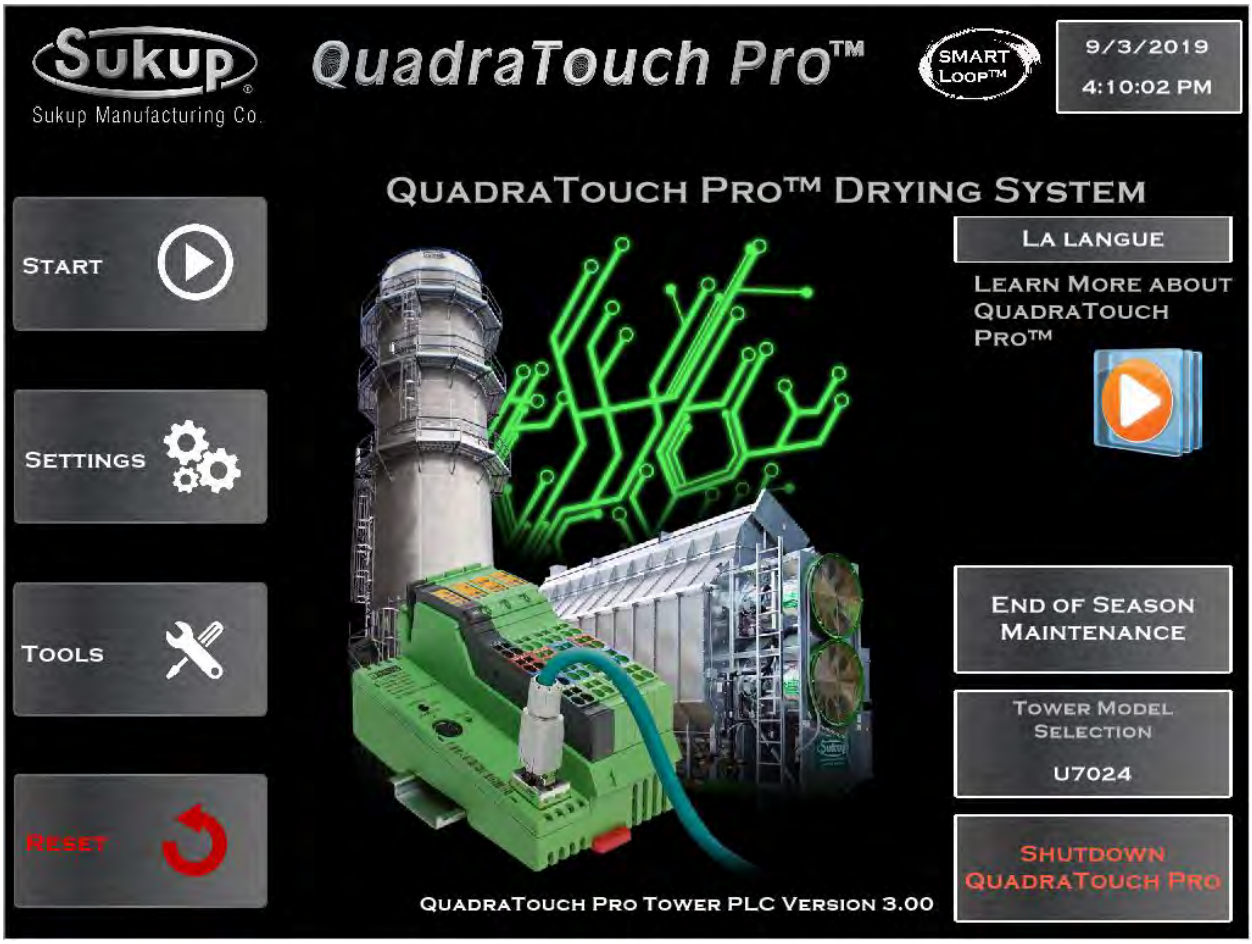
QuadraTouch Pro™ Software Manual

Control System for Cross-Flow (Axial/Centrifugal), Mixed-Flow & Tower Dryers



Software changes often. To obtain the latest version, download at:

http://www.sukup.com/Products/QuadraTouch

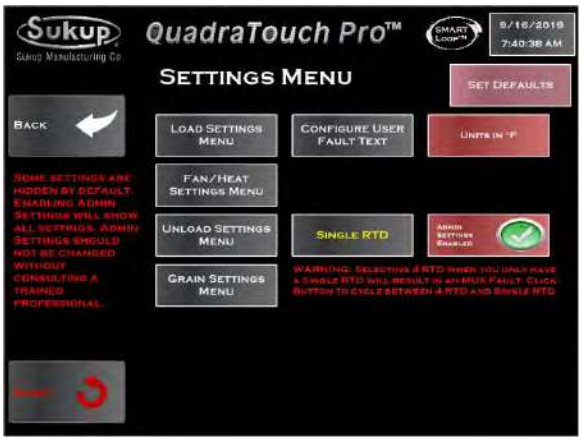
TABLE OF CONTENTS

Cross-Flow/Mixed-Flow Operation

Resetting to QuadraTouch Pro Home Page

Fan/Model Selection

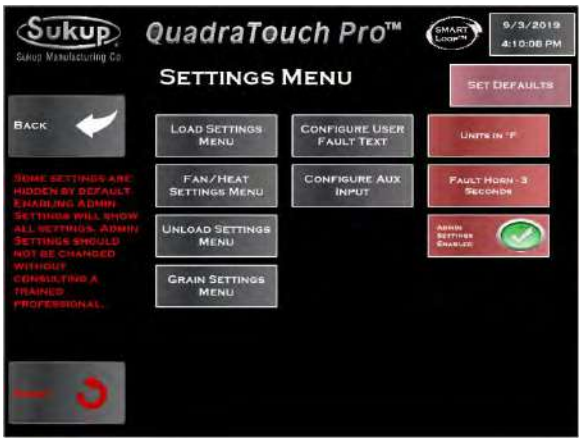
Tower Dryer Operation



Settings

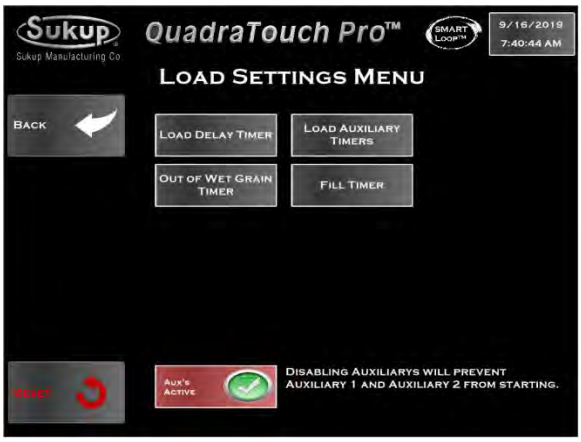
Cross-Flow/Mixed-Flow

Settings Menu for cross-flow and mixed-flow dryers shows most drying settings that are commonly used during operation.



Tower

Settings Menu for tower dryers shows most drying settings that are commonly used during operation.

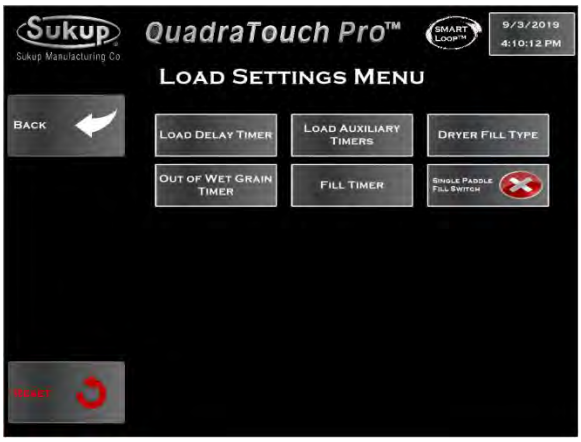


Load Settings

Cross-Flow/Mixed-Flow

Settings → Load Settings Menu

Load Settings Menu for cross-flow and mixed-flow dryers provides access to set load timers and to enable load auxiliaries.



Tower

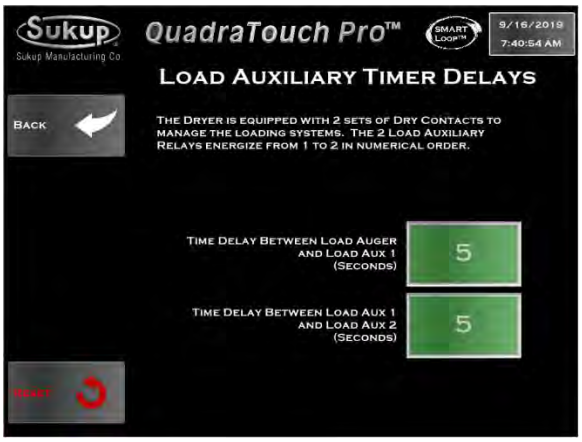
Settings → Load Settings Menu

Load Settings Menu for tower dryers provides access to set load timers, dryer fill type, and extended wet bin dual paddle switch operation.

All Dryers

Settings → Load Settings Menu → Load Delay Timer

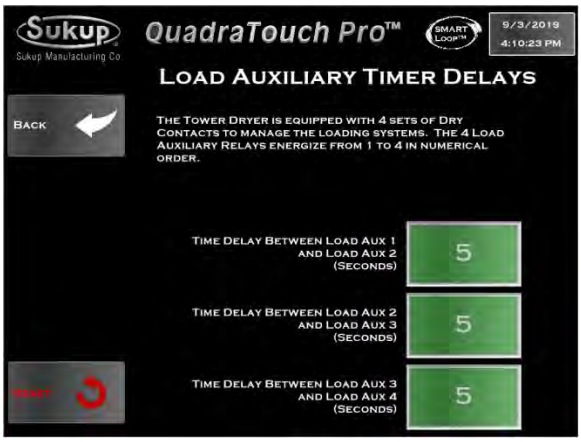
Set Load Delay Timer to prevent overload from auxiliary equipment starting too often.



Cross-Flow/Mixed-Flow

Settings → Load Settings Menu → Load Auxiliary Timers

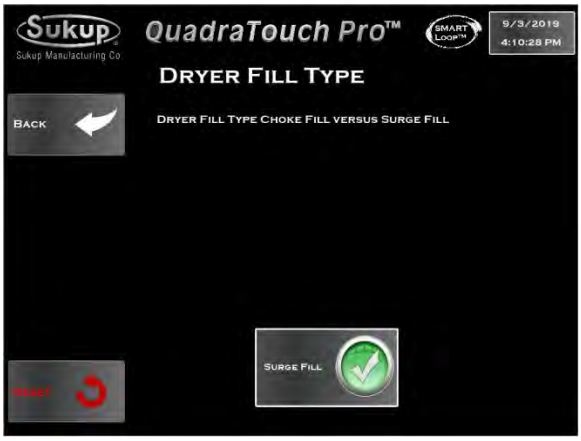
Time delays between load auxiliaries for cross-flow and mixed-flow dryers can be set here.



Tower

Settings → Load Settings Menu → Load Auxiliary Timers

Time delays between load auxiliaries for tower dryers can be set here.



Tower

Settings → Load Settings Menu → Dryer Fill Type

Set dryer fill type (choke-fill vs. surge-fill) here for tower dryers.

All Dryers

Settings → Load Settings Menu → Out of Wet Grain Timer

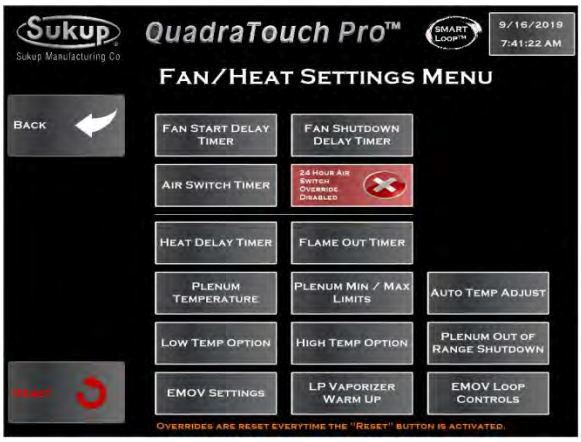
This timer begins counting when dryer is calling for more grain and will trigger a fault condition if dryer fill switch is not satisfied within user-set period of time.

All Dryers

Settings → Load Settings Menu → Fill Timer

This timer counts when fill switch senses grain. Timer resets when dryer calls for grain. It will trigger a fault message when user-set time expires if dryer has not called for grain.

NOTE: Dryers without fill augers use single rotary fill switches.

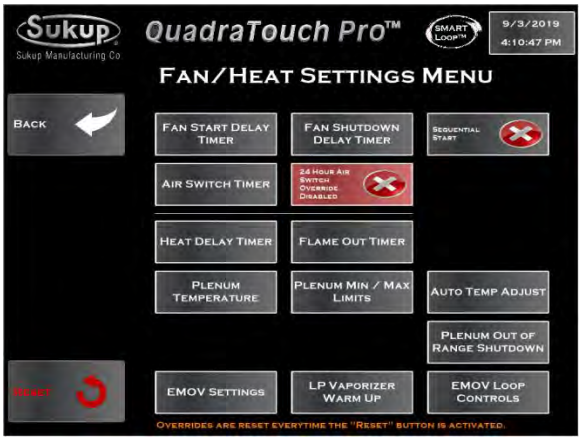


Fan/Heat Settings

Cross-Flow/Mixed-Flow

Settings → Fan/Heat Settings Menu

Fan/Heat Settings Menu for cross-flow and mixed-flow dryers shows settings associated with fans and heaters on dryer.



Tower

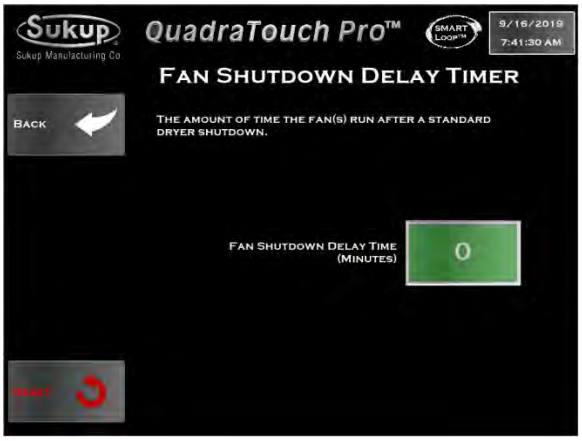
Settings → Fan/Heat Settings Menu

Fan/Heat Settings Menu for tower dryers shows settings associated with fans and heaters.

All Dryers

Settings → Fan/Heat Settings → Fan Start Delay Timer

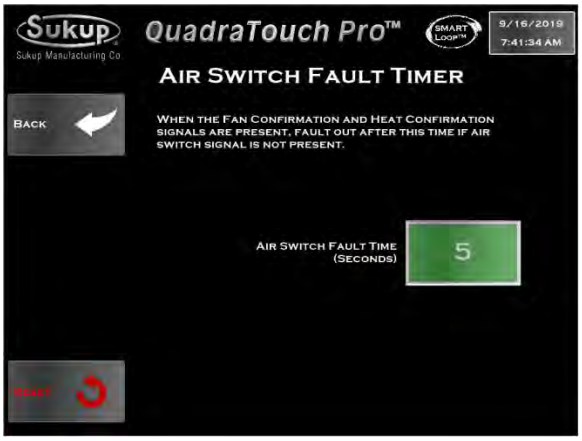
This setting dictates amount of time between fan starts on all dryers. A longer delay may be a good idea if power is limited or motor current draws are very high.



All Dryers

Settings → Fan/Heat Settings → Fan Shutdown Delay Timer

In addition to standard 3-second fan shutdown delay, additional time can be added to cool off grain when stopping operation or to stop fault shutdowns that aren't related to temperature or safety.

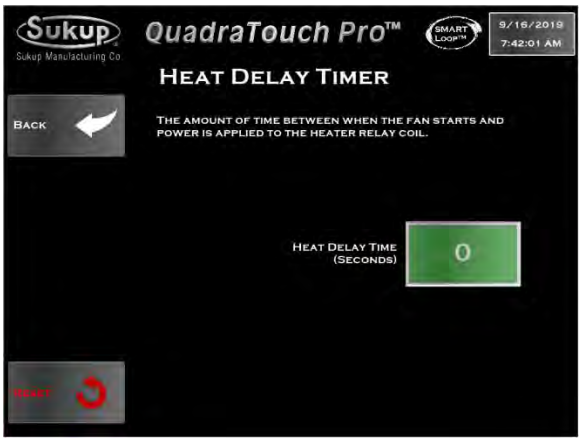


All Dryers

Settings → Fan/Heat Settings → Air Switch Timer

Air switch must sense pressure within a user-set number of seconds of fan contactor closing. With a Soft Start, air switch is given until fan reaches run state. If fan doesn't get up to speed during that amount of time, this timer can be adjusted to allow for longer ramp time.

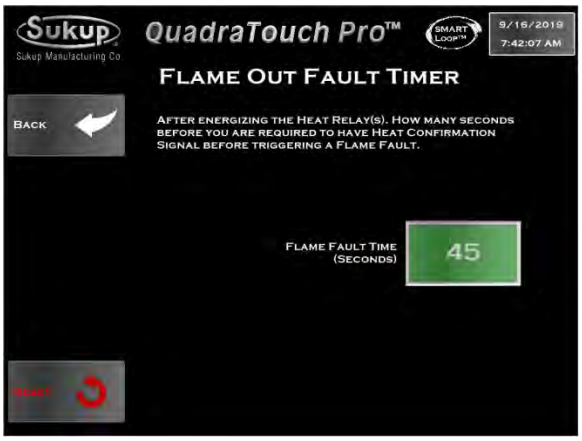
There is a 24-Hour Air Switch Override that resets every time user presses Reset button. This allows continued operation while user waits for parts, for example.



All Dryers

Settings → Fan/Heat Settings → Heat Delay Timer

Set delay time between fan start and power signal to heater box. This is in addition to required minimum time.



All Dryers

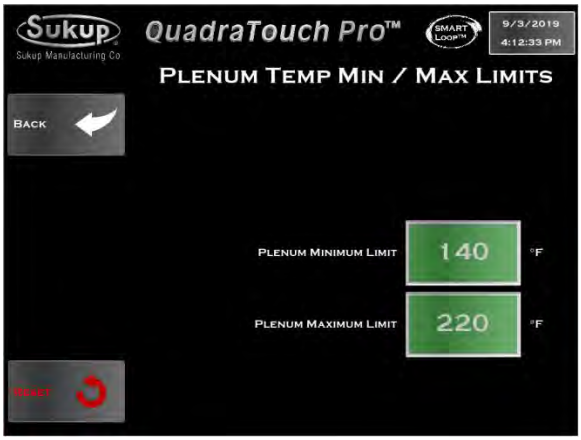
Settings → Fan/Heat Settings → Flame Out Timer

A longer flame fault time may be needed if heater ignition isn't occurring before the time entered. Applies to LME69, LME71, & LME73 controllers which require manual reset.

All Dryers

Settings → Fan/Heat Settings → Plenum Temperature

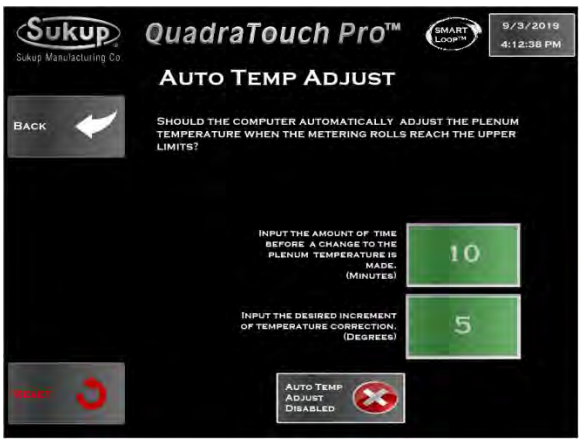
Plenum Temperature page is starting point to set temperatures for each plenum. There is one plenum on a tower dryer. Temperatures for up to six plenums can be set for other dryers.



All Dryers

Settings → Fan/Heat Settings → Plenum Min/Max Limits

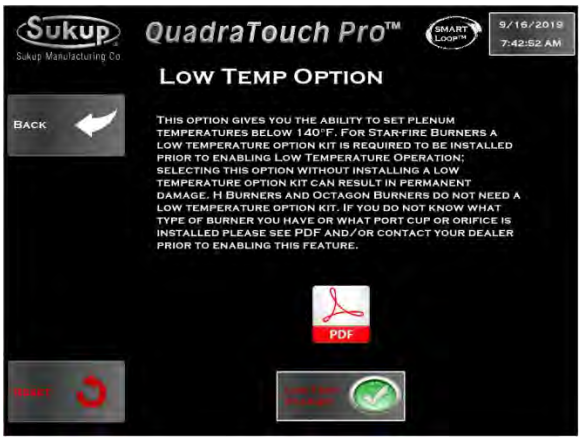
Minimum and maximum plenum temperatures can be found here. Low temp/high temp option can allow for larger value ranges.

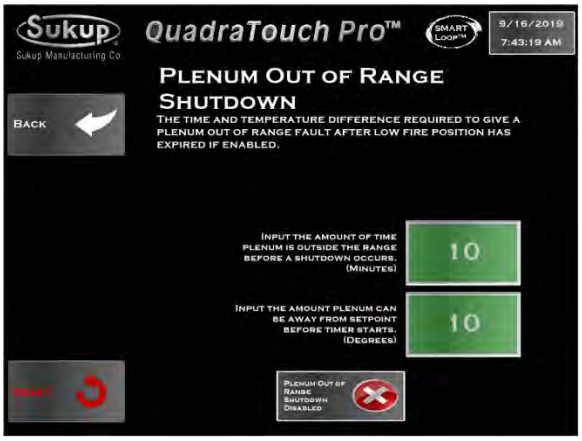


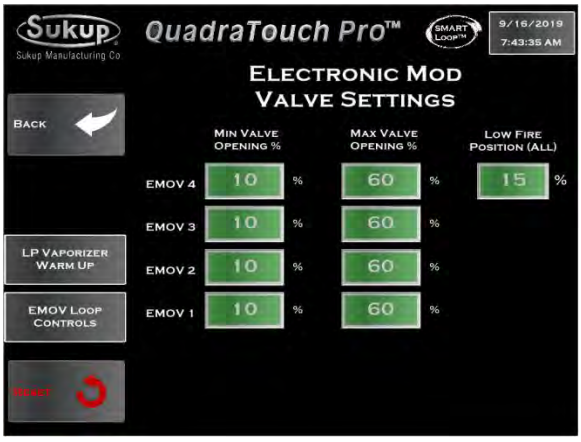
All Dryers

Settings → Fan/Heat Settings → Auto Temp Adjust

If enabled, this feature will turn down temperature inside plenum(s) when dryer reaches its upper speed limit.







Cross-Flow/Mixed-Flow

Cross-Flow/Mixed-Flow

Settings → Fan/Heat Settings → Low Temp Option

If enabled on cross-flow or mixed-flow dryer, Low Temp Option allows plenum temp to be set as low as 100°F. Permanent damage may result if a low-temp kit (orifice and port cup) is not installed in starfire burner used with 28” axial fan.

Cross-Flow/Mixed-Flow

Settings → Fan/Heat Settings → High Temp Option

If enabled on cross-flow or mixed-flow dryer, High Temp Option allows plenum temp to be set above 220°F. Drying at temperatures above 220°F increases chance of having a fire in dryer and of having plenum and column over-temp faults.

All Dryers

Settings → Fan/Heat Settings → Plenum Out of Range Shutdown

Use this feature to set amount of time and/or temperature that plenum temperature can be out of range/off of setpoint.

All Dryers

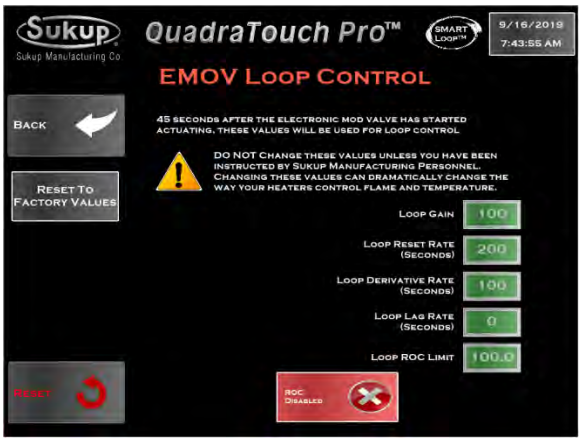
Settings → Fan/Heat Settings → EMOV Settings

Electronic mod valve settings generally do not need to be touched, but can be if needed. Minimum opening should be 10% for all. Maximum opening should be 80-100% on tower dryers and 60% for all others. Low Fire Position is the percentage that valve stem will be open when heater ignition takes place.

All Dryers

Settings → Fan/Heat Settings → EMOV Settings → LP Vaporizer Warmup

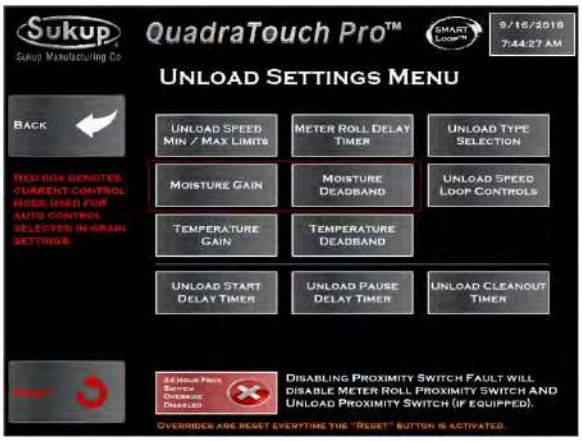
Amount of time that EMOV will stay open in Low-Fire position after lighting can be adjusted to give vaporizer more time to warm up. Default time is 20 seconds for all dryers.



All Dryers

Settings → Fan/Heat Settings → EMOV Settings → EMOV Loop Controls

On all dryers, 45 seconds after EMOV actuation has begun, values shown in screen at left will be used for SMART Loop control of dryer. DO NOT CHANGE unless instructed to do so by Sukup Manufacturing Co.

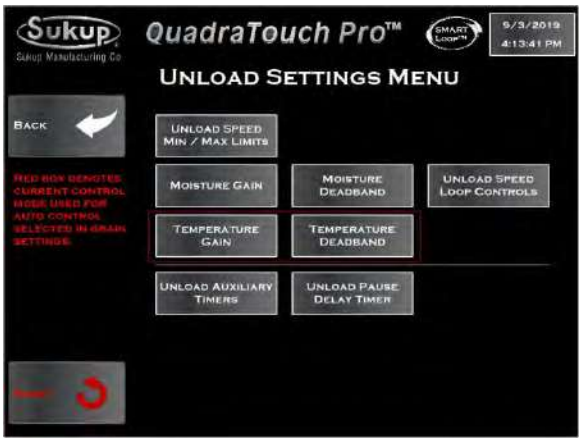


Unload Settings

Cross-Flow/Mixed-Flow

Settings → Unload Settings Menu

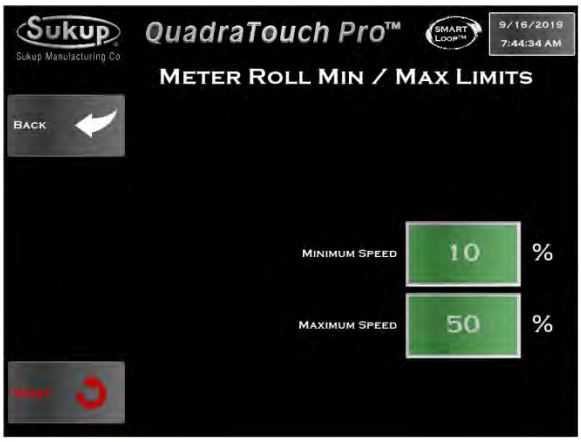
Unload Settings Menu for cross-flow and mixed-flow dryers shows settings that are commonly used during operation.



Tower

Settings → Unload Settings Menu

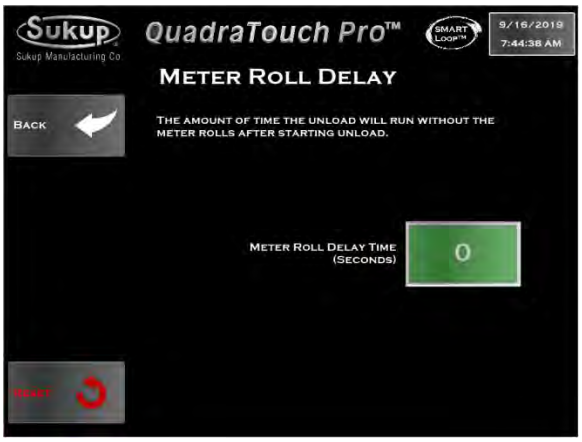
Unload Settings Menu for tower dryer shows settings that are commonly used during operation.



All Dryers

Settings → Unload Settings Menu → Meter Roll Min/Max Limits

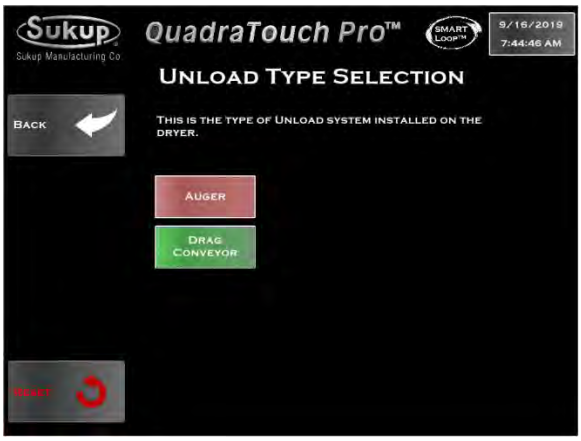
Press Unload Speed Min / Max button shown on previous screento set Meter Roll Min / Max Limits. Minimum and maximum settings dictate how fast or slow dryer is capable of running. Never unload faster than take-away system is capable of running.



Cross-Flow/Mixed-Flow

Settings → Unload Settings Menu → Meter Roll Delay Timer

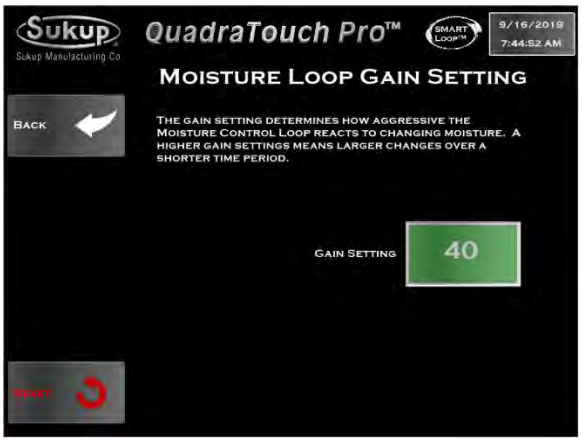
Set amount of time that unload system will run without meter rolls after starting of unload system.



Cross-Flow/Mixed-Flow

Settings → Unload Settings Menu → Unload Type Selection

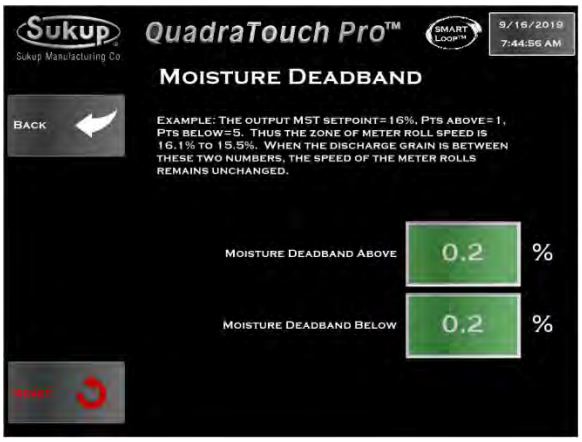
Select type of unload system – Auger or conveyor.



All Dryers

Settings → Unload Settings Menu → Moisture Gain

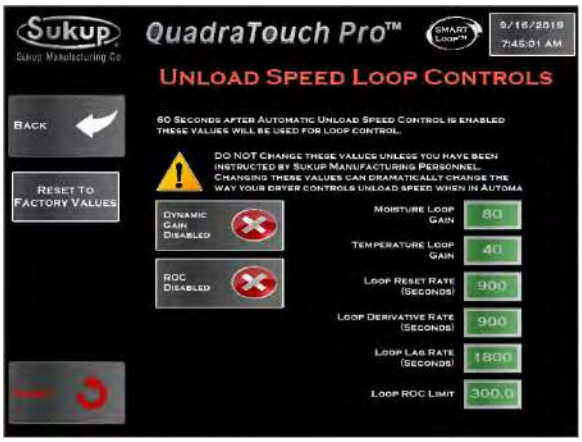
Moisture Loop Gain settings are important for optimum operation when discharging based on moisture. Choosing a higher setting will mean more aggressive changes in a shorter amount of time. When dryer is running at slower speeds, this number should stay around 40 or so. Conversely, at higher speeds, it may yield better control to boost this setting higher.



All Dryers

Settings → Unload Settings Menu → Moisture Deadband

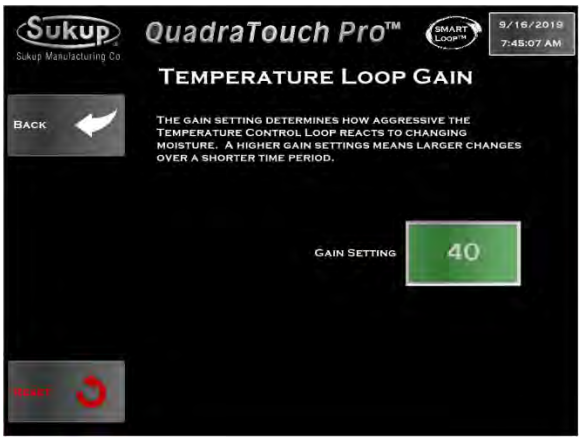
For some systems, it may be preferable to lock in the unload speed when grain is discharging very near the target setpoint. This is referred to as the loop deadband.



All Dryers

Settings → Unload Settings Menu → Unload Speed Loop Controls

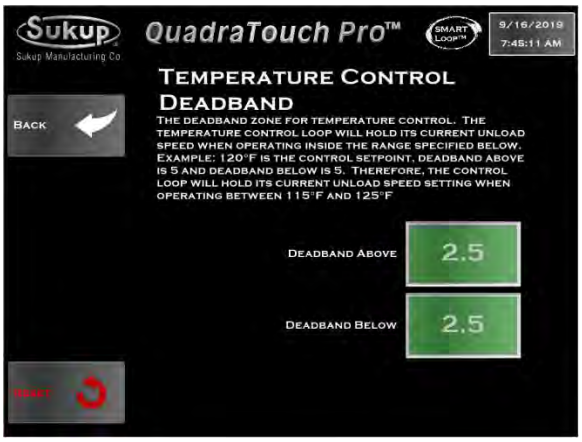
Sixty seconds after Automatic Unload Speed Controls is enabled, these values will be used for SMART Loop control. DO NOT change unless instructed to do so by Sukup Manufacturing Co.



All Dryers

Settings → Unload Settings Menu → Temperature Gain

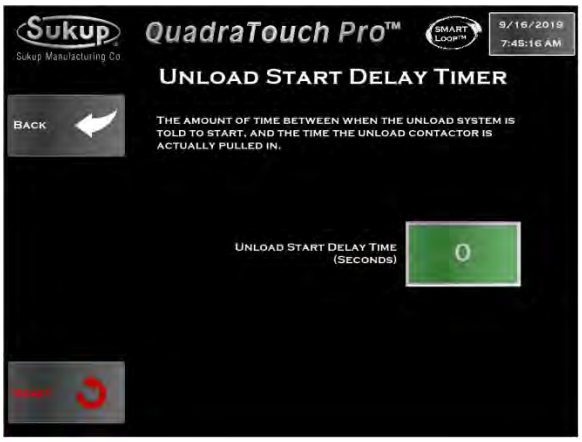
Temperature Gain settings are important for optimum operation when discharging based on temperature. Choosing a higher setting will mean more aggressive changes in a shorter amount of time. When dryer is running at slower speeds, this number should stay around 40 or so. Conversely, at higher speeds, it may yield better control to boost this setting higher.



All Dryers

Settings → Unload Settings Menu → Temperature Deadband

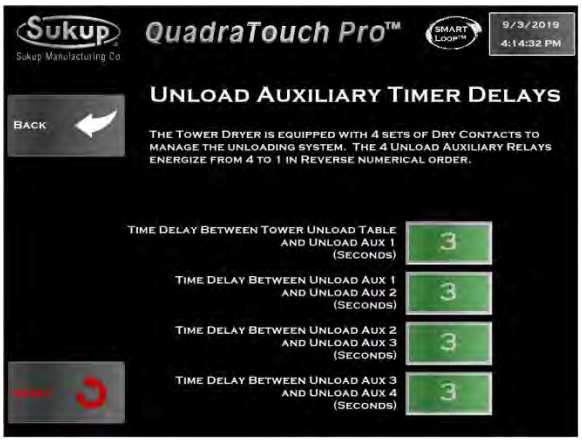
For some systems, it may be preferable to lock in the unload speed when grain is discharging very near the target setpoint. This is referred to as the loop deadband.



Cross-Flow/Mixed-Flow

Settings → Unload Settings Menu → Unload Start Delay Timer

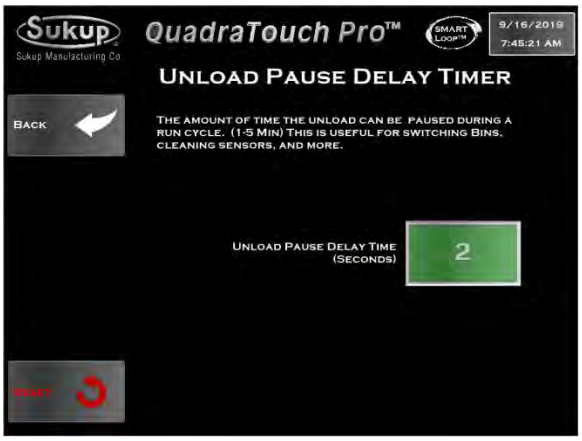
Set length of delay between point at which dryer is ready to start and point at which unload system starts.



Tower

Settings → Unload Settings Menu → Unload Auxiliary Timers

Time delays between unload auxiliaries can be programmed here.



All Dryers

Settings → Unload Settings Menu → Unload Pause Delay Timer

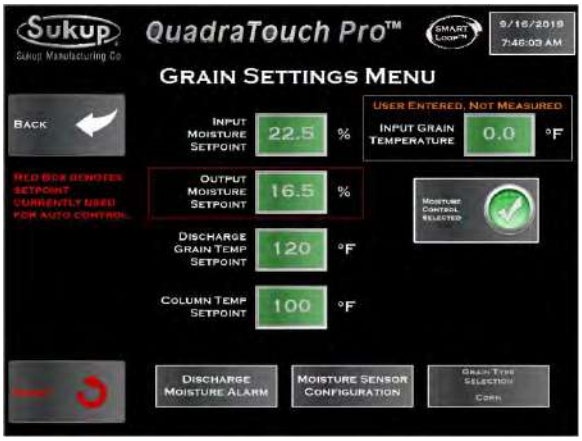
Set amount of time that unload can be paused during a run cycle (1 to 5 minutes). This is useful for cleaning sensors and switching bins.

Cross-Flow/Mixed-Flow

Settings → Unload Settings Menu → Unload Cleanout Timer

If desired, set additional time for unload system to run after a standard shutdown. It provides time for unload system to clean itself out before shutting down. **NOTE:** Applicable only to dryers with unload augers, not those with conveyors.

Proximity Switch Override may be used to troubleshoot a faulty Proximity Switch or allow temporary continued operation while waiting for a part, for example.

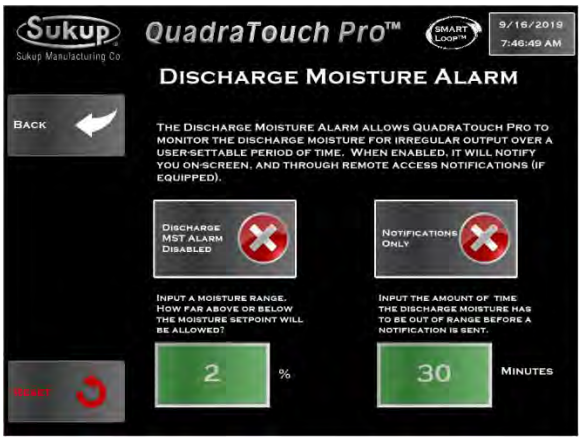


Grain Settings

All Dryers

Settings → Grain Settings Menu

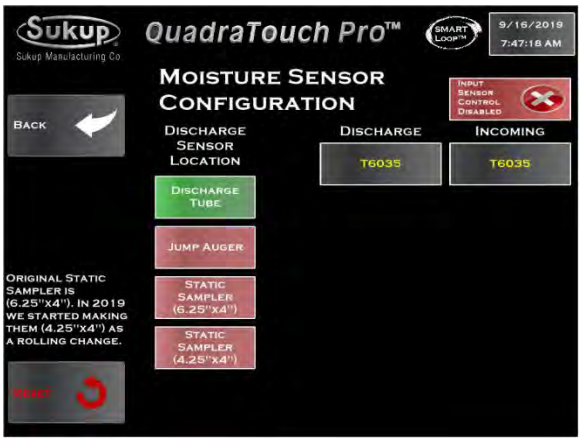
Enter moisture content and temperature of incoming grain, and desired output moisture content and temperature, as well as column temperature setpoint .**NOTE:** Discharge Grain Temp not available on Tower Dryers



All Dryers

Settings → Grain Settings Menu → Discharge Moisture Alarm

When enabled, this feature will send notification if discharge moisture sensor detects irregular output for a user-set amount of time. Range of acceptable moisture can also be set.

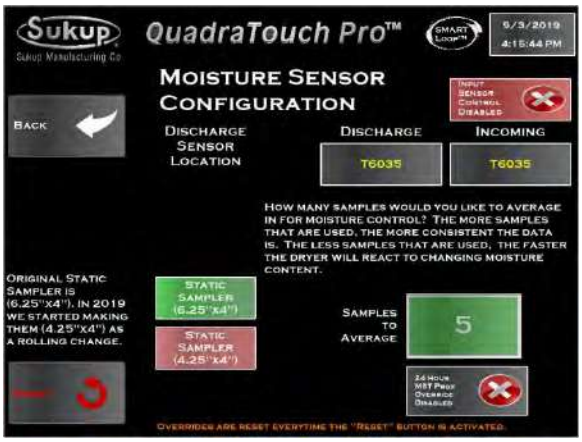


Cross-Flow/Mixed-Flow

Settings → Grain Settings Menu → Moisture Sensor Configuration

Dryer's moisture sensor(s) are configured here. Enter type and location of each sensor; recalibrate each; set sample frequency.

Enable 24 Hour MST Prox Override to allow for operation in manual mode only while waiting on parts, for example.

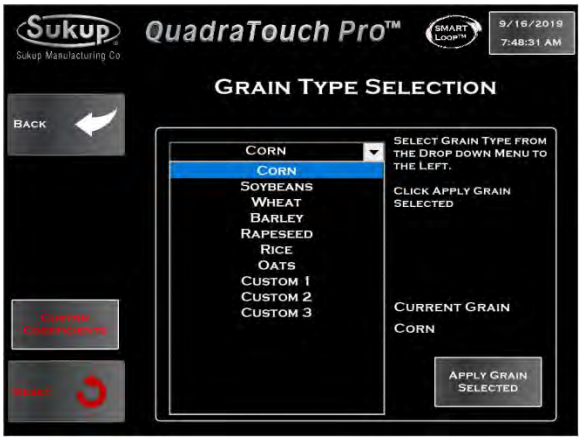


Tower

Settings → Grain Settings Menu → Moisture Sensor Configuration

Dryer's moisture sensor(s) are configured here. Enter type and location of each sensor; recalibrate each; set sample frequency

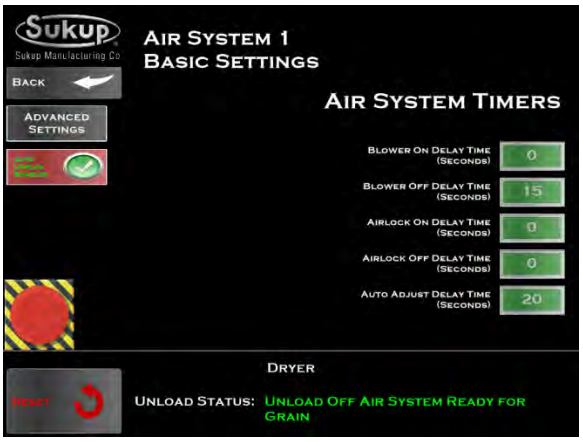
Enable 24 Hour MST Prox Override to allow for operation in manual mode only while waiting on parts, for example..



All Dryers

Settings → Grain Settings Menu → Grain Type Selection

Enter type of grain that is to be dried. Note that changing grain type, temperature measurement scale, or discharge moisture sensor type or location will remove configuration of moisture sensor.



Air System Settings

Cross-Flow/Mixed-Flow

Settings → Air System Settings

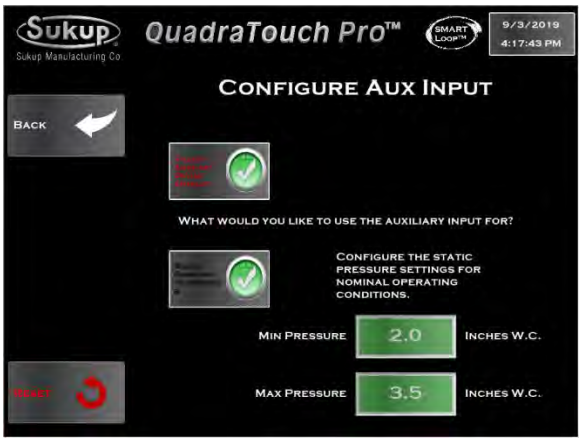
If using air system with dryer, set operating parameters for each. See Cyclone Installation & Operation Manual, L1396.

Configure User Fault Text

All Dryers

Settings → Configure User Fault Text

If desired, change User Fault message wording.



Configure Aux Input

Tower Dryer

Settings → Configure Aux Input

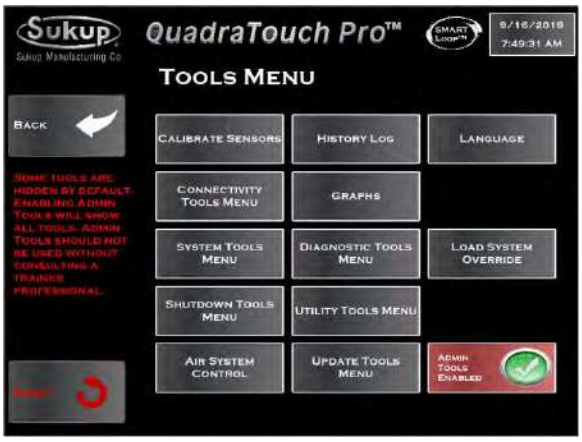
Analog input can be configured for an additional temperature sensor or static air pressure sensor.

Fault Horn

Tower Dryer

Settings → Fault Horn

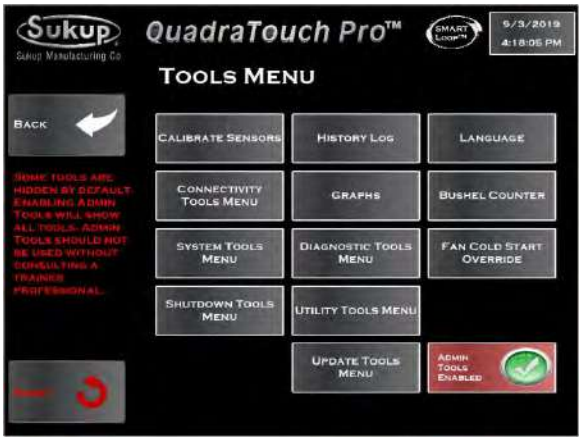
Fault horn can be set to sound for 3 seconds or continuously.



Tools

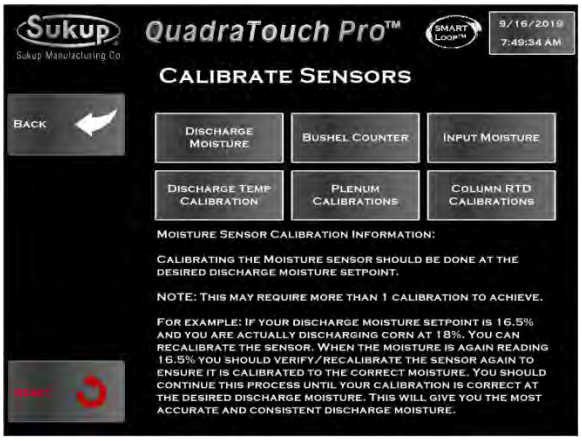
Cross-Flow/Mixed-Flow

Tools menu provides access to options to help improve drying, including moisture sensor calibration, air system controls, a history log, graphs, load system override, remote access and use of GSM modem.
Make sure Admin Tools are enabled to see tools that would otherwise be hidden.



Tower

Tools menu provides access to options to help improve drying, including moisture sensor calibration, a history log, graphs, cold start override, remote access and use of GSM modem.
Make sure Admin Tools are enabled to see tools that would otherwise be hidden.

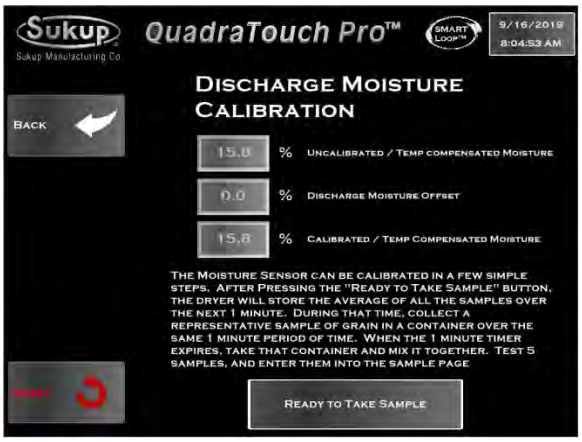


Calibrate Sensors

All Dryers

Tools → Calibrate Sensors

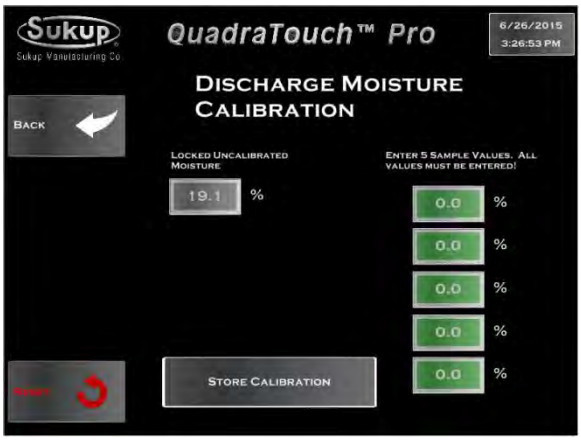
The dryer's moisture sensor(s), Plenum RTD's, and column RTD's, as well as bushel counter, can be calibrated here. Bushel counter must be calibrated in order to access the counting and bushel shutdown features shown in the Tools Menu.



All Dryers

Tools → Calibrate Sensors → Discharge Moisture

Discharge moisture sensor may need to be calibrated during operation to ensure dryer is operating with accurate data. Press "Ready to Take Sample" button. Dryer will calculate the average of all samples it takes over the next minute. During that time, collect a sample. Do this five times.



All Dryers

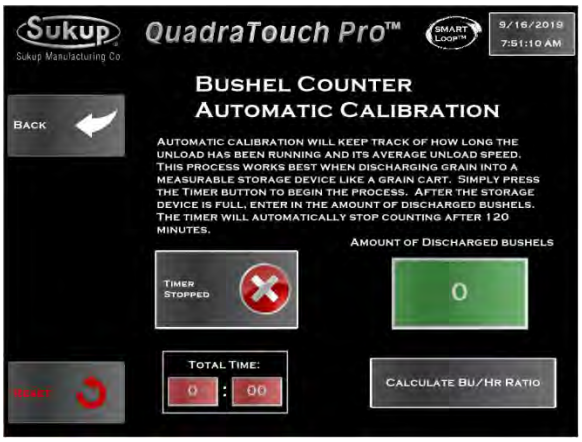
Tools → Calibrate Sensors → Discharge Moisture

Enter results of five samples on touch screen. The Locked, Uncalibrated Moisture value is what the dryer's sensor recorded over the past minute. Dryer will compare its data with your data and will store the calibration.

All Dryers

Tools → Calibrate Sensors → Bushel Counter

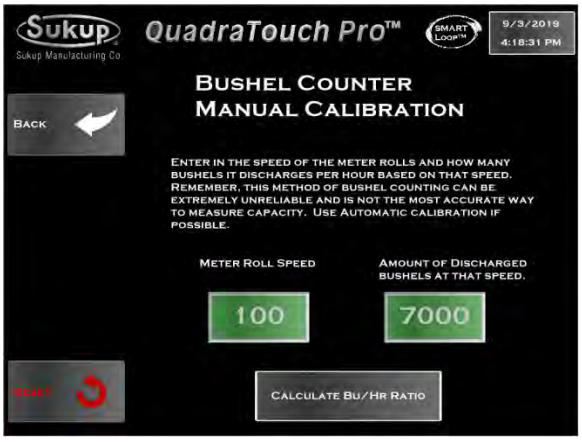
Bushel counter can be calibrated automatically or manually. Automatically is generally the most accurate. Dryer must be discharging grain into a cart or truck where quantity can be measured.



All Dryers

Tools → Calibrate Sensors → Bushel Counter→ Automatic Calibration

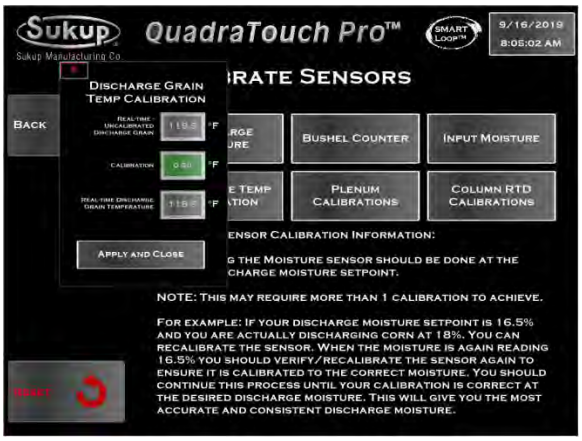
Press button to start timer. When load is finished, press it again to stop timer. Enter the number of bushels discharged during that time. Dryer will calculate and store the bu/hr rate.



All Dryers

Tools → Calibrate Sensors → Bushel Counter→ Manual Calibration

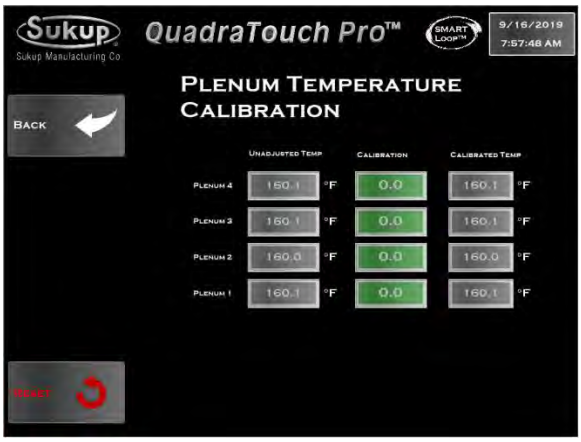
Use Manual Calibration only if Automatic is not possible. In Manual, user must enter meter roll speed and an approximate yield at that speed. Dryer will calculate and store the bu/hr rate.



All Dryers

Tools → Calibrate Sensors → Discharge Temp Calibration

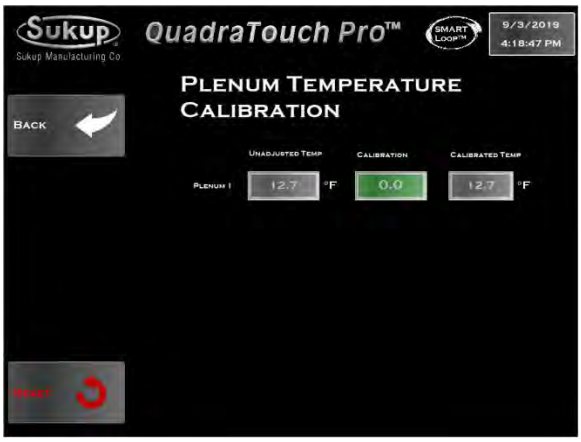
Press Calibration button to enter offset value. If dryer sensor is showing 120°F and user wants it to read 125°F, he/she would enter in 5. This sensor is generally very accurate, so exercise caution when adjusting this value.



Cross-Flow/Mixed-Flow

Tools → Calibrate Sensors → Plenum Calibration

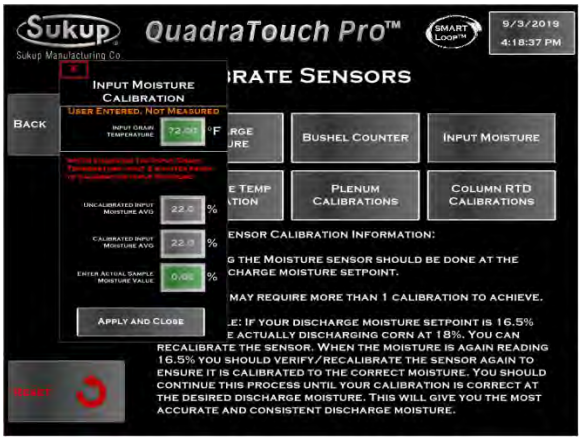
Press Plenum Calibration to enter calibration for each plenum temperature. These sensors are generally very accurate, so exercise caution when adjusting these values.



Tower

Tools → Calibrate Sensors → Plenum Temperature Calibration

Press Plenum Calibration to enter calibration for plenum temperature. This sensor is generally very accurate, so exercise caution when adjusting.



All Dryers

Tools → Calibrate Sensors → Input Moisture Sensor

Enter average of moisture content of multiple samples of grain. **NOTE:** Auger-fill cross-flow dryers do not have incoming moisture sensors unless specially ordered.

All Dryers

Tools → Calibrate Sensors → Column RTD Calibrations

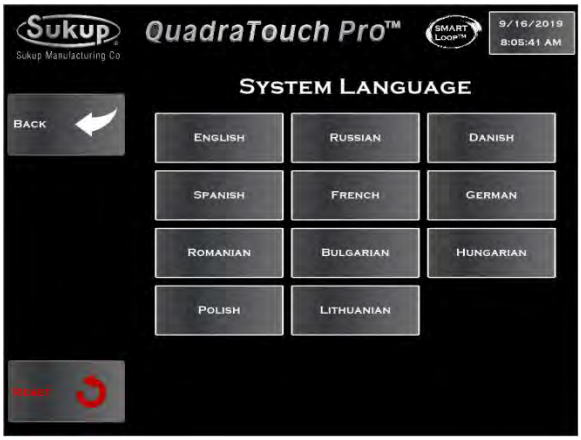
Enter calibration for column RTD. This sensor is generally very accurate, so exercise caution when adjusting.

History Log

All Dryers

Tools → History Log

History log contains all alarms, settings changes, and fault history of dryer.

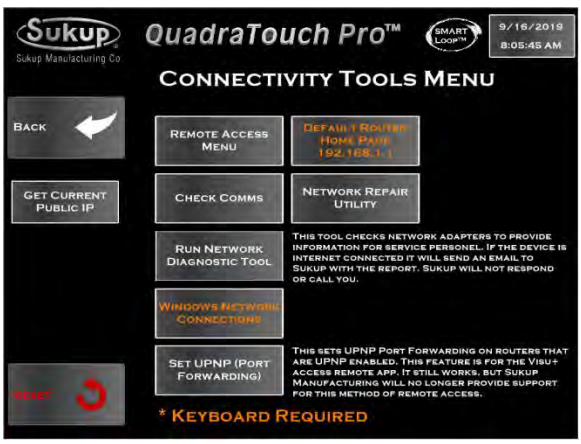


System Language

All Dryers

Tools → Language

Select language used by dryer operator.

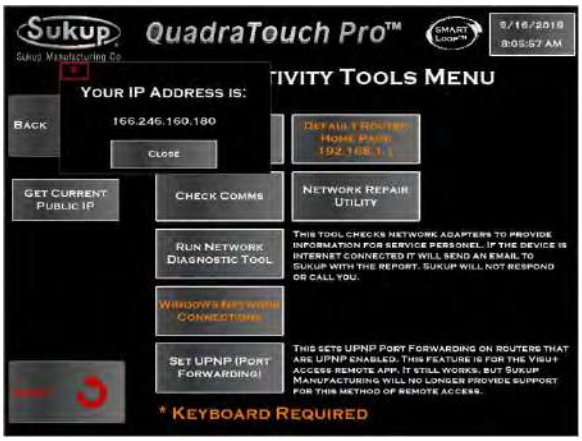


Connectivity Tools

All Dryers

Tools → Connectivity Tools Menu

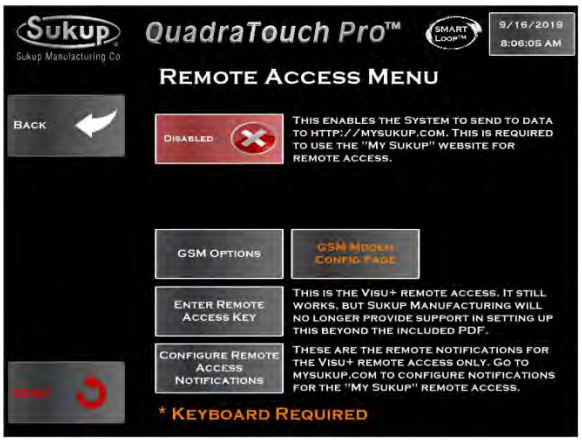
This page provides access to various connectivity tools including setup of remote access via MySukup.com or GSM modem. Additionally, use of Network Diagnostic Tool and Network Repair Utility can be initiated here. **NOTE:** Keyboard is required for some functions.



All Dryers

Tools → Connectivity Tools Menu → Get Current Public IP

Press Get Current Public IP button on left to obtain Internet Protocol Address.



All Dryers

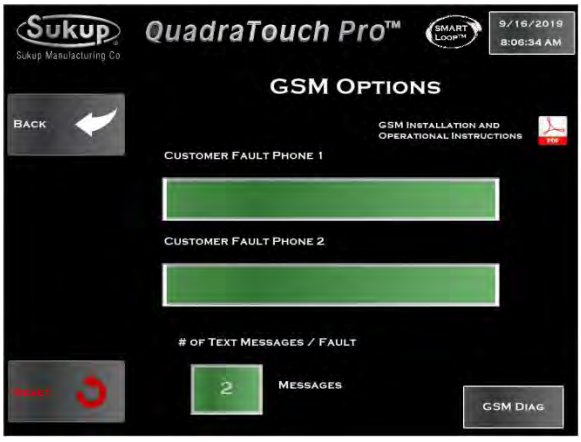
Tools → Connectivity Tools Menu →Remote Access Menu

If remote access is desired, press red button to obtain Personal Information Agreement.

All Dryers

Tools → Connectivity Tools Menu →Remote Access Menu

Read agreement and indicate preference on acceptance.



All Dryers

Tools → Connectivity Tools Menu →Remote Access Menu →GSM Options

Follow steps as prompted to set up MySukup.com or GSM connection. Image at left shows screen for entering phone numbers for GSM control. Press GSM Diag. box on lower right to get to diagnostics page.

All Dryers

Tools → Connectivity Tools Menu →Remote Access Menu →GSM Options → GSM Diagnostics

GSM Diagnostics page helps with first-time setup to ensure modem is operating correctly.

All Dryers

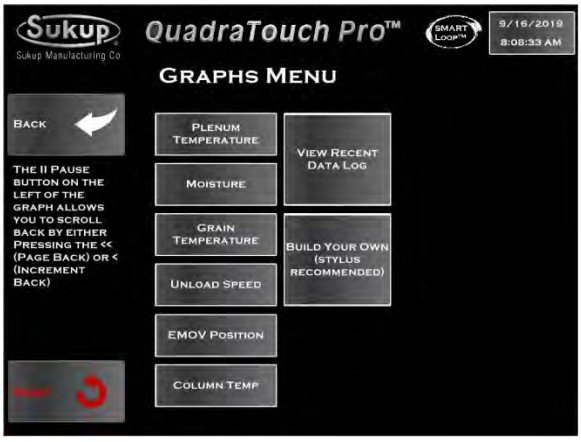
Tools → Connectivity Tools Menu →Check Comms

Pressing Check Comms button enables user to check connectivity with dryer's programmable logic controls and with air system if one is connected. The xPLC Toggle Bit button will turn on and off when PLC and touch panel are communicating.

All Dryers

Tools → Connectivity Tools Menu →Network Repair Utility

This utility attempts to diagnose and repair networking and communication errors. Activate by pressing button at lower right.

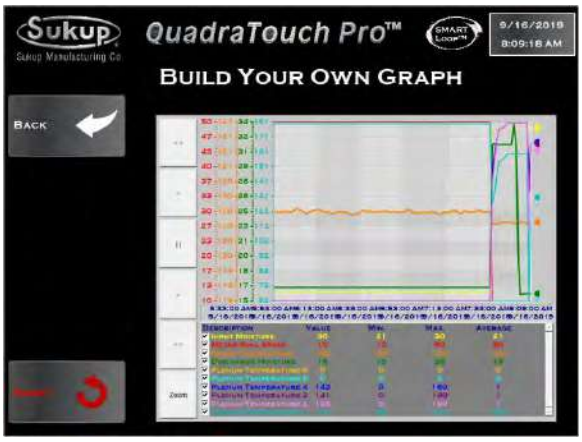


Graphs

All Dryers

Tools → Graphs

QuadraTouch Pro operating system allows dryer user to look at graphs both in real-time and for past. **NOTE:** Since some screens contain a lot of data, use of a stylus will be helpful.

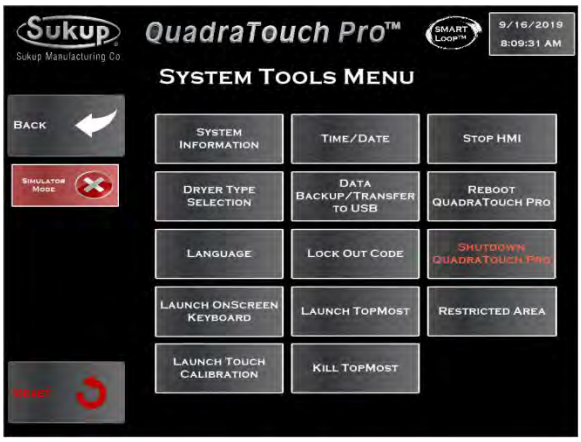


All Dryers

Tools → Graphs → Build Your Own Graph

Users can build their own graphs to compare multiple factors.

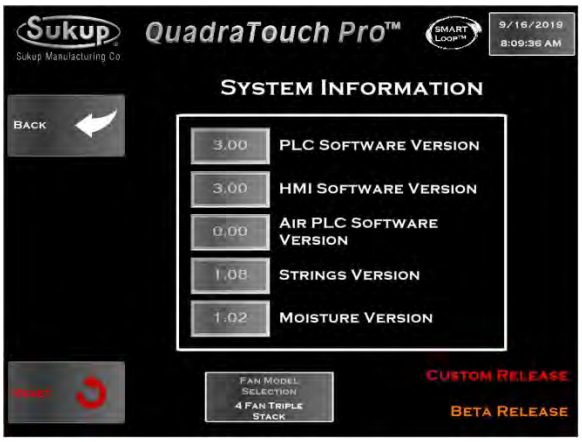
System Tools



All Dryers

Tools → System Tools Menu

This menu provides access to a wide range of functions and has many features that help maintain and update QuadraTouch Pro operating system.



All Dryers

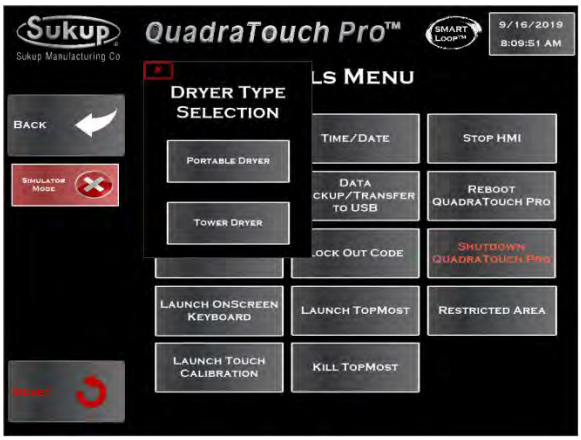
Tools → System Tools Menu→ System Information

This page prompts user to input software versions for PLC, touch screen and air system if dryer is so equipped.

All Dryers

Tools → System Tools Menu→ Time/Date

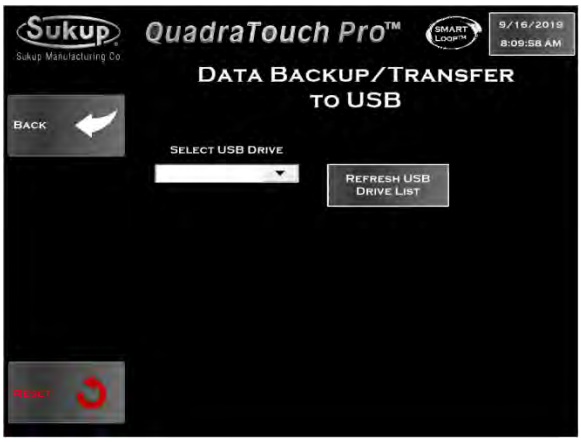
Enter current time and date.



All Dryers

Tools → System Tools Menu→ Dryer Type Selection

Enter type of dryer and number of fans if a cross-flow dryer. Enter model number if a tower dryer. For mixed-flow dryer, follow prompts to enter dryer characteristics.



All Dryers

Tools → System Tools Menu→ Data Backup/Transfer to USB

Enter USB drive to be used for data backup.

All Dryers

Tools → System Tools Menu→ Lock Out Code

Enter a four-digit lock-out code (Personal Idenfication Number). After proceeding, touch screen will be disabled unless code is entered.

All Dryers

Tools → System Tools Menu→ Launch OnScreen Keyboard

Press Launch On-Screen Keyboard button to get pop-up keyboard.

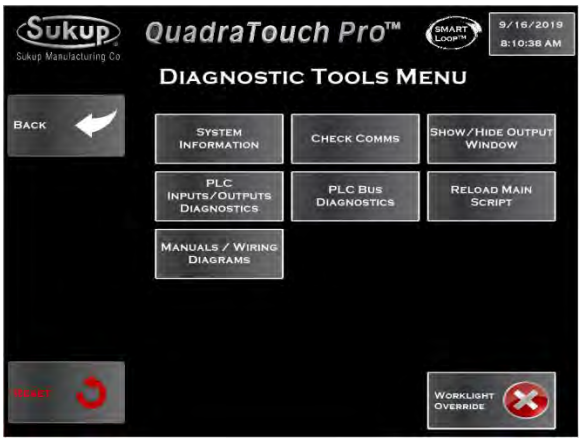
All Dryers

Tools → System Tools Menu→ Restricted Area

This page allows access to hidden screens for Sukup Personnel only.

All Dryers

Other System Tools include Touch Screen Calibration, Stop HMI (turn off touch panel), Reboot QuadraTouch Pro, Shutdown QuadraTouch Pro, Launch Topmost, Kill Topmost, Simulator Mode. See Page 20 to set language.

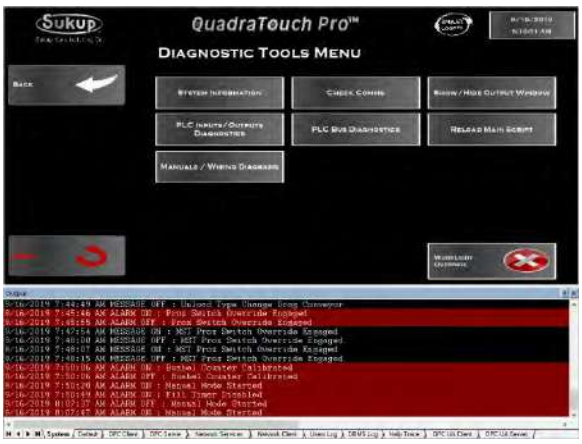


Diagnostic Tools

All Dryers

Tools → Diagnostic Tools Menu

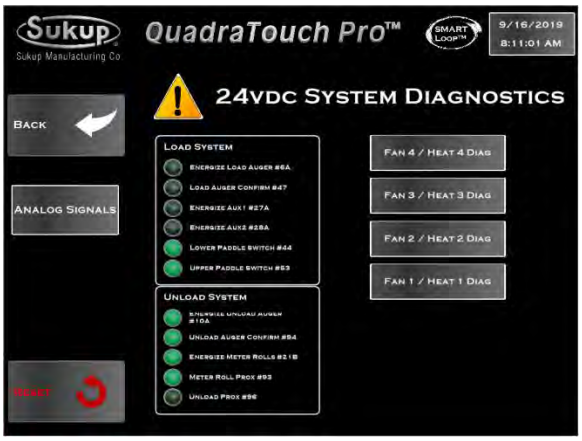
Screen shows diagnostic tools that can be used. See Page 22 to Check Comms (communication between devices) and Page 23 for input of System Information if not done already.



All Dryers

Tools → Diagnostic Tools Menu → Show/Hide Output Window

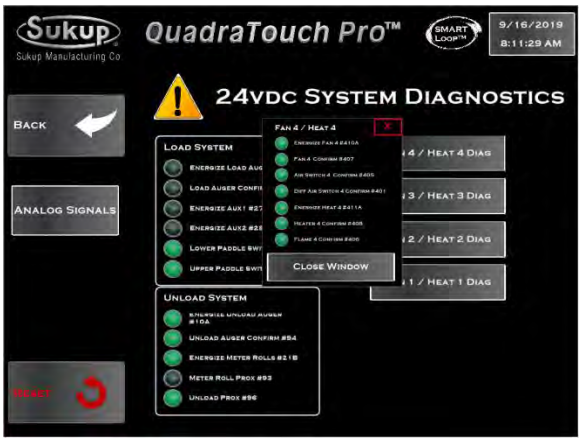
Pressing Show/Hide Output Button shows output window. It may look different than shown and can be dragged to other location on touch screen by pressing on Output bar.



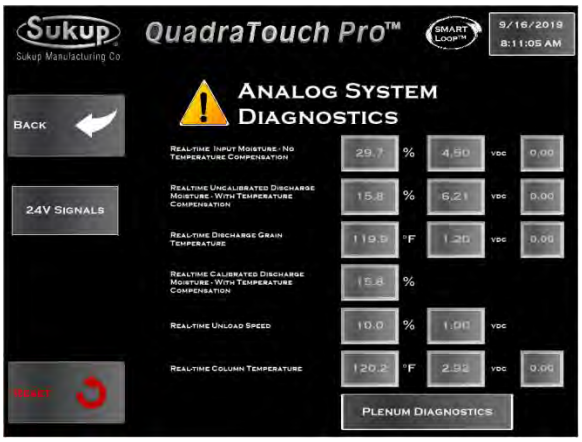
PLC Inputs/Outputs for All Dryers

Tools → Diagnostic Tools Menu → PLC Inputs/Outputs Diagnostics

This page provides an overview of load and unload systems, fans and heaters. A green light means the circuit has 24VDC on it. This menu can be accessed at almost any time by pressing Sukup logo (top left of screen) two times.

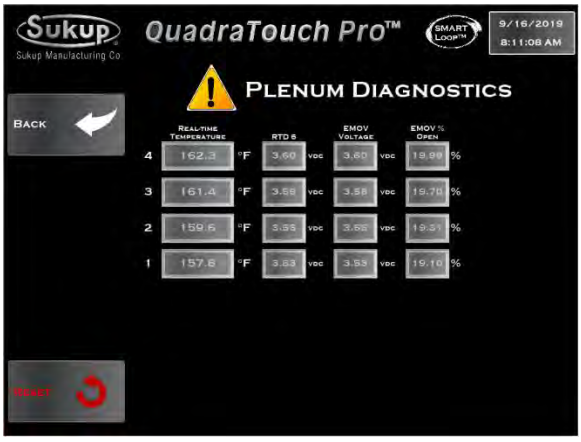


Individual fan inputs/outputs are shown in pop-up windows by pressing corresponding buttons.



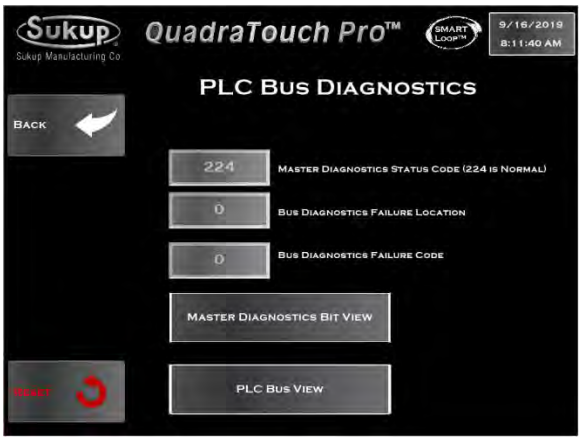
Tools → Diagnostic Tools Menu → Analog System Diagnostics

Press Analog Signals button on left of previous screen to get real-time readings on all analog input sensors and output reference signals. See image at left. This menu can be accessed at almost anytime by pressing SUKUP logo once at top left of touch screen.



Tools → Diagnostic Tools Menu → Analog System Diagnostics→ Plenum Diagnostics

Pressing Plenum Diagnostics button at bottom of previous screen will show each plenum feedback value, the reference signal and percentage opening on the EMOV. See image at left. This menu can be accessed at almost anytime by pressing SUKUP logo at top left of touch screen thee times.



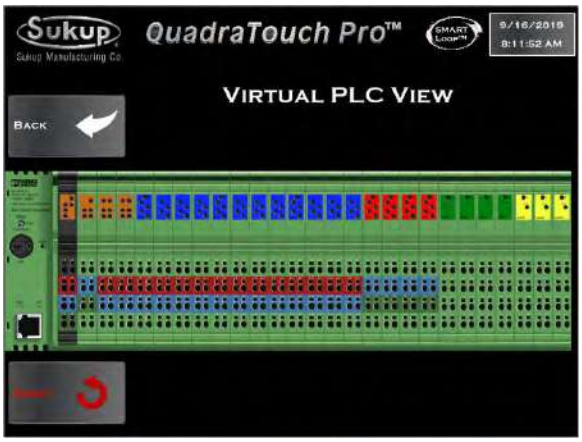
PLC Bus Diagnostics for All Dryers

Tools → Diagnostic Tools Menu → PLC Bus Diagnostics

This section provides critical information about PLC. This menu would only need to be accessed in the event of a PLC or I/O card failure.

Tools → Diagnostic Tools Menu → PLC Bus Diagnostics → Master Diagnostics Bit View

Press Master Diagnostic Bit View button to get pop-up window showing status of various diagnostics. Information contained here will most likely only be needed by a Sukup service technician.



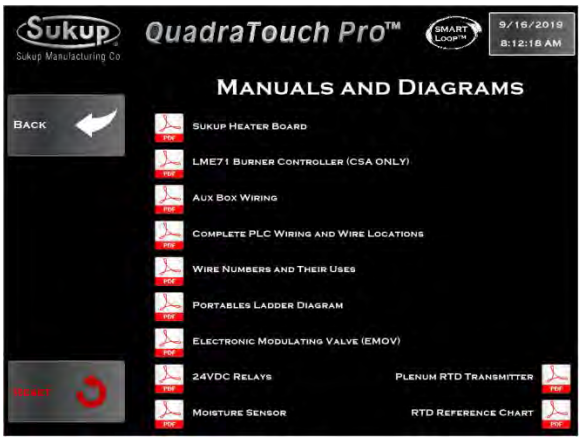
Tools → Diagnostic Tools Menu → PLC Bus Diagnostics → PLC Bus View

Press PLC Bus View for a view of dryer's PLC and identification of any problems with it. If a device is not functioning properly, it will be highlighted for easy identification.

All Dryers

Tools → Diagnostic Tools Menu → Reload Main Script

Press Reload Main Script button to restart the Main Script if it crashes and sends an error message. If that doesn't work, restart dryer.



All Dryers

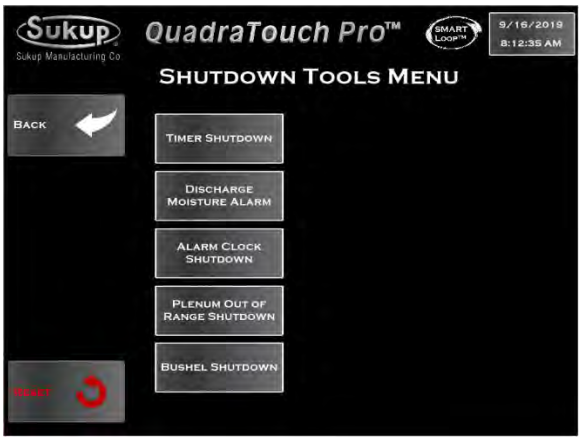
Tools → Diagnostic Tools Menu → Manuals/Wiring Diagrams

Entire copies of system manuals and wiring diagrams can be found here, including information related to specific components and frequently asked questions.

All Dryers

Tools → Diagnostic Tools Menu → Worklight Override

Press Worklight Override button at bottom right of Diagnostic Tools Menu page to energize worklight when a fault is preset. When in Override mode, worklight will not shut off if a fault occurs.



Shutdown Tools

All Dryers

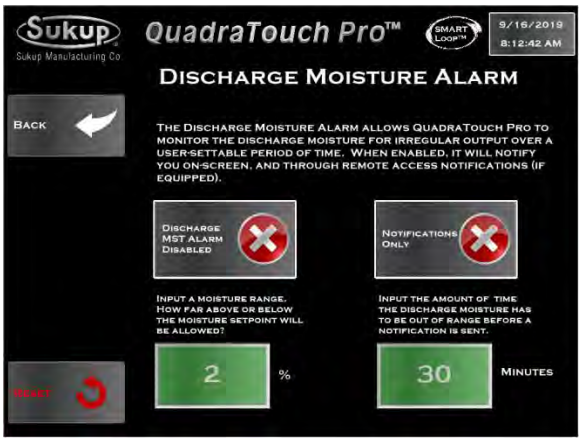
Tools → Shutdown Tools Menu

This menu provides access for shutdown settings. User can specify amount of time for each function.

All Dryers

Tools → Shutdown Tools Menu → Timer Shutdown

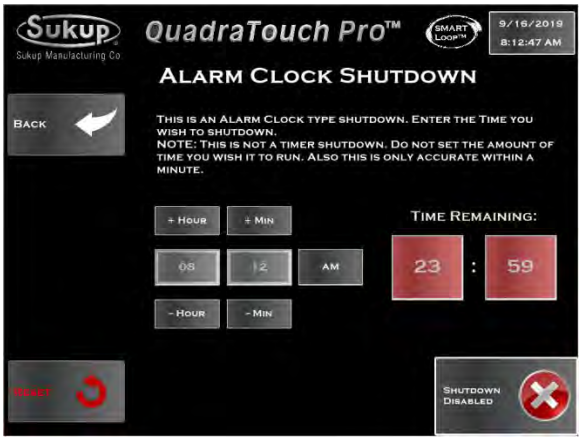
Enter amount of time for dryer to run before shutting down.



All Dryers

Tools → Shutdown Tools Menu → Discharge Moisture Alarm

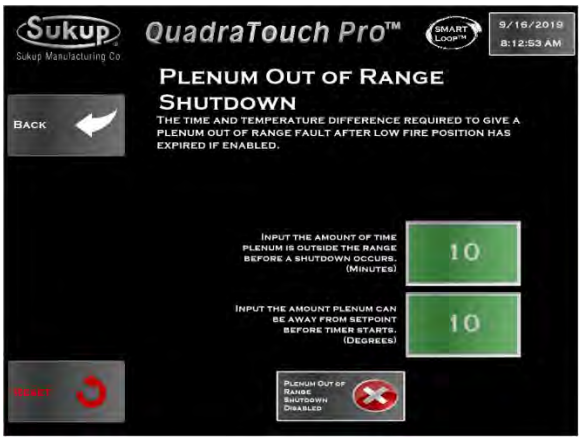
Enter acceptable range of discharge grain moisture and amount of time it must be out of range before a shutdown occurs.



All Dryers

Tools → Shutdown Tools Menu → Alarm Clock Shutdown

Enter time at which you want dryer to shut down within next 24 hours



All Dryers

Tools → Shutdown Tools Menu → Plenum Out of Range Shutdown

Enter amount of time that plenum temperature can be out of range before a shutdown occurs. Also input acceptable temperature range.

All Dryers

Tools → Shutdown Tools Menu → Bushel Shutdown

Enter number of bushels to be dried before dryer shuts down. NOTE: This feature is only available after calibrating bushel counter

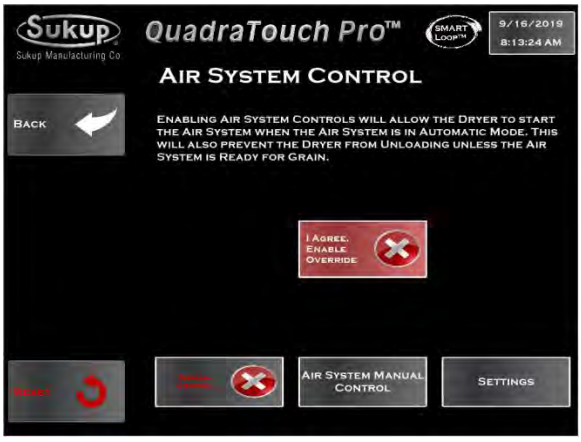
Utility Tools

All Dryers

Tools → Utility Tools Menu

Press IP Assign button to use IP Assignment Wizard to assign an IP address to a new out-of-box PLC.

Press PLC Start/Stop Tool to force a PLC program to start/stop.

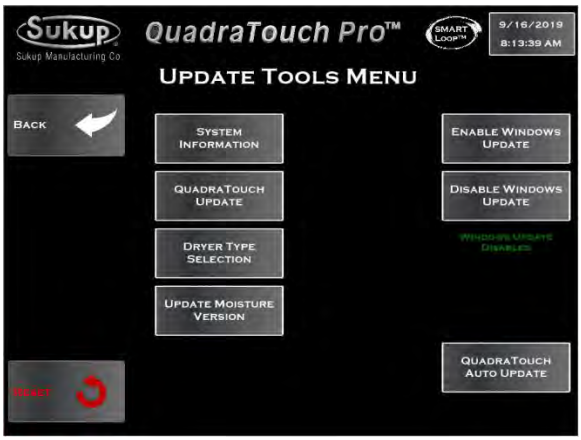


Air System Control

Cross-Flow/Mixed-Flow

Tools → Air System Control

Enabling Air System Controls will allow dryer to start air system when air system is in Automatic mode. This will prevent dryer from unloading unless air system is ready for grain. See Cyclone Installation & Operation Manual, L1396.



Update Tools

All Dryers

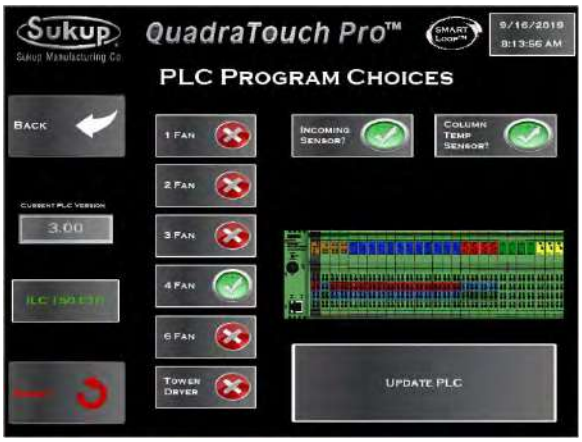
Tools → Update Tools Menu

This page provides access to enter system information (See Page 23), update QuadraTouch Pro software, enter type of dryer (See Page 24) and update version of moisture sensor(s).

All Dryers

Tools → Update Tools Menu→ QuadraTouch Update

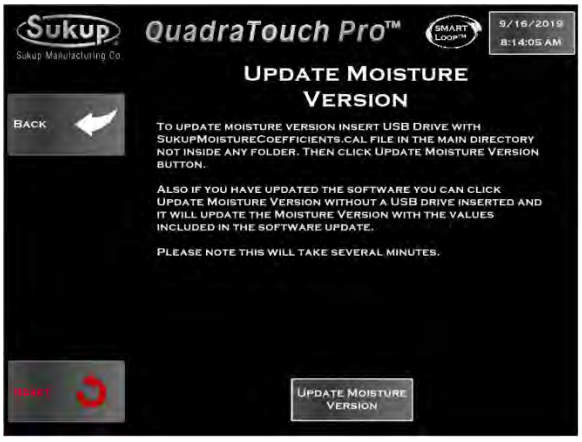
Follow prompts on this page to update QuadraTouch Pro software.



All Dryers

Tools → Update Tools Menu → QuadraTouch Update → PLC Program Choices

Follow prompts on this page to update PLC.



All Dryers

Tools → Update Tools Menu → QuadraTouch Update → Update Moisture Version

Follow prompts on this page to update moisture sensor version.

All Dryers

Tools → Update Tools Menu

Press Enable Windows Update or Disable Windows Update on right side of Update Tools Menu as desired.

All Dryers

Tools → Update Tools Menu → QuadraTouch Auto Update

Press QuadraTouch Auto Update at bottom right of screen and follow prompts to update software automatically.

Load System Override

Cross-Flow/Mixed-Flow

Tools → Load System Override

Sometimes it is necessary to run load auger or auxiliary devices independently of one another irrespective of the fill switch status. This mode allows that. However, permanent damage can occur if it's not used properly.

Tower Cold Start Fan Override

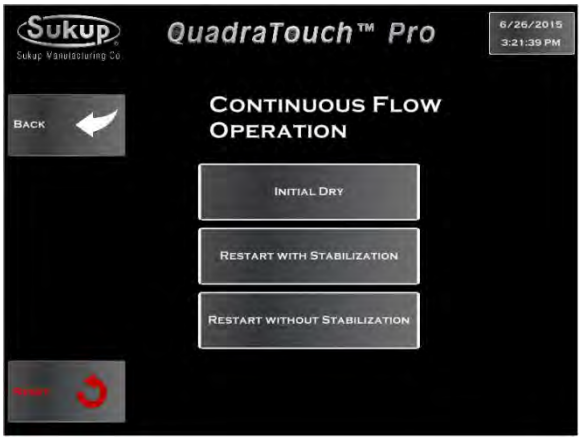
Tower

Tools → Tower Cold Start Fan Override

Fans on a tower dryer typically start in staged order. Use buttons on this page to start fans independently. Use this option only to warm up fans in very cold weather. Admin Tools must be enabled.

Cross-Flow/Mixed-Flow Operation

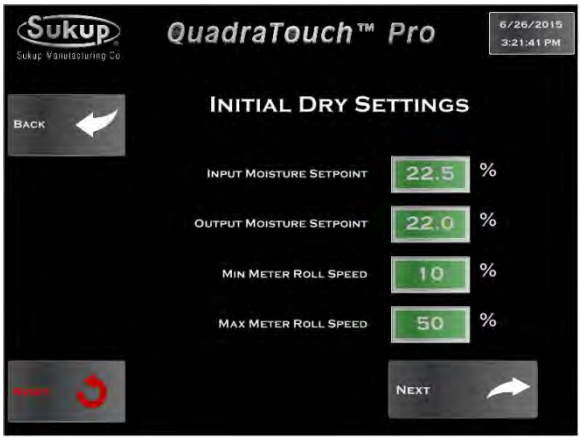
Pressing Start on main screen will bring up Start Menu. Dryer can be used in many different drying modes, the most common of which is Continuous Flow. This section will describe each mode and how it's accessed.



Continuous Flow (Automatic)

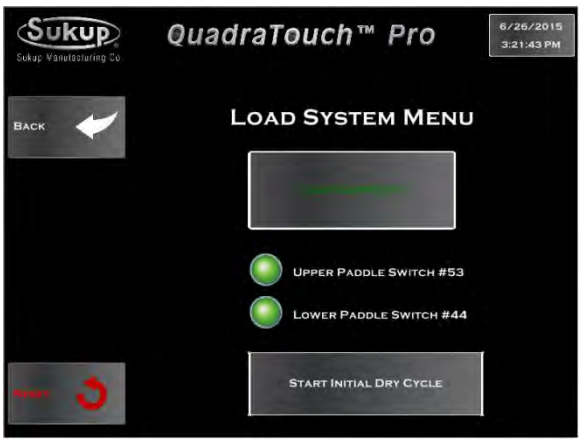
Start → Continuous Flow

Continuous Flow is divided into three processes when grain is loaded into dryer for the first time. Initial Dry essentially warms up the grain for a set period of time depending on user input. Fans and heaters will turn on and a timer will appear on the screen. This is essential for creating a steady flow of grain through the next step, Stabilization.



Start → Continuous Flow → Initial Dry

To begin Initial Dry, the dryer needs some information to get started. To give it an idea of how long to heat the first batch of grain, enter in the values of the incoming and desired output moisture. Press Next to continue on to the loading phase.



Start → Continuous Flow → Initial Dry → Next

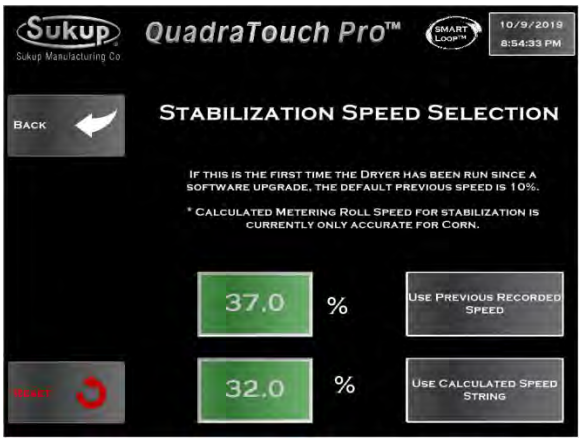
Now that dryer has been programmed with a few basic settings, it is ready to be loaded with grain and to start Initial Dry. After loading, a button will appear to start Initial Dry cycle.

Start → Continuous Flow → Restart with Stabilization → Fan/Heat Control

After Initial Dry is finished, Stabilization is the next phase of Continuous Flow Mode. Stabilization is designed to go through one full cycle of grain, discharging at a calculated roll speed. **NOTE:** Warmup is used for cold climates to thaw frozen grain systems. The first step of stabilization is to select which fans and heaters should be used. **NOTE:** A heater will not be enabled unless its corresponding fan is used.

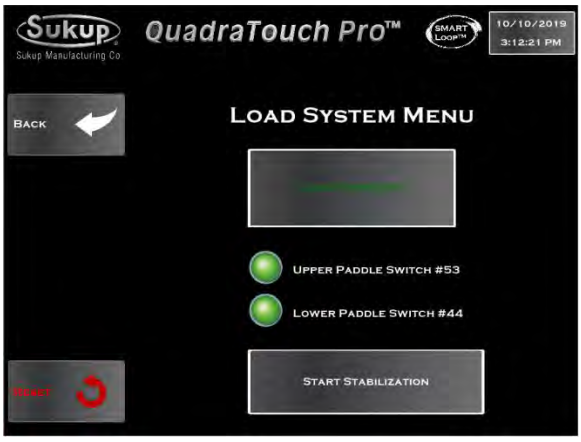
Start → Continuous Flow → Restart with Stabilization → Fan/Heat Control → Stabilization Settings

All previous settings will be stored from last time dryer was run, so make any changes necessary on this page before calculating the stabilization speed.



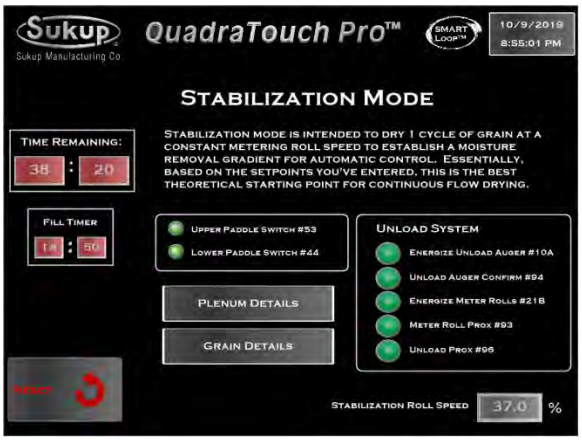
Start → Continuous Flow → Restart with Stabilization → Fan/Heat Control → Stabilization Settings → Next

On Stabilization Settings page, press Next button at lower right. Stabilization speed in green box is the last recorded speed when the dryer was running in Continuous Flow mode. If dryer was running well the last time it was used, using this value for Stabilization is recommended.



Start → Continuous Flow → Restart with Stabilization → Fan/Heat Control → Stabilization Settings → Next → Use Calculated Speed String

If dryer is coming out of Initial Dry, the screen will automatically switch to Stabilization mode. If Initial Dry has not been performed, the Load System Menu will appear. After dryer has been loaded with grain, a button will appear to start Stabilization.



Start → Continuous Flow → Restart with Stabilization → Fan/Heat Control → Stabilization Settings → Next → Use Calculated Speed String → Start Stabilization

Plenum temperature and discharge moisture setpoint can be confirmed or changed.

Dry Fire

Start → Dry Fire

Dry Fire mode allows the dryer to turn its fan(s) and heater(s) on when the dryer is empty. This mode should be run every year before operation to test for functionality. Be sure to inspect each heater and pipe train for component integrity and functionality.

Start → Dry Fire → Dry Fire Mode

Dry Fire mode lasts for 10 minutes. Status of the signals will be displayed. When dryer is empty, the air switch will most likely not be closed.

Final Dry

Start → Final Dry

Final Dry mode is used to finish off the last "batch" when there is no more grain to dry in continuous flow. The dryer will batch dry the last grain in the dryer, then turn its fan(s) and heater(s) off and unload the dryer for a set period of time.

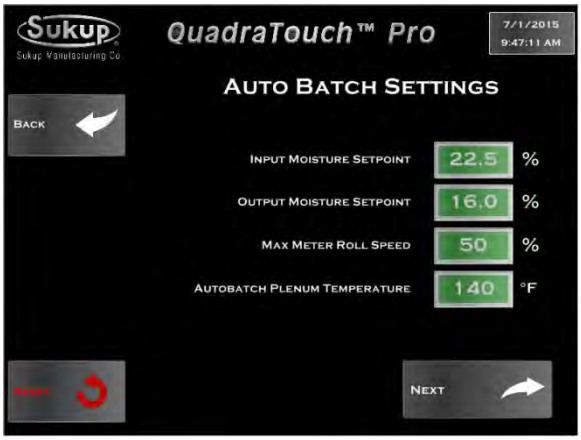
Start → Final Dry → Start Dry Fire

Final Dry mode will automatically exit when the timers have expired.

Auto Batch

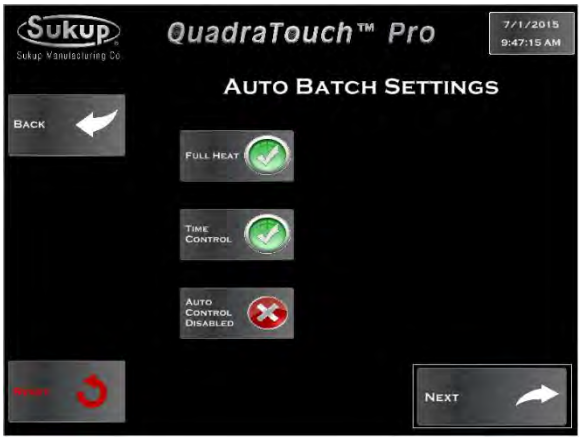
Start → Auto Batch

Due to very high moisture content, Auto Batch mode may be required. After selecting Auto Batch, the system will prompt user about restarting from the last batch. If no previous batch has been recorded, it will start from the new batch settings.



Start → Auto Batch → Start New Batch

Enter settings for Auto Batch.

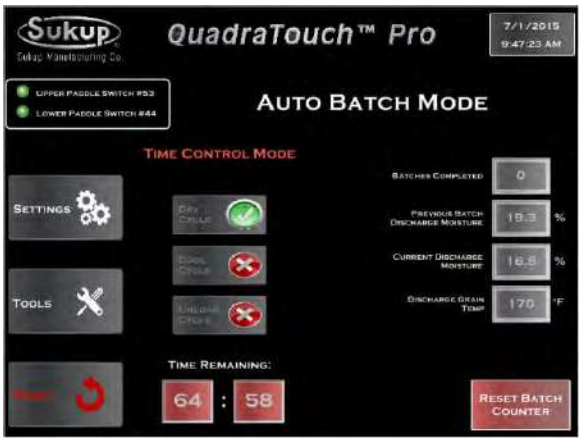


Start → Auto Batch → Start New Batch → Auto Batch Settings

Choose heat or heat/cool operation and control method.

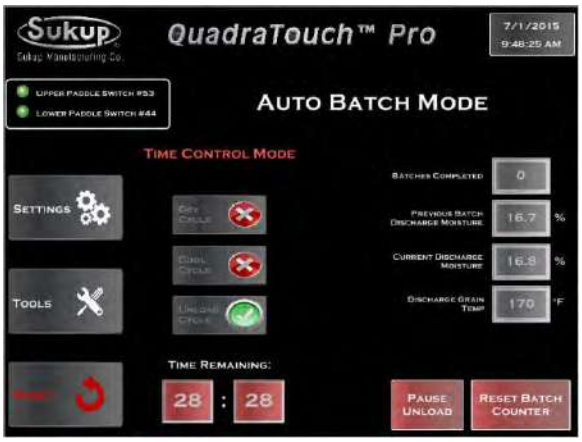
Start → Auto Batch → Start New Batch → Auto Batch Settings

Based on entered settings, dryer will calculate a base point to start from.



Start → Auto Batch

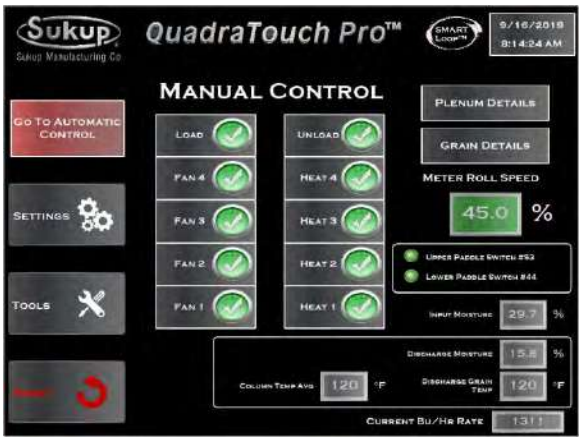
Auto Batch will start with the Dry Cycle. After the timer expires, the Cool Cycle will be used (if heat/cool operation was selected), then the dryer will start unloading the batch.



Start → Auto Batch

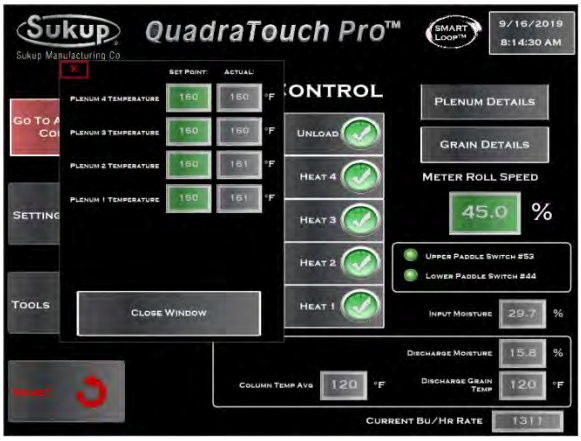
The Unload Cycle can be paused during operation, but needs to be resumed before the next cycle starts. Each of the mode times can be changed using the settings menu.

Manual Operation of Cross-Flow/Mixed-Flow Dryers



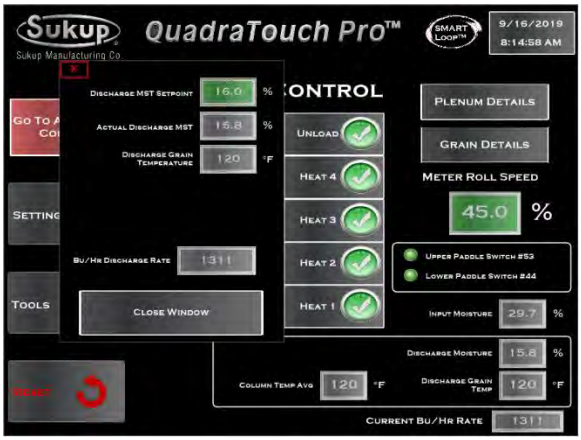
Start → Manual Operation

Plenum temperature and discharge moisture setpoints can be set.



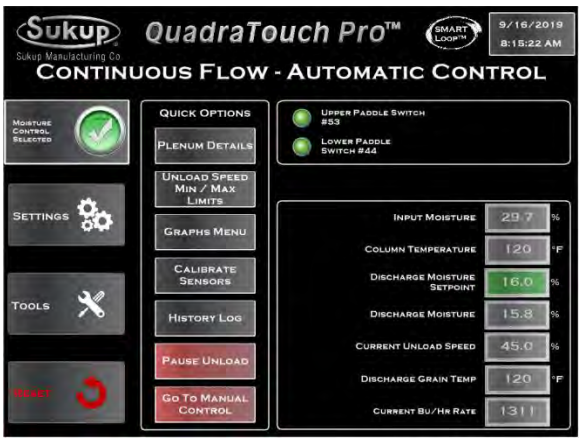
Start → Manual Operation

Press Plenum Details to get a pop-up window to enter plenum temperature setpoint.



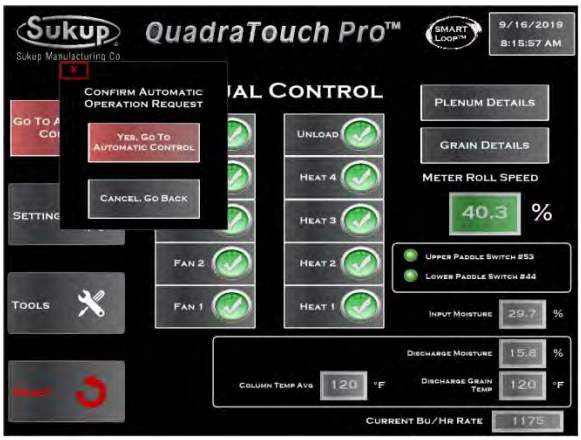
Start → Manual Operation

Press Grain Details to get a pop-up window to enter discharge moisture setpoint.



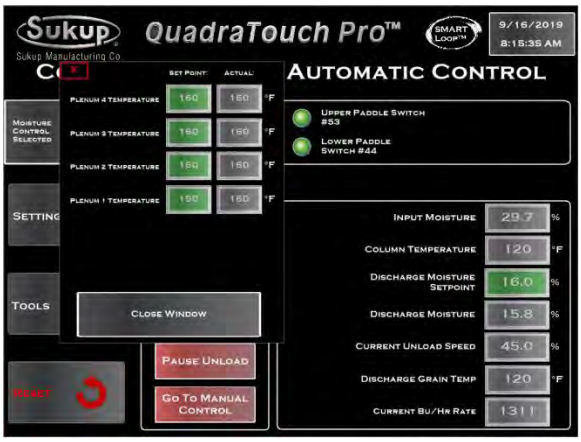
Start → Manual Operation

Press Go to Automatic Control button to get to Continuous Flow Automatic Control page.



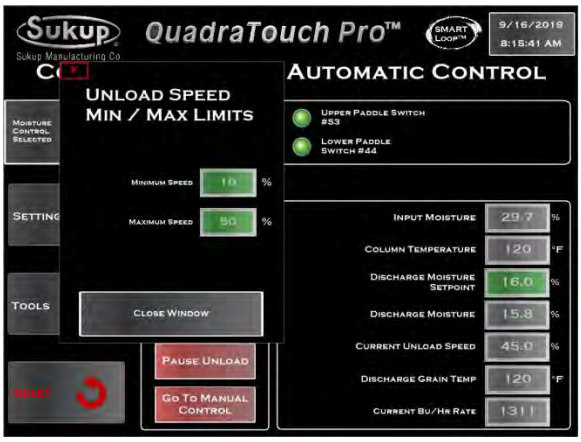
Start → Manual Operation → Go to Automatic Control → Confirm Automatic Operation Request

Press Yes if automatic control is desired, then press Plenum Details.



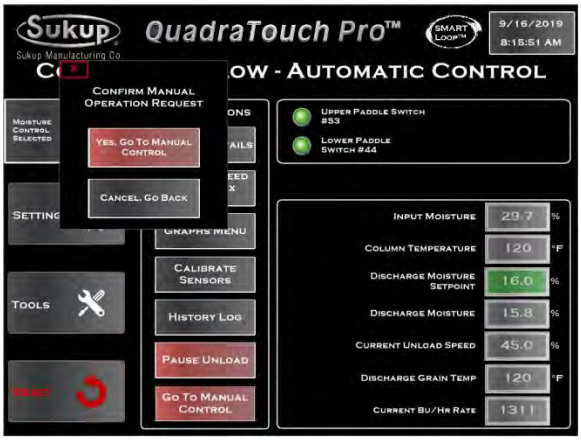
Start → Manual Operation → Go to Automatic Control → Plenum Details

Press Plenum Details button to reset plenum setpoint(s) if desired.



Start → Manual Operation → Go to Automatic Control → Unload Speed Min/Max Limits

Press Unload Speed Min/Max Limits to reset unload speeds if desired.

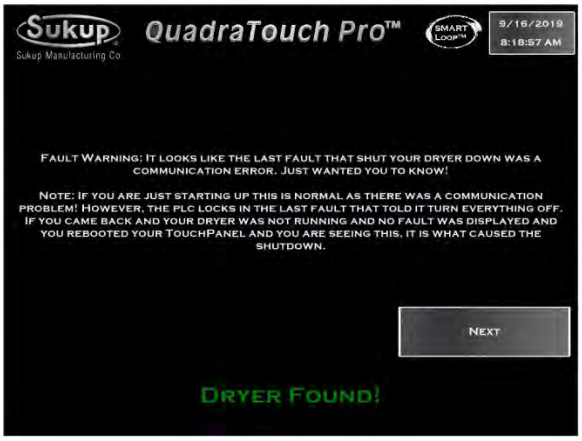


Press Go to Manual Control button at bottom of screen and confirm in pop-up window.

Resetting to QuadraTouch Pro Home Page

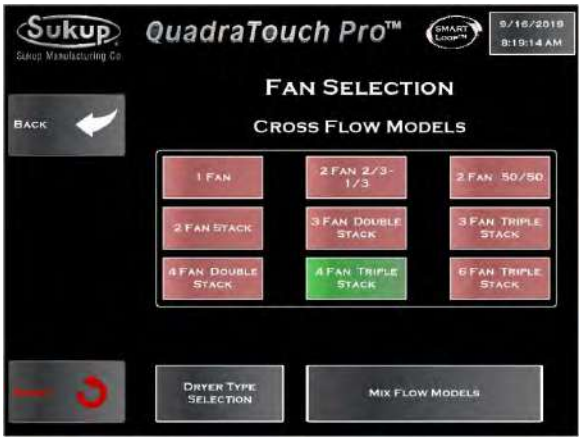
All Dryers

Pressing red Reset button will bring user back to home page. This image will appear in screen while touch panel is resetting.



All Dryers

When first powering up dryer it will attempt initial connection. If initial connection fails it will say dryer not found. If a connection is made it will say dryer found.



Fan/Model Selection

All Dryers

On home page, press Fan Model Selection in lower right corner. Follow prompts to enter type of dryer and number of fans. Image at left shows fan-selection page for cross-flow dryer. Press “Back” after making selection.

Press Dryer Type Selection and Tower Dryer to select tower dryer model (See below), or Mix Flow Models to set type of mixed-flow dryer (See next page).

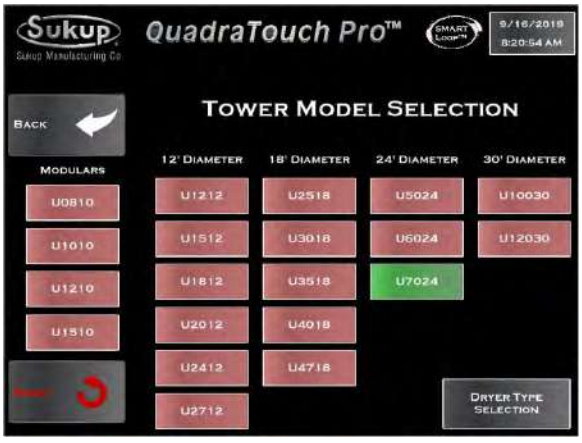


Image at left shows model selection page for tower dryer. Press “Back” after making selection.

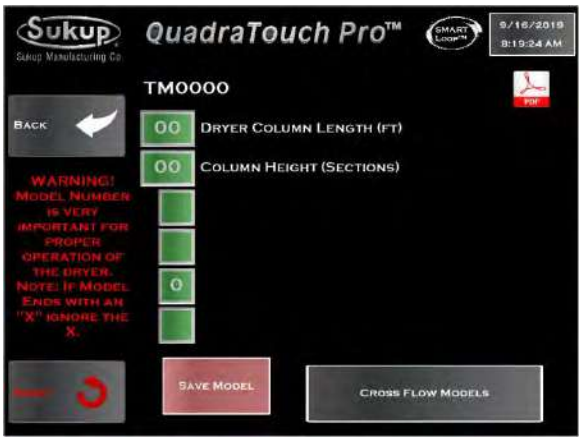


Image at left shows screen for entering dryer length and column height (tiers) for mixed-flow dryers.

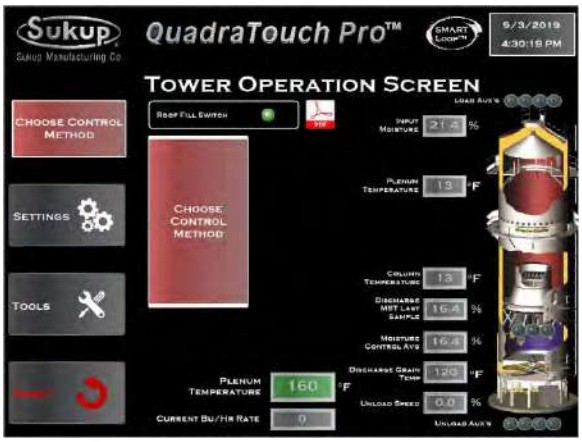
Image at left shows pop-up window for entering number of (tiers) for mixed-flow dryer.

Image at left shows pop-up window for entering start type (Soft start, line start, VFD start) and expandability of dryer.

Image at left shows dryer identification screen after entry of all parameters. Press “Save Model” after confirming selections.

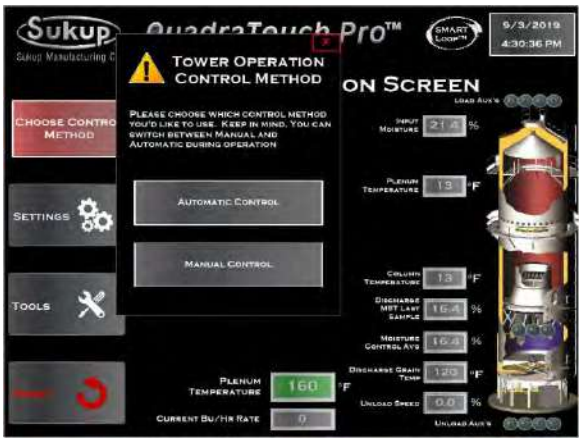
Tower Dryer Operation

When operating Tower Dryer, the program flow is similar to that found on previous pages for cross-flow/mixed-flow dryers, with a few exceptions. They are described here.
The first key difference is in the Start menu. It will prompt you to answer if the burner tarp has been removed.

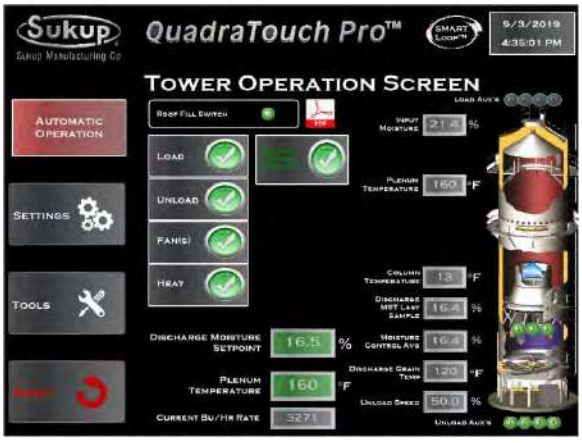


Choosing Control Method

In Tower Operation, choose the control method (automatic or manual). The control method can be changed by pressing either of the two red rectangles.

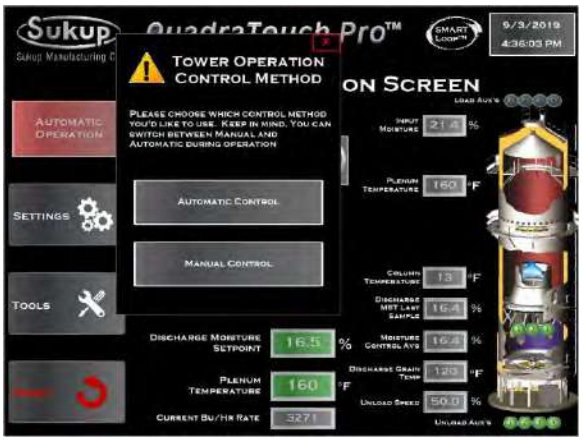


Choose how you'd like to operate the Tower Dryer, Automatic or Manual.



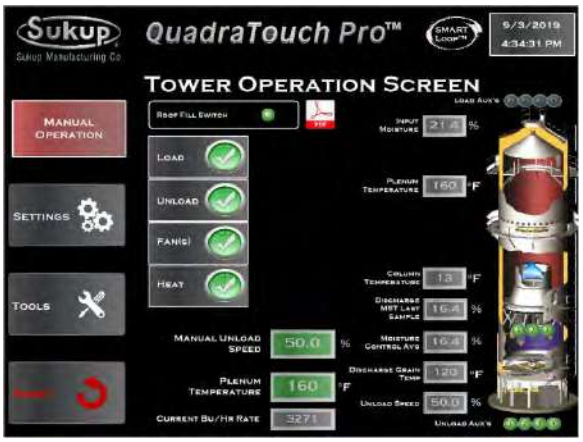
Automatic Operation

Choosing Automatic Operation, the larger of the two red rectangles disappears, leaving the controls for the load and unload systems, fan(s) and heater(s).
Notice there is a blinking button indicating you are discharging based on moisture or grain column temperature.



Changing from Moisture to Temperature Control

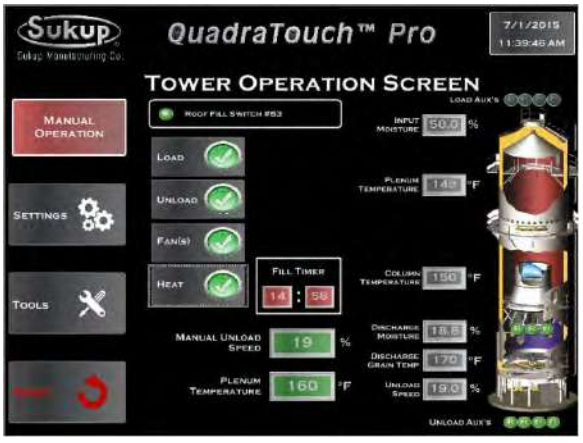
Toggling the blinking button will change from moisture to temperature control. You'll notice the temperature setpoint will appear on the bottom in place of the moisture setpoint.



Manual Operation

Choosing the red rectangle, you can change the operation method to Manual as shown here. Notice the moisture and temperature setpoints are removed, and they are replaced with a manual unload speed setting.

Turning the load, unload, fan(s), and heat on, you can see the devices turning on in order. The fans will start up in sequence along with the load and unload systems. An animated blue flame will show up when the burner control unit senses flame.



As soon as the unload table has started, any applicable countdown timers will be displayed. Notice the Fill Timer displayed in the bottom center of the screen.

Sukup Manufacturing Co.
1555 255th Street, Box 677
Sheffield, Iowa, USA 50475-0677
Phone: 641-892-4222 **Fax: 641-892-4629**
Website: www.sukup.com **Email: info@sukup.com**