Run auger empty periodically throughout season to make sure adjustment is correct.



LOAD MONITOR SCHEMATIC

Wiring is the same for both three phase and single phase.



Time Delay starts when power is applied to terminal #1. After Delay Period, C & NC open.

= Low Level Control Box Terminal