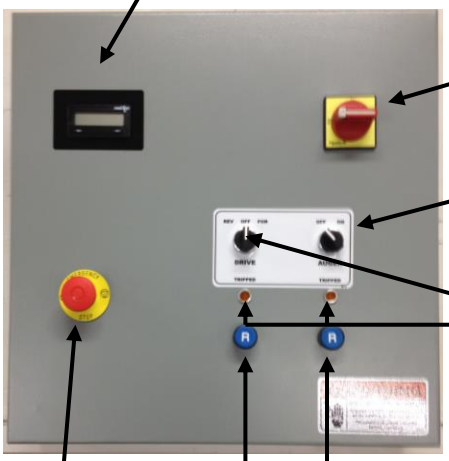
Control Panel with Auto-Drive/Reverse Feature

Installation
and
Operation Instructions

Control Panel Operation



Main disconnect switch: Switch has door lock in on position and lock-off provision in off position. To use lock-off, turn switch to off position and push in on the white center part of the switch knob. Place padlock through exposed slot in red knob. The switch knob cannot be rotated with padlock in place.

Auger On-Off Switch: Turn clockwise to On, counterclockwise to Off

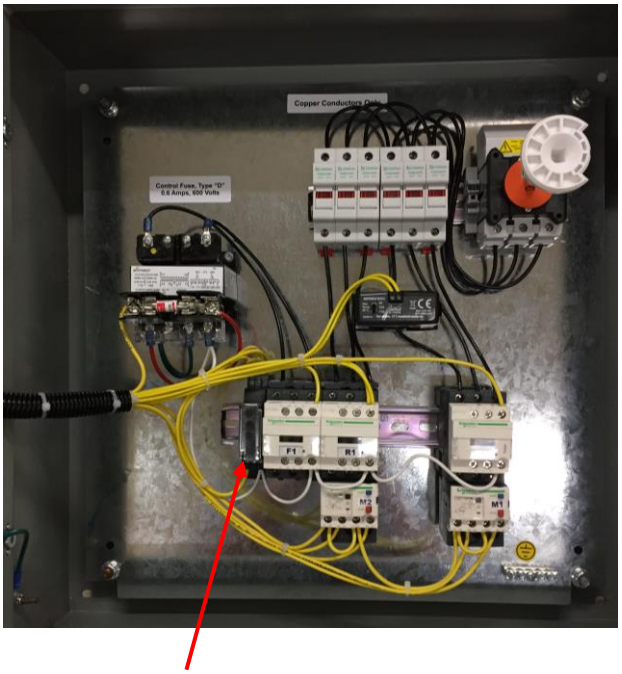
Drive Reverse-Off-Forward Switch: Turn clockwise for Forward (Auto-Drive), center position is Off, counterclockwise for Reverse

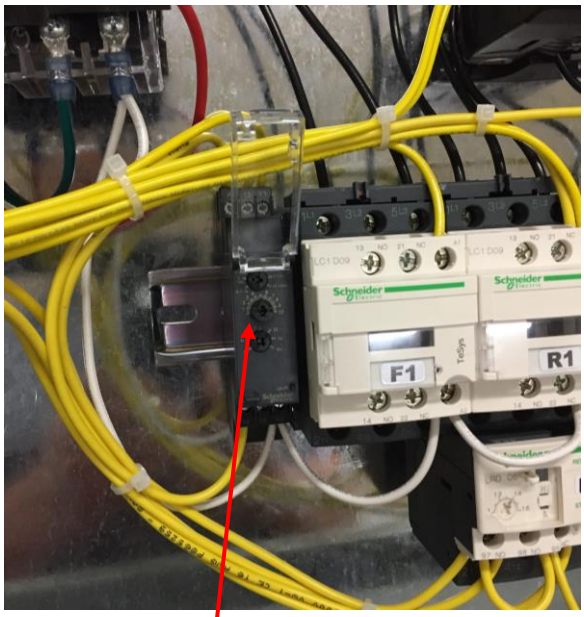
Auto-Drive Feature: When the Drive switch is set to Forward the drive wheels will push the sweep into the grain pile until the Auger Motor reaches full load amps. There is a 5 second delay to allow for a momentary spike in current and then the wheels will stop driving. The wheels will reverse for 5 seconds (adjustable timer) and then stop. The system waits for the auger current to drop by 3 amps. At this point there is a 5 second delay and then the wheels will again start driving forward. The "RST" button on the ammeter allows you to override the stop on Auger Motor current increase. The Reverse function is not interrupted by the current load on the Auger Motor so the drive wheels can be run in reverse at any time. (To change the settings see the "Programming" section on page 4.)

Motor Overload Tripped Indicator Lights: When one of these lights is on, the overload for that particular motor has tripped and needs to be reset before continuing. If the overload trips repeatedly, investigate why the motor is overloading or if the current setting is correct on the motor overload (see Step 4 in Control Panel Installation Instructions).
Note: On 2-drive models both drive motors will stop if either drive overload is tripped.

Motor Overload Trip Reset Buttons: Push to reset tripped overload. (Note: During shipping the contactors may have move slightly on the mounting rail. If the overload reset rod does not contact the reset on the overload block properly, move the contactor slightly left or right so alignment is again correct.)

Emergency Stop Button: Stops all motors immediately. Push to Stop, Pull to Reset.





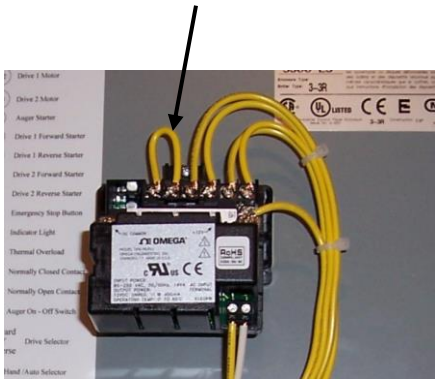
Time setting dial

Reverse Drive Timer (see "Auto-Drive Feature" above)

This timer controls how long the wheels will run in reverse after the auger amperage rises above motor full load. The reverse timer can be adjusted to suit local preferences.

Programming Auto-Drive Feature

There is a “Program Lock” in place to avoid accidental changes to the ammeter programming. If the parameters are incorrect for your application the meter can be reprogrammed. In order to do this you will need to remove the “Program Lock” jumper wire on the back of the meter (see below).



1. To begin programming press and hold the “SEL” button for 3 seconds.
2. Press the “RST” button repeatedly to step through the menus until the display shows “4-SPt”.
3. Press “SEL” to select this option.
4. Press “RST” once to display “SP-1”. Press “SEL” twice to display “SPt-1”. This is the first setpoint and indicates at what amperage the drive wheels will stop. Do not program this for more than the full load amps of the auger motor.
5. To change this setpoint press the “SEL” button and use the “RST” button to change the number. Pressing “SEL” will take you to the next digit.
6. Press and hold “SEL” to finish this setting.
7. The next setpoint is the “HYS-1”. This setting is for how much you want the amps to drop before the wheels begin driving forward again.
8. Press “SEL” to change this setting. Press “RST” to change the numbers and “SEL” to move to the next digit.
9. Press and hold “SEL” to finish this setting.
10. The next setpoint is the time delay “tON-1”. This is the number of seconds the Auger Motor amps can be above the stop setpoint (Steps 4 & 5) before the wheels will stop. If you want to change this setting use “SEL” to select this item and “RST” to change the number. Again press and hold “SEL” when finished.
11. The next menu item “tOF-1” is the delay before the wheels start driving again after the amps have dropped. To change this setting press “SEL” to select it and use “RST” to change the numbers.
12. Press “SEL” repeatedly until the display reads “Pro” and “NO”. Press “SEL” twice to end programming mode.

Those are the only parameters that should be changed in the field. Remember to reinstall the “Program Lock” jumper wire to protect the program from accidental changes.

Pre-programmed Meter Settings:

RANGE:	10v (DO NOT CHANGE THIS SETTING)
DECPT:	0.0
OFSET:	0
FILTR:	1
BAND:	1
STYLE:	KEY
INP 1:	0
DSP 1:	0
INP 2:	10
DSP 2:	100
USR IN:	P-LOC
U-ASN:	DSP
HI-EN:	NO
LO-EN:	NO
DSP-T:	1
SEL:	YES
RST:	DSP
ZERO:	NO
SCROL:	NO
UNITS:	NO
CODE:	000
SPSEL:	SP-1
ENB-2:	NO
ACT-1:	HI-UB
SPT-1:	(see note below)
HYS-1:	3
TON-1:	5
TOF-1:	5
RST-1:	AUTO
REN-1:	YES
STB-1:	NO

NOTE on SPT-1 Setting:
On 480 volt panels the following settings are used:

5 HP	6.2	(These settings are 0.5 amps less than motor full load.)
7.5 HP	9.7	
10 HP	12.5	
15 HP	17.5	
20 HP	23.5	
25 HP	30.3	
30 HP	35.5	
40 HP	46.5	

Control Panel Installation Instructions

All electrical connections must be done according to local electrical codes. These instructions are provided as a guideline but local inspection authorities may have other requirements that the installer must adhere to.

IMPORTANT NOTE: Make sure all electrical connections in the panel are secure. Due to vibration during shipment screw clamps may become loose and need to be retightened before applying power to the panel.

Panel Location:

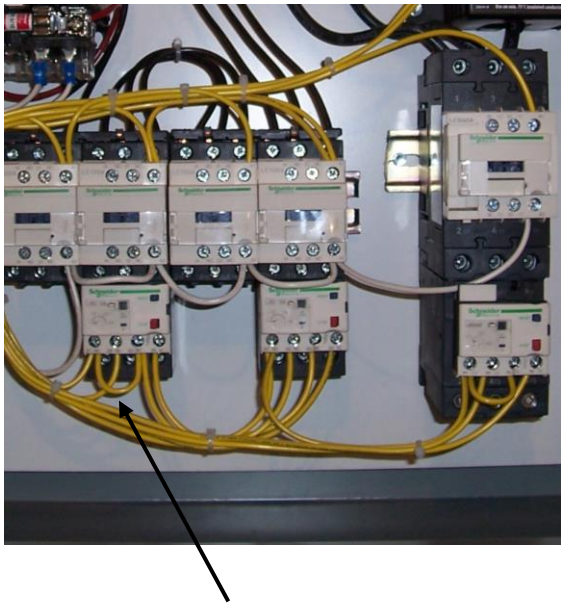
The control panel needs to be mounted on the outside of the bin next to the bin access door. The operator must be able to see the bin sweep during operation while standing at the control panel.

Electrical Connection:

Table 1 (page 8) provides amperages for wire size and fuse or breaker size. FOLLOW LOCAL CODES WHEN SELECTING WIRE AND FUSE/BREAKER SIZES.

Note: Your panel may not be identical to the one in the following steps. However, location of the various connection points remains the same.

Step 1:



Connect Drive Motor #1 to terminals T1, T2, T3 on overload block M2

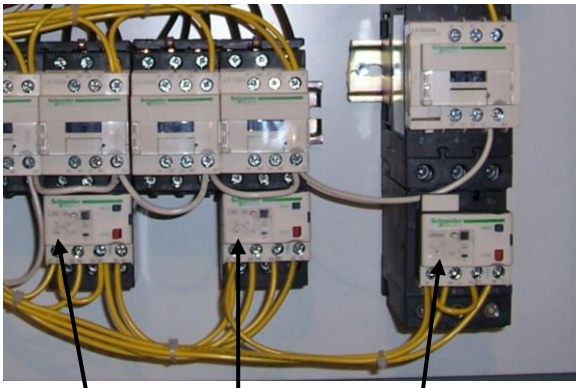
Step 2: (Models with 2 drives only)

Connect Drive Motor #2 to terminals T1, T2, T3 on overload block M3

Step 3:

Connect Auger Motor to terminals T1, T2, T3 on overload block M1

Step 4: VERY IMPORTANT!



Ensure that the current settings on the overload blocks match the Full Load Amps (FLA) on the motor nameplates. **Failure to do this step could cause permanent damage to the motors.**

Step 5:

Remove protective cover over supply terminals and connect main power leads. Replace protective cover after connection is completed.

Step 6:

Provide grounding for all motors and control panel according to local electrical codes.

Step 7:

Check all motors for correct rotation.

Table 1

Calculate wire and fuse sizes for the supply circuit based on the motor amps and voltage listed below. Wire sizing needs to take voltage drop calculations into consideration.

Volts	Auger HP	Auger Amps	Drive Amps	1-Drive Total Amps	2-Drive Total Amps
240	5	13.4	3.6	17	20.6
240	7.5	18.8	3.6	22.4	26
240	10	24.4	3.6	28	31.6
240	15	36	3.6	39.6	43.2
240	20	48	3.6	51.6	55.2
240	25	61	3.6	64.6	68.2
240	30	72	3.6	75.6	79.2
240	40	96	3.6	99.6	103.2
240	50	116	3.6	119.6	123.2
380	5	8	2.3	10.3	12.6
380	7.5	11.3	2.3	13.6	15.9
380	10	14.4	2.3	16.7	19
380	15	22	2.3	24.3	26.6
380	20	29.5	2.3	31.8	34.1
380	25	37	2.3	39.3	41.6
380	30	45	2.3	47.3	49.6
380	40	57	2.3	59.3	61.6
380	50	70	2.3	72.3	74.6
480	5	6.7	1.8	8.5	10.3
480	7.5	9.4	1.8	11.2	13
480	10	12.2	1.8	14	15.8
480	15	18	1.8	19.8	21.6
480	20	24	1.8	25.8	27.6
480	25	30.5	1.8	32.3	34.1
480	30	36	1.8	37.8	39.6
480	40	48	1.8	49.8	51.6
480	50	58	1.8	59.8	61.6
575	5	5.3	1.4	6.7	8.1
575	7.5	7.6	1.4	9	10.4
575	10	9.8	1.4	11.2	12.6
575	15	14.8	1.4	16.2	17.6
575	20	19.2	1.4	20.6	22
575	25	24.5	1.4	25.9	27.3
575	30	29	1.4	30.4	31.8
575	40	39	1.4	40.4	41.8
575	50	47	1.4	48.4	49.8