



# Electrical Installation Manual

## Ultra High Capacity Level Dry with HMI Controls



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**READ THIS MANUAL TOGETHER WITH P-13766, ULTRA HIGH CAPACITY  
LEVEL DRY INSTALLATION MANUAL.**

# Contents

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|                                                |           |
|------------------------------------------------|-----------|
| <b>INTRODUCTION</b>                            | <b>1</b>  |
| <b>SAFETY</b>                                  | <b>2</b>  |
| Location of Safety Decals . . . . .            | 3         |
| <b>ELECTRICAL INSTALLATION</b>                 | <b>6</b>  |
| <b>HMI TOUCH INTERFACE</b>                     | <b>13</b> |
| <b>INITIAL SETUP</b>                           | <b>15</b> |
| System Control Configuration . . . . .         | 15        |
| Auger Height Calibration . . . . .             | 16        |
| <b>OPERATION</b>                               | <b>17</b> |
| Float Mode . . . . .                           | 17        |
| One Level Mode . . . . .                       | 18        |
| Transition Mode . . . . .                      | 20        |
| <b>ADJUSTMENTS</b>                             | <b>21</b> |
| Adjusting the Brake . . . . .                  | 21        |
| Adjusting the Grain Proximity Sensor . . . . . | 22        |
| <b>MAINTENANCE</b>                             | <b>23</b> |
| Gearbox, Brake, and Hanger Bearings . . . . .  | 23        |
| Carrier and Outside Bearing . . . . .          | 23        |
| Leveler Motor . . . . .                        | 23        |
| Winch and Suspension Cable . . . . .           | 23        |
| Electrical System . . . . .                    | 23        |
| Safety Decals and Locks . . . . .              | 23        |
| <b>TROUBLESHOOTING</b>                         | <b>24</b> |

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# INTRODUCTION

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**Applicability:** This revision covers Ultra High Capacity Level Dry with HMI controls for the 8-inch and 10-inch center vertical systems listed in Installation Manual P-13766. Refer to that model list for exact model numbers and phases.

1. The wet grain is directed into the collection hopper.
2. The collection hopper rotates around the center vertical auger, directing grain to the base of the Level Dry auger.
3. The Level Dry leveling auger rotates around the bin, depositing a full, smooth, and porous layer of wet grain as it travels.
4. A switch at the outer end of the leveling auger monitors the grain level and signals the control panel to call for more grain when necessary.
5. The HMI-based controls operate the Level Dry in fixed-depth, float, or automatic transition mode to handle a variety of drying needs.

Level Dry's grain leveling auger rotates around the center vertical tube, spreading the grain evenly at any depth selected by the operator. Any "dips" or low spots in the drying grain are filled to give a smooth, uniform, and porous surface of wet grain after each pass of the leveling auger. Drying capacities are increased because the machine may be operated at very low grain depths for extended periods of time. A layer of wet grain is deposited on top as a layer of dry grain is removed from the bottom. The wet grain placed on top "captures" any unused heat in the drying air, resulting in high efficiency and high capacity.

Fixed depth "One Level" drying is the Level Dry's highest capacity mode. The operator adjusts the Level Dry to the grain depth desired by pushing the UP or DOWN buttons on the Level Dry HMI. The Level Dry maintains that depth by calling for additional grain from the wet holding bin when required. Depths in the 24 – 48 inch range are usually selected for fastest drying. When setting Auger Height, use the bottom-of-auger height measured from the bin floor to the bottom of the auger; approximately 24 inches is a common starting point within this stated range. Efficiency and capacity are under the operator's control since any depth may be selected.

The Level Dry may also be used in Float mode. In this mode, the bin is filled as the grain comes from the field. The operator lowers the Level Dry and starts putting grain in the drying bin. The Level Dry gently and evenly spreads the grain across the drying area and automatically raises as required. Less compaction means higher airflow and faster drying. And best of all, no more shoveling the bin level at the end of the day.

Transition is a new mode for the updated Level Dry system. This mode can be used to automate the Level Dry during initial startup and automatically transition to One Level mode once the grain reaches the user-designated optimal drying depth. This lets the user start the dryer sooner and get back to work faster, without having to babysit the dryer during the start of the drying process.

# SAFETY

Operators of this machinery must assume the responsibility for their own safety and for the safety of those working with them. Operators must also make sure the equipment was installed properly. Factors that contribute to the overall safety of operation are: Proper use, maintenance, and frequent inspection of the equipment. **All of these are the operator's responsibility.**

If any items covered in this manual are not completely understood, or if there is any concern about the safety of the product, contact Shivvers Manufacturing, Inc. at the address shown on the front page.

Shivvers is genuinely interested in providing the safest practical equipment to our customers. If you have a suggestion which you believe will enhance the safety of this product, please write and let us know.



**Take note anytime this symbol appears. Your safety, and the safety of those around you, is at stake.**

Observe these rules when working with your drying unit:

1. All units must be equipped with a main disconnect switch in close proximity to the grain bin's entry door. It must have the capability of being locked into the OFF position. Disconnect and LOCK OUT all electrical power before conducting any inspection, maintenance, repair, adjustment, or cleaning of the drying system. When you must have the electrical power on to troubleshoot equipment, do it from a safe distance, and always outside the bin.
2. Keep the bin entrances locked at all times. To unlock the bin, first lower the Level Dry, then shut the master disconnect off. Remove the lock from the bin entrance and place it on the main disconnect before opening the bin entrance. Never enter the drying bin unless the Level Dry is completely lowered, and all power is disconnected and locked out.
3. Always keep all shields and guards in place. If shields or guards must be removed for inspection or maintenance, replace them before turning the power back on.
4. Do not turn the power on without being sure all personnel are clear of the drying equipment.
5. Make sure that all decals are in place and are easily readable. Do not operate the equipment with missing or illegible decals. If replacements are needed, contact Shivvers Manufacturing, Inc. or your dealer.

6. Prior to use, inspect all equipment to ensure that it is in good operating condition. Do not operate with missing, damaged, or worn parts.
7. Metal edges can be sharp. Wear protective clothing and handle equipment and parts with care.
8. Always keep children, bystanders, and other unauthorized personnel away from the equipment.
9. Periodically review all operating and safety manuals with any personnel working with this equipment. Always train new employees before they operate the drying equipment. Insist that they read and understand the operating and safety manuals.

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## LOCATION OF SAFETY DECALS

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Safety decals are mounted at the factory whenever possible, but it is your responsibility to make sure other decals are installed in the proper places. It is also your responsibility to ensure that decals remain in good, legible condition. You must replace safety decals if they are missing or become illegible. Also, if any new equipment components are installed during repair, the current safety decals are required to be affixed to the replacement component.

**IMPORTANT:** If the suggested decal locations or factory-applied decals are not clearly visible, place decals in a more suitable area. Contact Shivvers Manufacturing, Inc. for free replacement decals. The part numbers start with “P-”, such as P-10717.

Before applying decals, make sure the mounting surfaces are clean and dry.

Review the following decals, and verify that they are in place, are easily readable, and clearly identify the dangers present. Contact Shivvers Manufacturing, Inc. for free replacement decals or for clarification of any question you may have.



Figure: Rotating Equipment Warning Decal



Figure: Leveling Auger Danger Decal



Figure: Electrocution Hazard Danger Decal

These are the decals shown on the front panel of the Level Dry Control Box. Review and verify that they are in place.

The Leveling Auger Decal is also found on the HMI Breakout Box.

The Rotating Equipment Warning Decal is also found on the Center Vertical Boot.

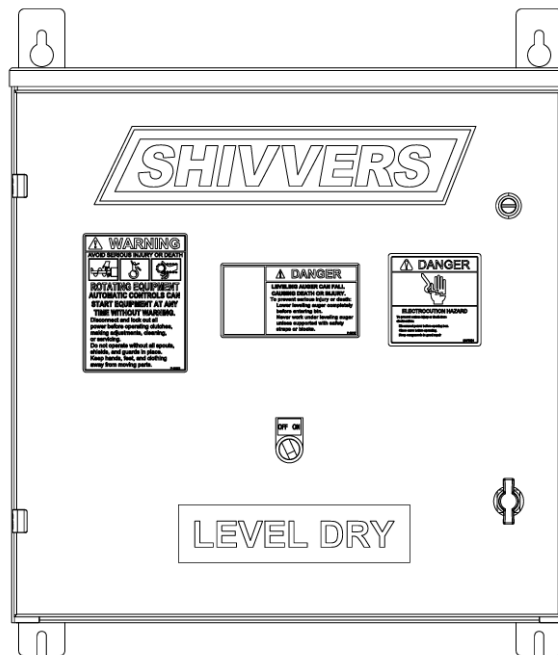


Figure: Level Dry Control Box

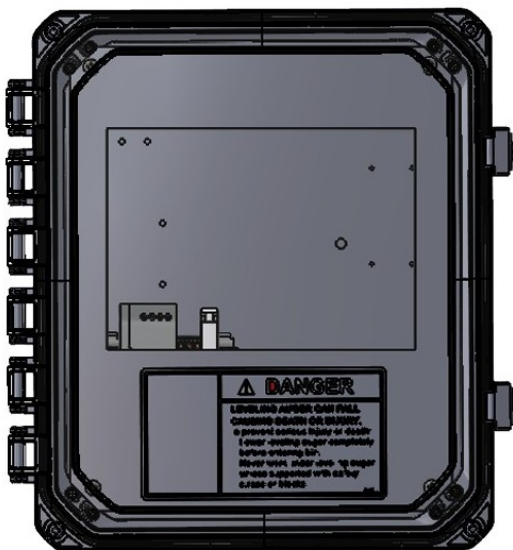


Figure: HMI Breakout Box

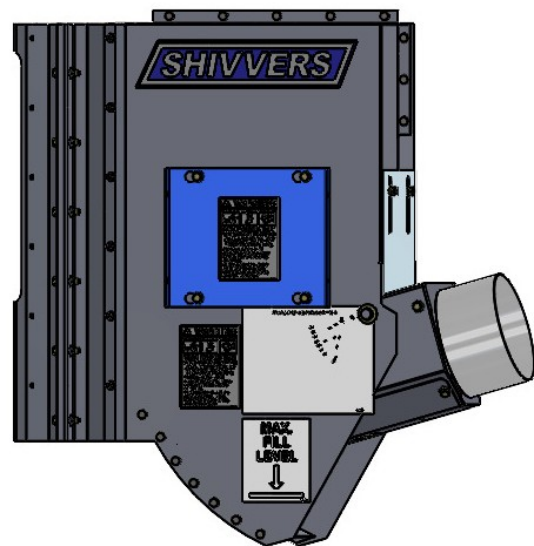


Figure: Center Vertical Boot

# Electrical Installation

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The following pages include wiring schematics for:

- Level Dry Conduit Runs - Single-Phase 230V
- Level Dry Conduit Runs - Three-Phase 230V
- Level Dry PLC Schematic
- Motor Wiring Diagram: Single-Phase or Three-Phase Power
- HMI Panel Wiring
- Field Wiring

**Note:** Electrical installation must be performed by a qualified electrician in accordance with all applicable electrical codes and local requirements. Disconnect and lock out power before installing, inspecting, or servicing electrical components.

2

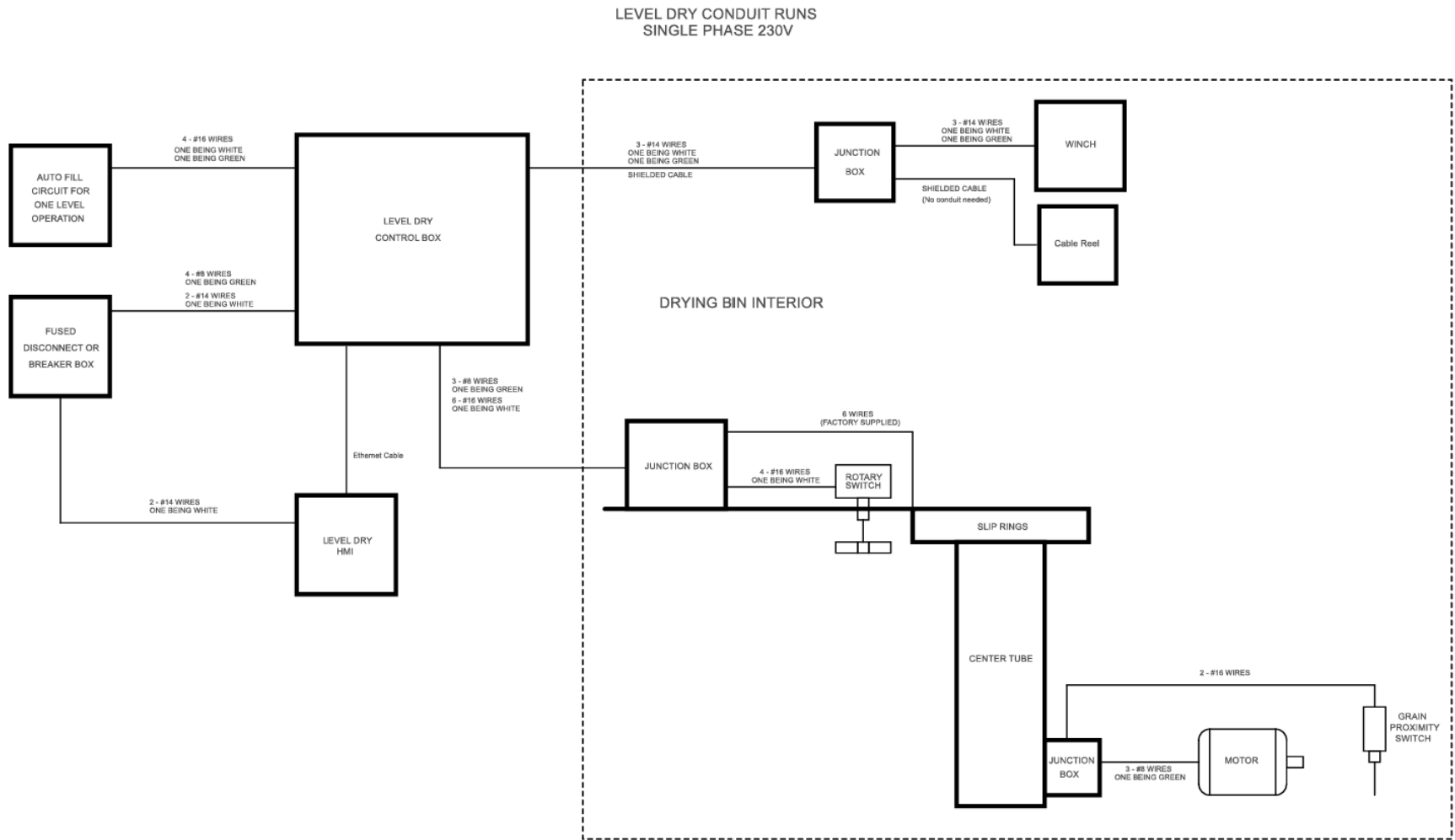


Figure: Level Dry Conduit Runs – Single-Phase 230 V

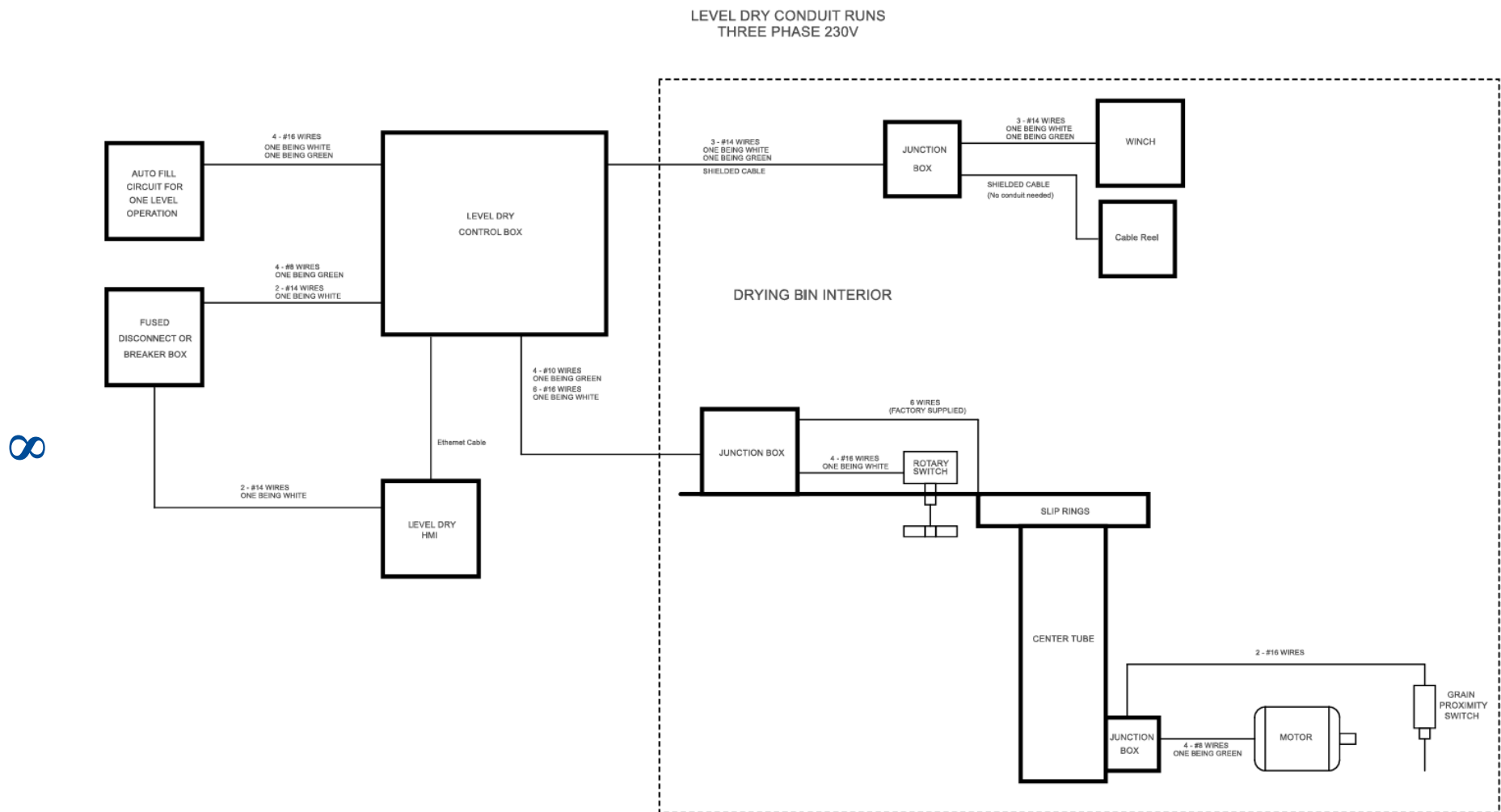


Figure: Level Dry Conduit Runs – Three-Phase 230 V

Note: Conduit and wire requirements vary by system configuration. Verify wire size, conductor count, grounding, and conduit requirements against the final electrical schematic and local code before installation.

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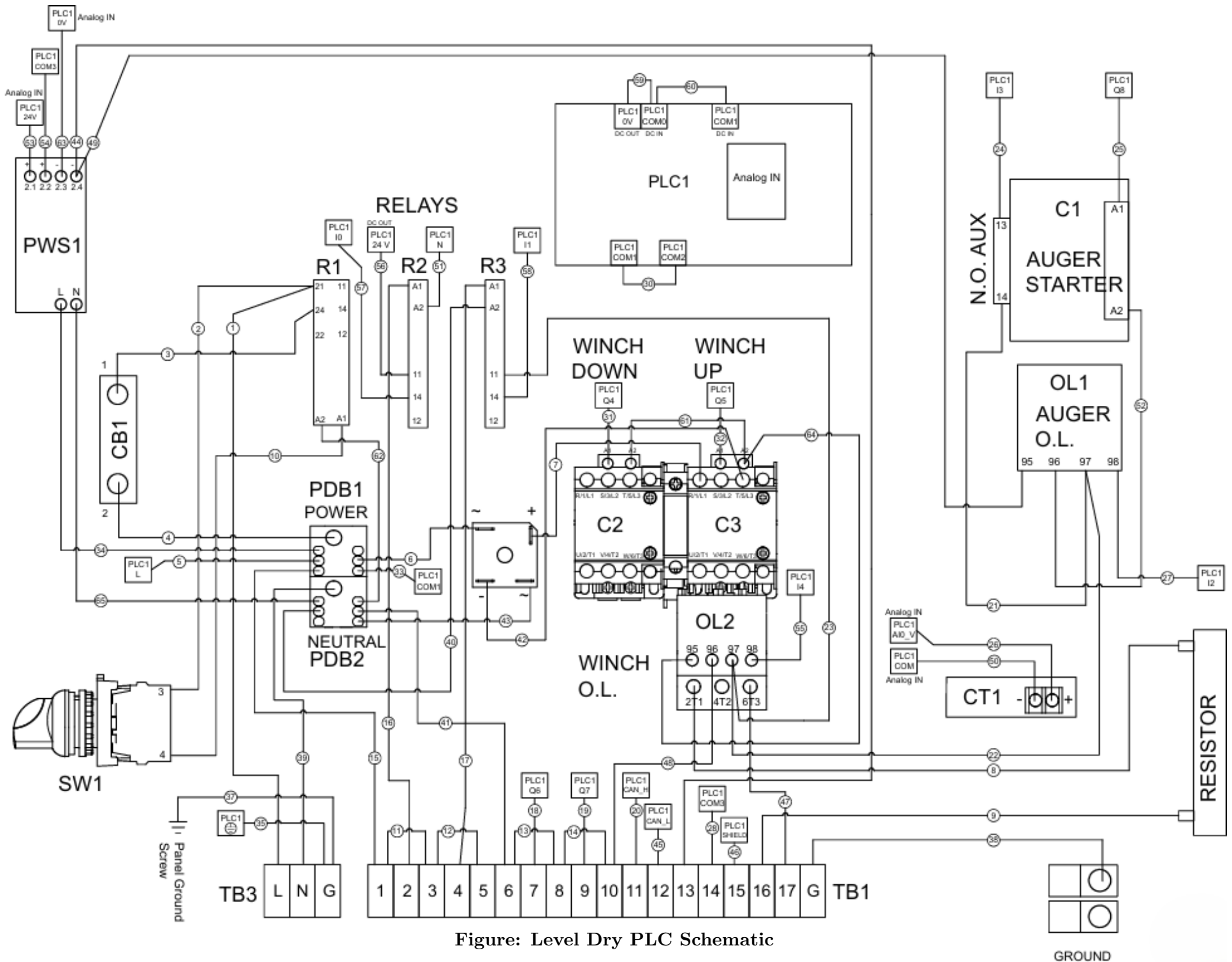
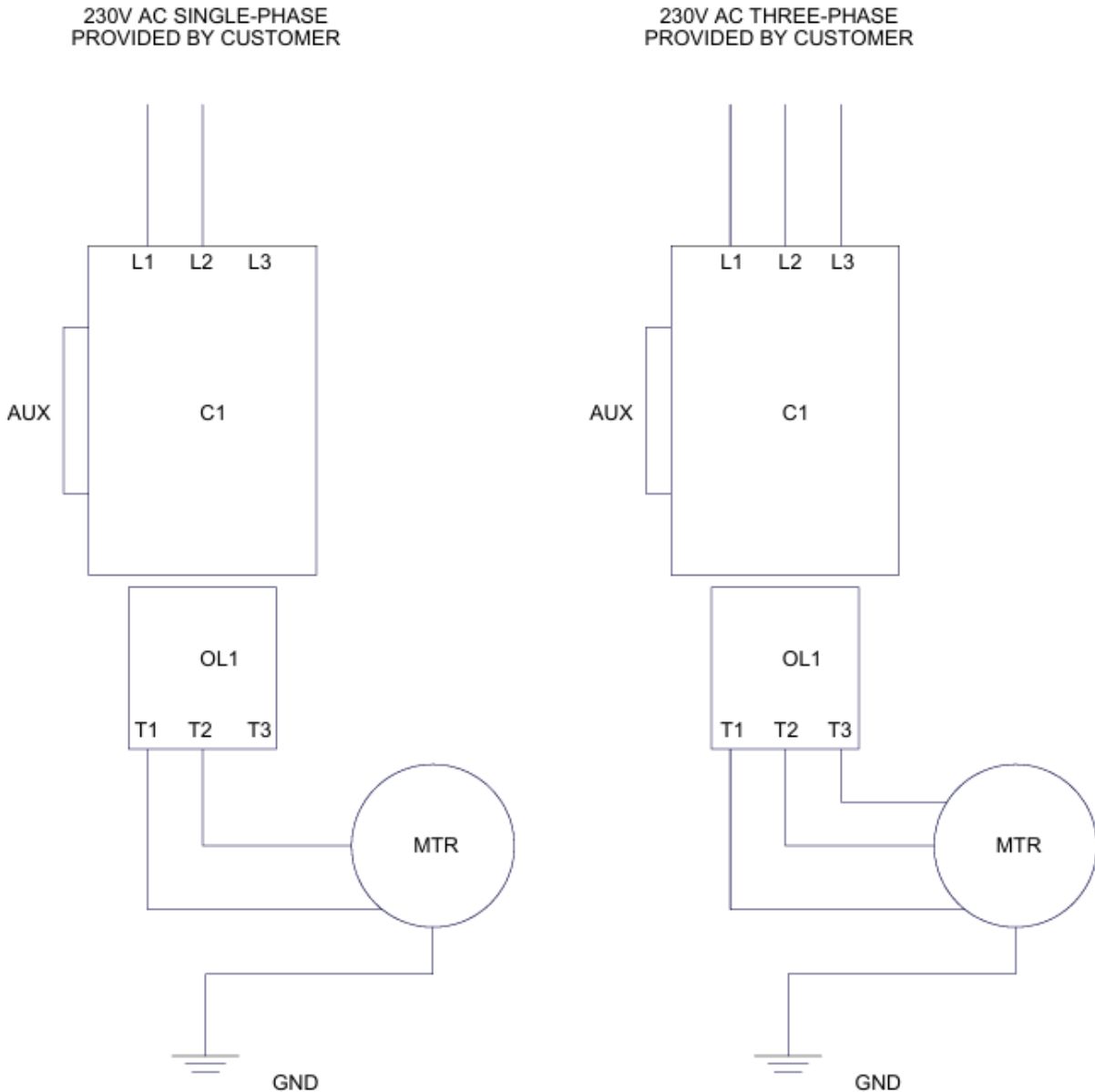


Figure: Level Dry PLC Schematic



**Figure A: Motor Wiring Diagram - Single-Phase Power**

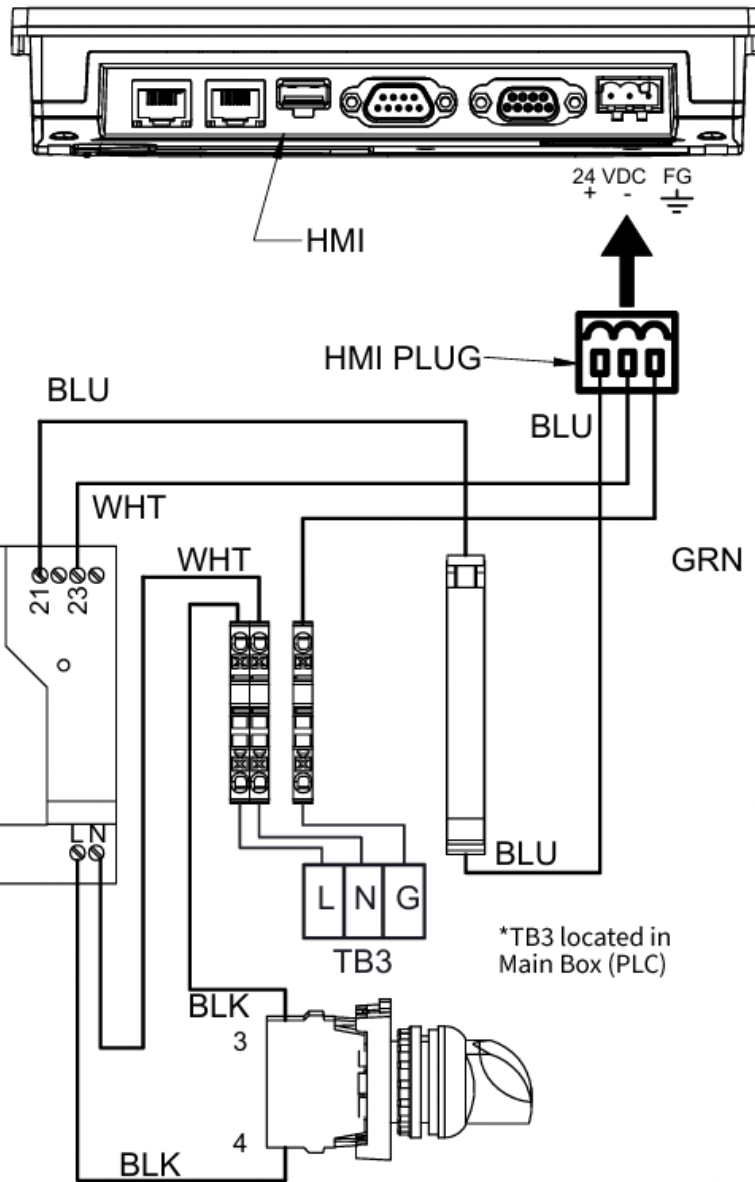
**Figure B: Motor Wiring Diagram - Three-Phase Power**

**Note for Single Phase:** Verify motor voltage, phase, overload sizing, and starter configuration before applying power. Most single-phase motors have a 1.0 service factor. Set Full Load Amps (FLA) to the motor nameplate FLA times 0.80.

For example, if single-phase motor FLA = 40, set overload dial at,

$$40 \times 0.80 = 32 \text{ Amps. Trip Amps is now } 32 \times 1.25 = 40 \text{ Amps.}$$

Turn OFF the PHASE UNBAL and PHASE LOSS switches on the overload.



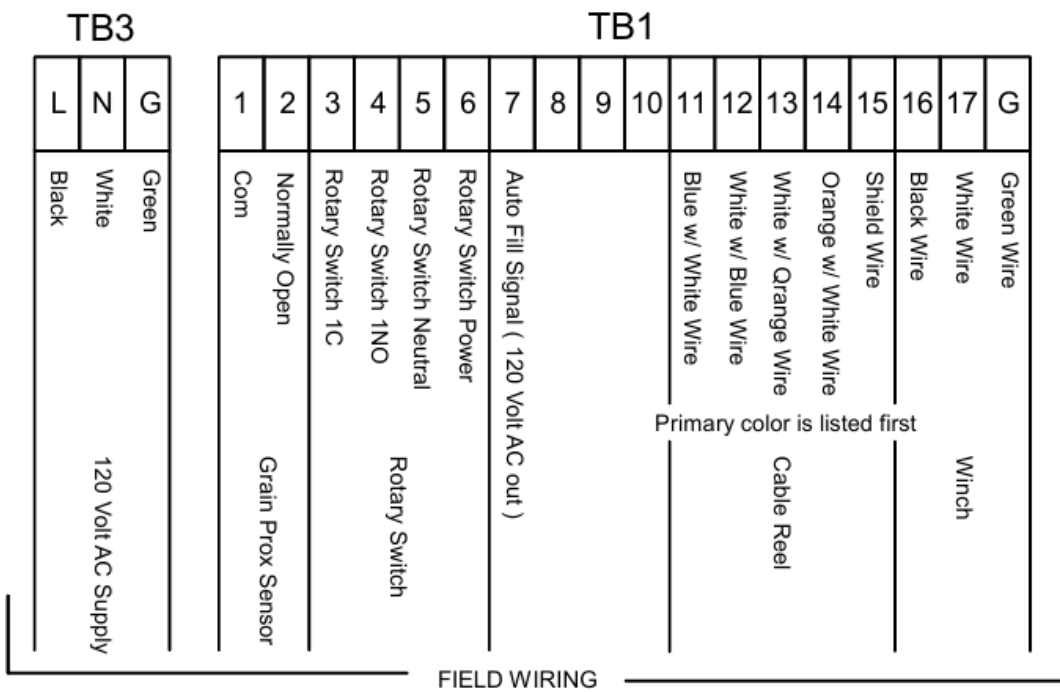


Figure: Field Wiring

# HMI TOUCH INTERFACE

The Level Dry HMI uses a resistive touchscreen that can be operated while wearing gloves. The Level Dry HMI boots to a splash screen with four navigation options.



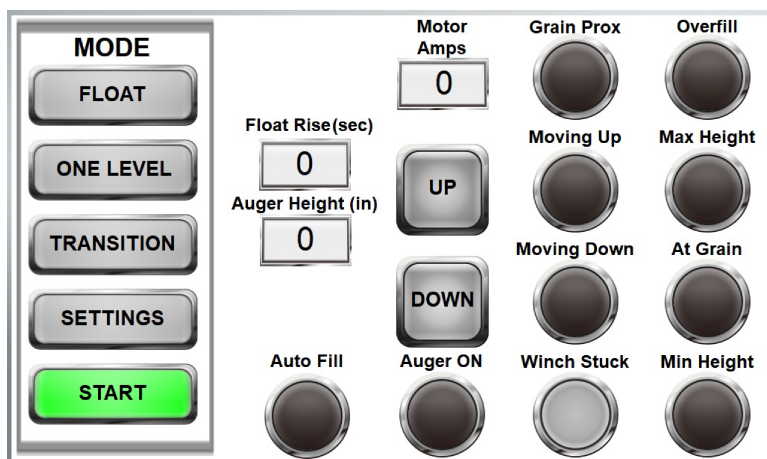
From the splash screen, the operator can access the Settings, Float, Transition, and One Level screens. The Settings screen includes the System Control Configuration and Auger Height Calibration controls.

## SETTINGS

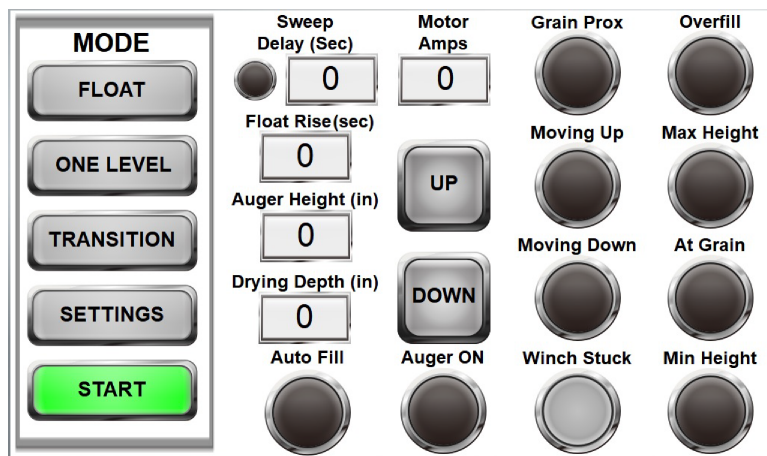
| System Control Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Auger Height Calibration                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>Starter Contactor</b> <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Winch Limit Override</b> <input type="checkbox"/>                             |
| <b>VFD</b> <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Max Height Measurement <input type="text" value="0"/> <b>Set Max</b> <b>UP</b>   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Min Height Measurement <input type="text" value="0"/> <b>Set Min</b> <b>DOWN</b> |
| <p><b><u>To calibrate maximum and minimum height:</u></b></p> <ol style="list-style-type: none"> <li>1. Activate Winch Limit Override.</li> <li>2. Move leveling auger to approximately 2" below highest possible position.</li> <li>3. Measure from bin floor to bottom of auger; enter this into "Max Height Measurement" field.</li> <li>4. Press "Calibrate Max Height" button above.</li> <li>5. Move leveling auger to approximately 2" above lowest possible position.</li> <li>6. Measure from bin floor to bottom of auger; enter this into "Min Height Measurement" field.</li> <li>7. Press "Calibrate Min Height" button above.</li> <li>8. Toggle Winch Limit Override to OFF position.</li> </ol> |                                                                                  |
| <p align="center"><b>EXIT</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                  |

The following screens show the primary HMI controls and indicators for each operating mode. Detailed operation instructions are provided in the Operation section.

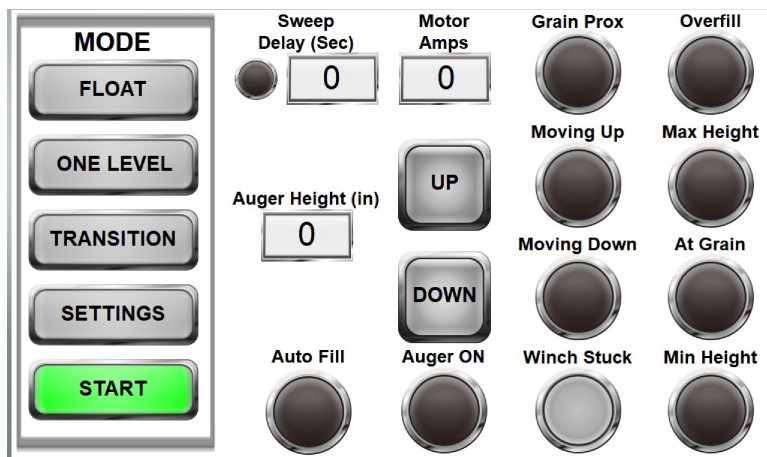
### FLOAT



### TRANSITION



### ONE LEVEL



# INITIAL SETUP

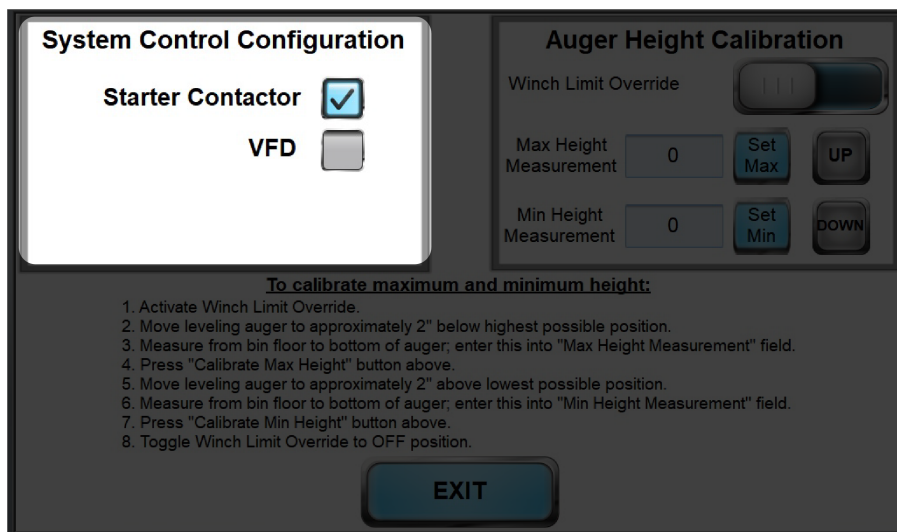
On the first power-up after the Level Dry is installed, calibrate the height sensor of the Level Dry auger and select the motor starting method.

## System Control Configuration

1. Select the **SETTINGS** option on the splash screen.



2. In the System Control Configuration box, select the starting method for the Level Dry auger motor.



The Level Dry system uses either a starter contactor or a variable frequency drive (VFD) to start the Level Dry auger motor. Select the method used in your system.

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## Auger Height Calibration

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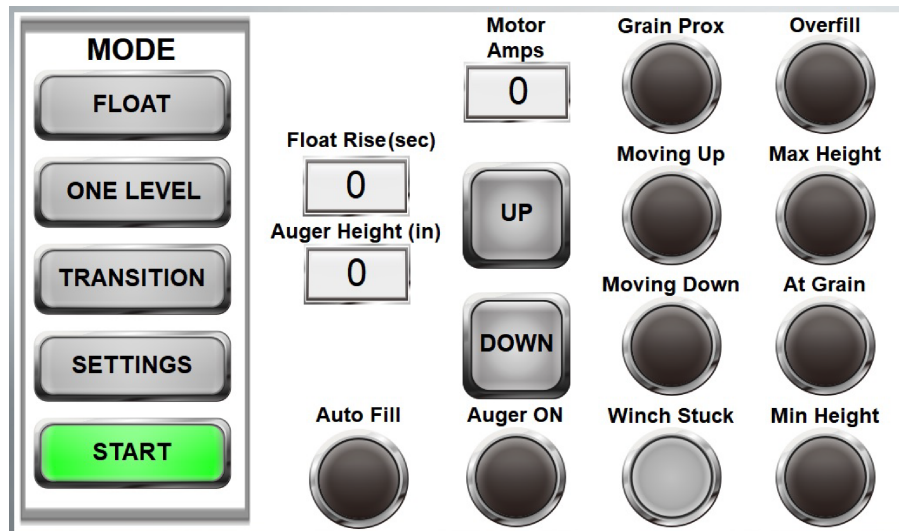
The Level Dry auger uses a cable reel system to sense the height of the leveling auger arm. This process ensures that the physical operating limits and height sensing are accurately set. **Failure to perform this procedure could result in equipment damage and inaccurate height sensing.**

1. Navigate to the SETTINGS screen.
2. The relevant calibration controls are located in the Auger Height Calibration box.
3. Activate the Winch Limit Override. The HMI will ask you to confirm your choice.
  - (a) **WARNING:** This override allows the winch to be operated up to and beyond any previously set limits. While Winch Limit Override is active, the Level Dry system must be directly observed to make sure the auger is not raised or lowered beyond its physical limits. The winch should **ONLY** be operated in this mode during initial setup and **MUST NOT** be operated in this mode during regular operation.
4. Move the leveling auger to approximately 2 inches below the highest possible position.
5. Measure from the bin floor to the bottom of the auger and enter this measurement (in inches) into the Max Height Measurement field.
6. Press the Set Max button.
7. Move the leveling auger to approximately 2 inches above the lowest possible position.
8. Measure from the bin floor to the bottom of the auger and enter this measurement (in inches) into the Min Height Measurement field.
9. Press the Set Min button.
10. Deactivate the Winch Limit Override.
11. Verify that the leveling auger can be raised to its highest position and that it stops before reaching its physical limit.
12. Verify that the leveling auger can be lowered to its lowest position and that it stops before reaching its physical limit.

**WARNING: Do not leave Winch Limit Override active after calibration.**

# OPERATION

## Float Mode



Float mode is generally used when filling the drying bin directly from a truck or wagon, and **NOT when using a wet holding bin**. In this mode, once a layer of grain has been put in the bin, the leveling auger will raise 4 to 6 inches (user adjustable in the “Float Rise” box) to put in another layer of grain. When it gets to the maximum height, the Level Dry will stop the Auto Fill signal and trigger the Overfill alarm indicator. The leveling auger will continue to run, so that the remaining grain in the hopper and input augers can be spread out on the grain bed. Once all the grain has moved through the system, the operator should manually stop the Level Dry auger by pressing the STOP button on the HMI.

If the Level Dry is often used in Float Mode, Shivvers recommends installing an optional alarm circuit so the operator has an audible indication to shut off incoming grain from the grain cart, wagon, or truck.

### 1. Find the Grain Level

- On initial startup, or if grain hasn’t been added to the bin for a long time, it is desirable to have the leveling auger at the lowest possible position. This will take less grain to achieve a level layer in the bin so that the drying process can start sooner. This step can usually be bypassed if the grain is being steadily added to the bin. If it has been more than an hour since the last load, do this step.
- If the drying bin is empty, simply lower the leveling auger until the “Min Height” indicator becomes active.
- If there is grain in the bin, check the “At Grain” indicator. If it is not active, press the DOWN button to lower the leveling auger until the “At Grain” indicator goes active. Press the UP button to raise the leveling auger a few inches above the current layer (4–6 inches is sufficient).

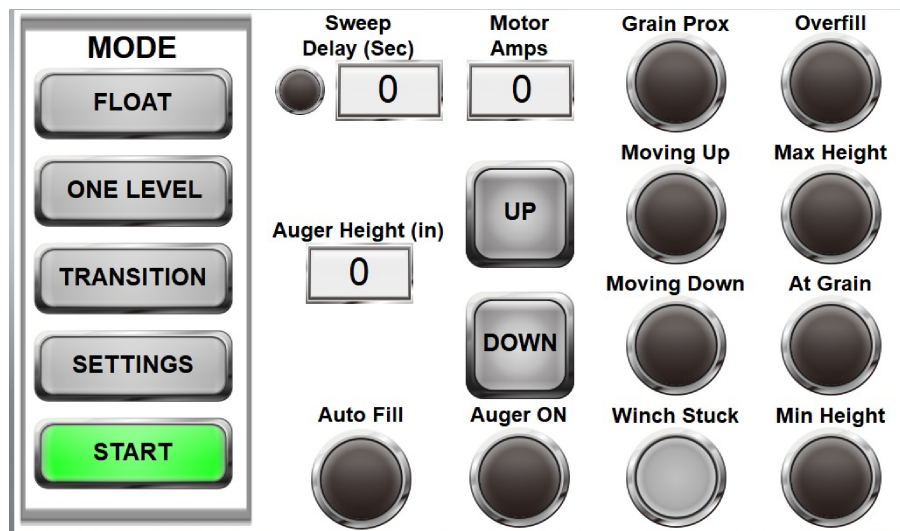
## 2. Start the Level Dry

- Press the “START” button on the HMI. The “Auto Fill” indicator on the HMI will go active, and the leveling auger will turn on. Grain can now be added to the bin.
- The leveling auger may make more than one rotation to deposit a full, even layer of grain. This is normal operation. Once a full, even layer of grain is deposited, the leveling auger will move up automatically by the preset distance as indicated in the “Float Rise (sec)” box. The Level Dry system can be left running between loads of grain.

## 3. Shut Off the Level Dry

- If grain will not be added for an extended period, press the “STOP” button on the HMI.

## One Level Mode



One Level mode is generally used when a continuous supply of grain is available from a wet holding bin. In this mode, the leveling auger stays at one height. As grain is removed from the drying bin, the Level Dry will call for more grain to keep a constant depth of grain. There are multiple factors involved in setting the most efficient grain depth, such as airflow, drying temperature, and grain moisture content. From a practical standpoint, approximately 24 inches is suitable for most conditions. **Indicator definitions:** “At Grain” activates when the leveling auger reaches the current grain layer and guides the Float/Transition starting position; the auger then rises by the configured Float Rise. “Grain Prox” activates when its switch contacts grain; in One Level, it stops the Auto Fill call and the leveling auger, and its deactivation as sweeps remove grain triggers Sweep Delay.

1. Press the “ONE LEVEL” button on the HMI.
2. Set the Sweep Delay in seconds.
3. Raise or lower the leveling auger with the “UP” or “DOWN” buttons until the desired drying depth is achieved. The current leveling auger height is indicated in the “Auger Height (in)” box.

**Note: The Sweep Delay allows the drying bin sweeps to remove enough grain so the leveling auger motor does not cycle on and off rapidly, which could overheat the motor. A setting of 300 to 480 seconds is usually sufficient.**

4. Start the Level Dry.

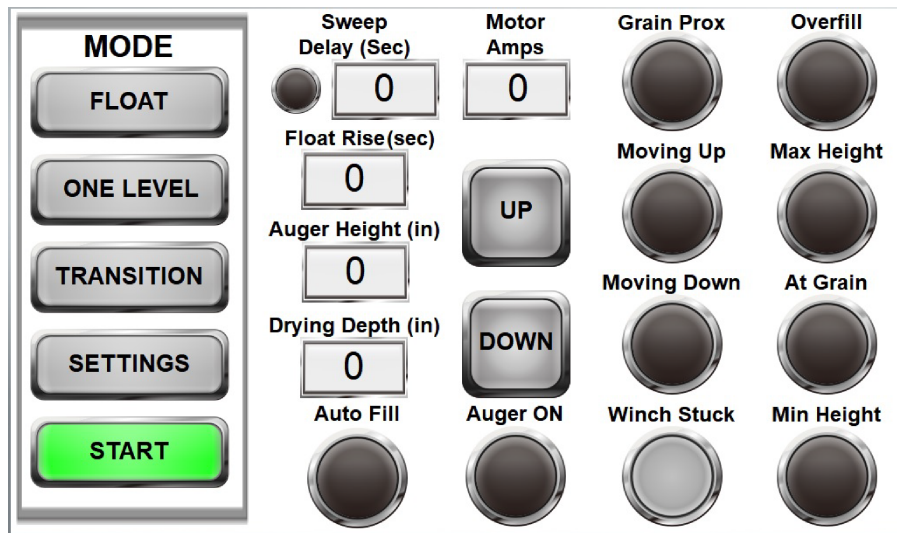
Press the “START” button. If the Grain Prox switch does not detect grain, the Level Dry will call for additional grain, activating the “Auto Fill” indicator, and starting the leveling auger. The system will continue adding and evenly spreading grain until the Grain Prox switch comes into contact with grain. At this time the “Grain Prox” indicator will become active, the Auto Fill signal will stop the call for grain, and the leveling auger will stop.

As the drying system removes grain via the sweeps, the Grain Prox switch will be deactivated, which will trigger the Sweep Delay timer. A small indicator near the “Sweep Delay (Sec)” box will blink, and the Sweep Delay will count down. Once that countdown completes, the system will repeat its auto fill process.

If a deeper bed of grain is desired, simply press the “UP” button to raise the leveling auger to the desired height.

If a lower grain depth is desired, press the “STOP” button on the HMI and wait for the dryer to remove some grain. Then lower the leveling auger to the desired height and press the “START” button on the HMI. **Note:** While the system is running, the HMI START control changes to STOP; use that same control to stop the system.

## Transition Mode



Transition mode is a new mode of operation for the updated Level Dry system. This mode allows for an automatic transition from Float mode to One Level mode, which allows the user to start the drying process sooner, from an empty drying bin, without having to return to the HMI and switch to One Level mode after the dryer fills to the desired height.

1. Press the “TRANSITION” button on the HMI.
2. Set the Sweep Delay in seconds.
3. Lower the leveling auger to its lowest possible level (either Min Height or At Grain).
4. Set the desired grain drying depth using the “Drying Depth (in)” box.
5. Set/verify the displayed “Float Rise” value on the Transition screen, as shown. Follow the Sweep Delay guidance above.
6. Press the “START” button.

Once the Level Dry is started, the Auto Fill signal will start, and the system will run in Float mode. The drying bin will continue calling for grain and depositing even layers until the preset Drying Depth is reached. At this point, the system will automatically switch to One Level mode and maintain this preset drying depth.

# ADJUSTMENTS

It may be necessary to make some final adjustments to the Level Dry the first time grain is added to the system. Adjustments may also have to be made as conditions vary through the drying season. **Make all observations from outside the bin, preferably through the manhole cover.** Make sure the leveling auger is completely lowered and all power is disconnected and locked out before making any adjustments.



**NEVER GO INTO THE DRYING BIN UNLESS THE LEVEL DRY IS COMPLETELY LOWERED AND THE POWER IS DISCONNECTED AND LOCKED OUT.**

**THE LEVELING AUGER AND TAPERED SWEEP AUGERS CAN START AT ANY TIME AND INCREASE TRAVEL SPEED RAPIDLY.**

## Adjusting the Brake

**Applicability:** This adjustment applies only where the rake/brake kit is installed (bins 33 ft and larger per Installation Manual Step 15). Skip this section if the kit is not installed.

The amount of braking required depends on the bin diameter, incoming feed rate, and moisture of incoming grain. The Level Dry can compensate for many of these changes, so once the brake is set for your installation it probably won't require much more adjustment. If conditions change, keep an eye on the brake to make sure it is compensating for the change.

When filling the bin for the first time, the Level Dry will start advancing before grain is carried all the way to the outside edge. This is normal, and on the next pass it should get the grain out far enough for the brake to grab. With very high grain input rates, it may be necessary to slow the input down a little to get grain to the outside edge. Once the brake has something to grab, the grain input rate can be increased.

Observe from the manhole the action of the brake. If grain is not moving toward the outside edge or is piling too high on the outside edge, the brake should be lowered or raised, respectively. Lower the leveling auger completely, then disconnect and lock out all power before entering the bin to make any adjustments.

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### **Adjusting the Grain Proximity Sensor**

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The grain proximity sensor needs to be adjusted up or down so that it contacts the grain once the bin is level. Depending on the operating mode, when this switch is activated, the leveling auger will either stop or raise. It needs to be adjusted so that it consistently contacts grain, but it must not be so low that it doesn't reset when the tapered sweep augers remove a layer of grain. Observe the action of the switch from the manhole. Lower the leveling auger, then disconnect and lock out all power before going into the bin to make any adjustments.

# MAINTENANCE

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**WARNING:** Disconnect and LOCK OUT all electrical power before performing inspection, lubrication, adjustment, or maintenance. Replace all guards and covers before restoring power.

## GEARBOX, BRAKE, AND HANGER BEARINGS

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Drain and replace oil after the first 25 hours of run time and every 200 hours thereafter. The gearbox requires about one quart of 90-weight gear oil. A drain plug is located on the bottom of the gearbox. To fill, remove both of the side plugs. Put a 1/2 in. 90-degree street elbow in one side. Fill with oil until it starts running out the other side. Plug the side holes, leaving the street elbow in place if desired.

Lubricate pivot points with WD-40 before and after each drying season. Grease the top zerk on the gearbox with one shot of multipurpose No. 2 Lithium Complex grease (Moly-Tac II) every 50 hours of run time.

## CARRIER AND OUTSIDE BEARING

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Grease with 1–2 shots of multipurpose No. 2 Lithium Complex grease (Moly-Tac II) at the beginning of each dryer season.

## LEVELER MOTOR

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Contact the motor manufacturer for the recommended greasing interval and grease type. Clean the outside of the motor and the motor cooling fan occasionally, if there is a buildup on them.

## WINCH AND SUSPENSION CABLE

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Inspect and lubricate all wire rope and pulleys before and after each drying season. Use a spray-type, water-repellent lubricant for the inside of the winch and a spray-type lubricant such as WD-40 for the winch pulley and suspension wire rope. Replace wire rope when frayed or rusty. Inspect all cable and winch supports to make sure they are in good condition. Replace or reinforce any pieces that have experienced deformation or corrosion.

## ELECTRICAL SYSTEM

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Disconnect and lock out all electrical power before inspection or maintenance. Before each drying season, inspect the control panel, HMI enclosure, field wiring, connectors, and cable entries for loose connections, damage, corrosion, moisture, or debris. Inspect wiring to the grain proximity sensor, rotary switch, winch, cable reel, and Level Dry motor. Replace damaged wiring or components before operation. Keep electrical enclosures closed, clean, and dry.

## SAFETY DECALS AND LOCKS

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Review location and legibility of safety decals. Replace if necessary. Make sure safety locks on bin entrances work and are being used. Go over this manual, and other equipment safety manuals, with everyone running the drying system.

# TROUBLESHOOTING

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**WARNING: Disconnect and Lock Out all electrical power before inspecting, adjusting, or servicing the Level Dry System.** Troubleshooting that requires power must be performed by qualified personnel from outside the drying bin. Never enter the bin unless the Level Dry is completely lowered and all power is disconnected and locked out.

**1. Level Dry control panel power will not turn on**

- (a) Check CB1 inside main Level Dry control panel.
- (b) Check power feeding main Level Dry control panel.

**2. Level Dry HMI will not turn on**

- (a) Check fuse inside HMI box.
- (b) Verify power to the HMI and correct 24 VDC polarity.

**3. HMI powers on but does not communicate with PLC**

- (a) Check the communication cable and connections between the HMI and control panel.
- (b) Cycle power after verifying connections. If communication does not return, contact Shivvers.

**4. Leveling auger motor will not run**

- (a) Check auger overload OL1 and starter C1, as applicable. If a VFD is selected, follow the applicable VFD fault/recovery guidance.
- (b) Make sure the Level Dry system is not buried in grain or mechanically obstructed.

**5. Motor overload trips repeatedly**

- (a) Check for excessive grain load, binding, or mechanical obstruction.
- (b) Do not repeatedly reset the overload without correcting the cause.

**6. Incorrect motor rotation after installation**

- (a) Stop the system immediately.
- (b) Have a qualified electrician correct motor phase/wiring before operation.

**7. Auto Fill signal does not activate**

- (a) Verify the system is in an operating mode that calls for grain.
- (b) Check the Grain Prox status and Auto Fill circuit wiring.

**8. Grain Proximity sensor does not indicate grain**

- (a) Check sensor position, wiring, and connection at the control panel.

- (b) Adjust the sensor so it contacts grain when the bin is level.

**9. Grain Proximity sensor stays active**

- (a) Make sure the sensor can clear the grain as grain is removed.
- (b) Adjust the sensor upward if necessary and inspect for buildup or damage.

**10. Rotary switch does not indicate rotation**

- (a) Check rotary switch wiring and mechanical operation.
- (b) Verify the switch changes state as the Level Dry rotates.

**11. Winch will not run**

- (a) Check overload OL2 for winch starter contactors.
- (b) Make sure Level Dry system is not buried, obstructed, or already at a programmed height limit.

**12. Level Dry will not raise or lower**

- (a) Check the Max Height and Min Height, winch stuck, and moving up and down indicators.
- (b) Check winch overload, wiring, cable, and mechanical obstruction.

**13. Winch Stuck indicator is active**

- (a) Stop winch operation and inspect for binding, obstruction, or excessive load.
- (b) Check the winch, suspension cable, and height calibration before restarting.

**14. Overfill alarm is active**

- (a) Stop incoming grain and allow remaining grain to be spread.
- (b) Check whether the Level Dry has reached Max Height and verify grain level conditions.

**15. Auger Height reading is inaccurate**

- (a) Check the cable reel and height sensing components for damage or binding.
- (b) Perform the Auger Height Calibration procedure.

**16. Winch allows the leveling auger to travel too far vertically or contact the end stops**

- (a) Stop operation immediately and perform Auger Height Calibration.

**BEFORE RETURNING TO OPERATION:**

Replace all guards and covers, make sure personnel are clear, and observe the system from outside the bin when power is restored. If a fault continues or its cause cannot be identified, discontinue operation and contact your Shivvers dealer or Shivvers Manufacturing, Inc.