iControl® Integrated Control System

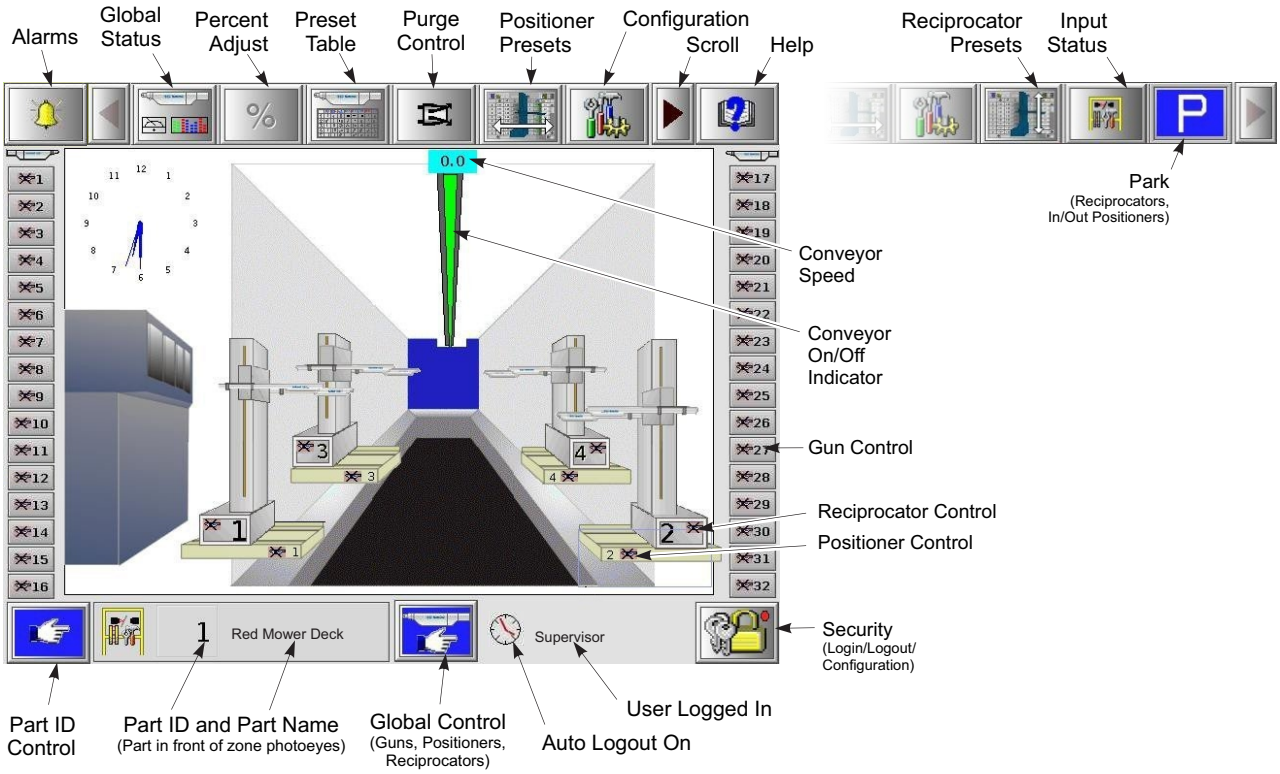
Operator's Card

P/N 1024758-05

WARNING: Allow only qualified personnel to operate this equipment. Follow the safety instructions in this document and all other related documentation.

Operation

Main Screen



Standard Interface Tools and Icons

Buttons: Open screens or perform commands.

- Close Screen
- Configure
- OK
- Enter
- Cancel
- Keypad
- Save

Radio Buttons: Use to choose mutually exclusive options. Selected button has black center.

Data Fields: Use to enter values. Touch a field to select it, then use the rotary dial, keypad, or arrows to increase or decrease the field value.

- Data Field (selected)
- Data Field (with scrolling arrows)

Selection boxes: Use to choose options. When selected, the box has a black X in it.

Gun Icons indicate the gun type the system is configured for.

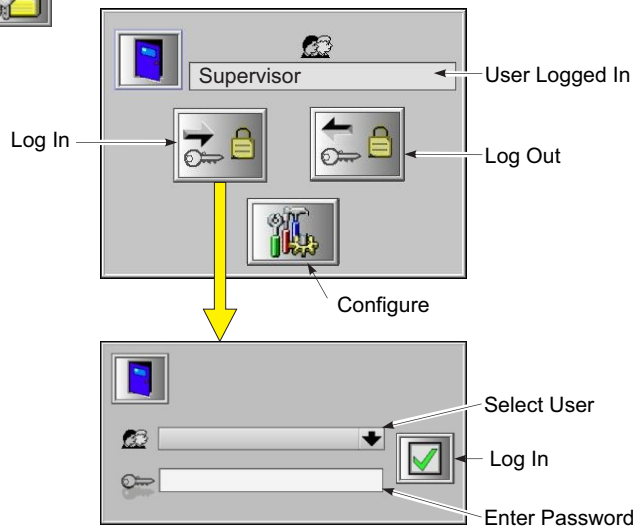
- Tribomatic® Gun
- Sure Coat® Gun
- Versa-Spray® Gun
- Versa-Spray® Porcelain Enamel Gun
- Prodigy® /Encore HD Gun
- Encore® Gun

Icons represent system functions and settings.

- Preset
- Flow-Rate Air or Powder Flow (HDLV)
- Atomizing Air Flow
- Pattern Air Flow (Prodigy)
- Smart Flow (Total Flow)
- Kilovolts (voltage output)
- MicroAmps (current output)
- Automatic Feedback Control (current limit)
- Select Charge Mode
- Lead
- Lag
- Part ID
- Zones
- Guns
- Trigger
- Auto
- Manual
- Off (global control)
- Off (positioners, reciprocators)
- Purge (Versa-Spray, Prodigy)

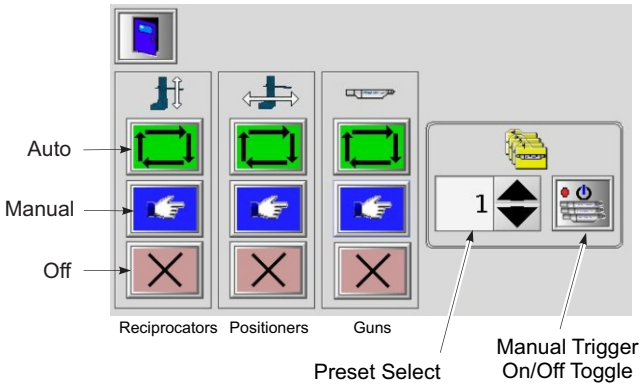
Log In

Touch the Security button to open the log in screen:



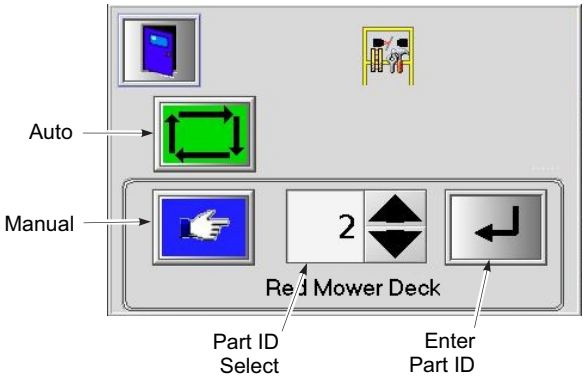
Global Control/Manual Gun Trigger

Use this screen to set the operating mode for all guns, in/out positioners, and reciprocators. In Manual mode, select a Preset and touch the Manual Trigger to turn all guns on. Touch again to turn all guns off.
Positioners and reciprocators are controlled manually from their control screens.



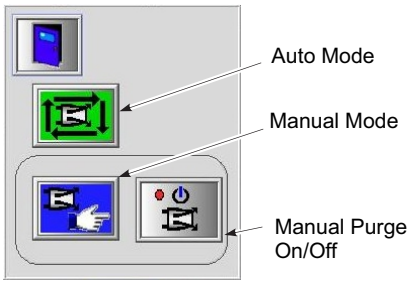
Part ID Control

Auto mode: The part ID system sends iControl the part ID.
Manual mode (Batch Coating): Operator manually selects the part ID for the parts entering the booth.
The part ID must be set before the part passes the zone photoeyes or scanners.



Versa-Spray Nozzle Purge Control

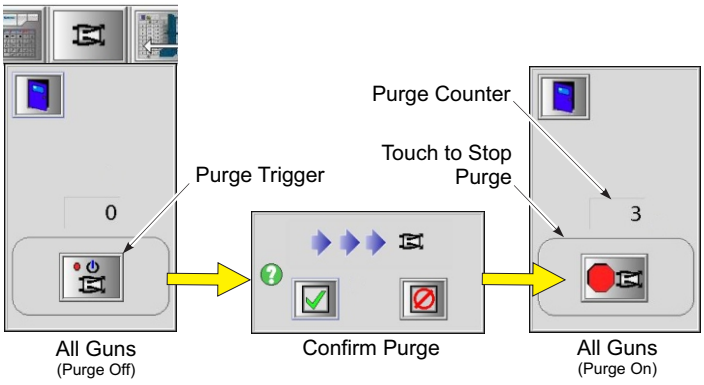
Nozzle purge must be enabled and configured before it can be used. (Refer to Purge Configuration.)



To purge the nozzles manually, touch the Manual Mode button, then touch the Manual Purge button. Touch the button again to turn purge off.

Prodigy/Encore HD Purge Control

When you touch the Purge Control button, the Purge screen opens.

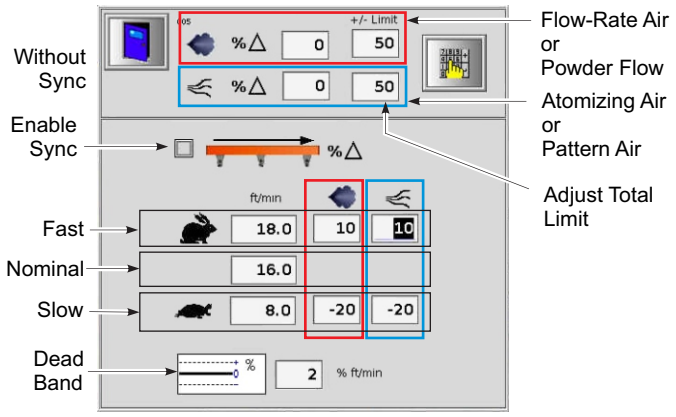


Global Percent Adjust

Increases or decreases flow-rate or atomizing air (standard guns) or powder flow and pattern air (HDLV guns) settings by percentages.
+ % increases flow; - % decreases flow.

Without Conveyor Speed Synchronization
Adjustment takes effect immediately for all preset settings. Set to zero to turn off.

With Conveyor Speed Synchronization Settings
Dead Band: No adjust within ± % of nominal speed.
Fast: Maximum conveyor speed for adjustment.
Slow: Minimum conveyor speed for adjustment.
Nominal: Conveyor speed setting.
When conveyor speed goes out of the dead band, flows are increased or decreased linearly until the fast or slow speed is reached.



NOTE: Percent Adjust settings are additive variables. For example, if Global Percent Adjust = 5 and Reciprocator Percent Adjust = 5, then total percent adjust = 10. These settings can also be affected by Percent Adjust settings in made on the Reciprocator Configuration and Reciprocator Control screens.

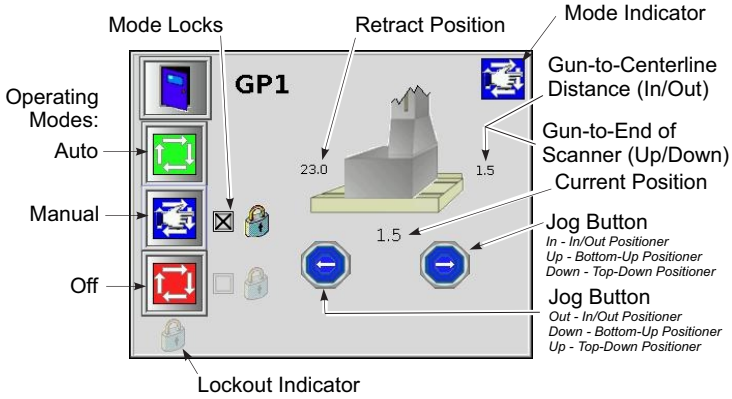
In/Out or Up/Down Positioner Control

These screens are not available if In/Out or Up/Down Positioners are not configured. Touch the positioner images to open the control screens.

The mode locks prevent the mode from being changed from the Global Control screen. If the Lockout Indicator is lit the positioner is locked out from the Configuration screen.

In Manual mode, the Jog buttons are activated so you can move the positioner manually.

WARNING: The positioner illustration on this screen does not represent the actual position or orientation of the positioner. When manually moving the positioner make sure all personnel are clear.

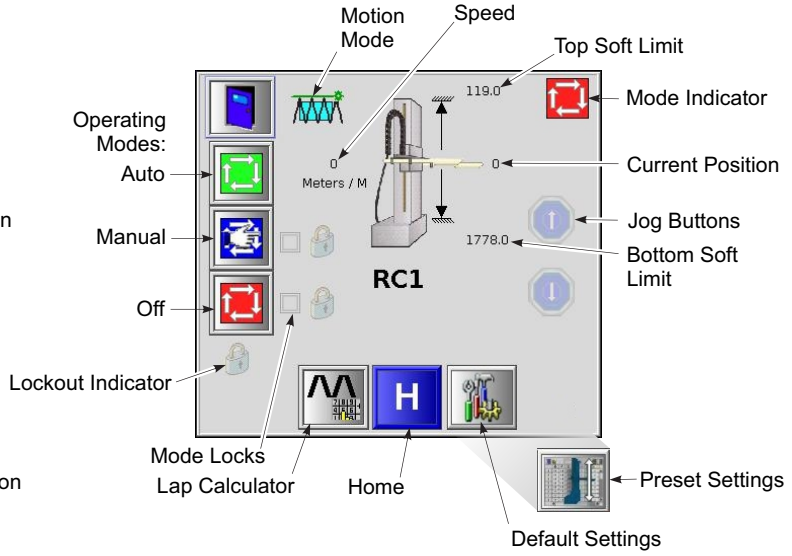


Reciprocator Control

These screens are not available if Reciprocators are not configured. Touch the reciprocator images to open the control screens.

Mode Locks: Prevent the mode from being changed from the Global Control screen or by an external signal. If the Lockout Indicator is lit the reciprocator is locked out from the Configuration screen.

In **Manual** mode, the **Jog** buttons move the reciprocator up or down.
Use the **Lap Calculator** (following page) to help determine the optimum settings for the reciprocators.
The **Home** button takes the reciprocator to the Home position about 25 mm (1 inch) below the upper limit switch.
If no presets are set for the reciprocator the **Default Settings** button is present. Touching it expands the screen to display the settings, which can then be adjusted. If the **Preset Settings** button is present, touching it opens the Reciprocator Preset screen.



Motion Modes


Fixed, Synchronized

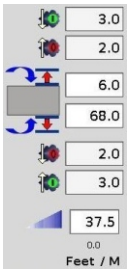

Variable, Synchronized


Fixed, No Synchronization

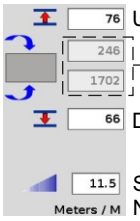

Variable, No Synchronization


Oscillator

Fixed Settings



Variable Settings



Reciprocator Control (continued)

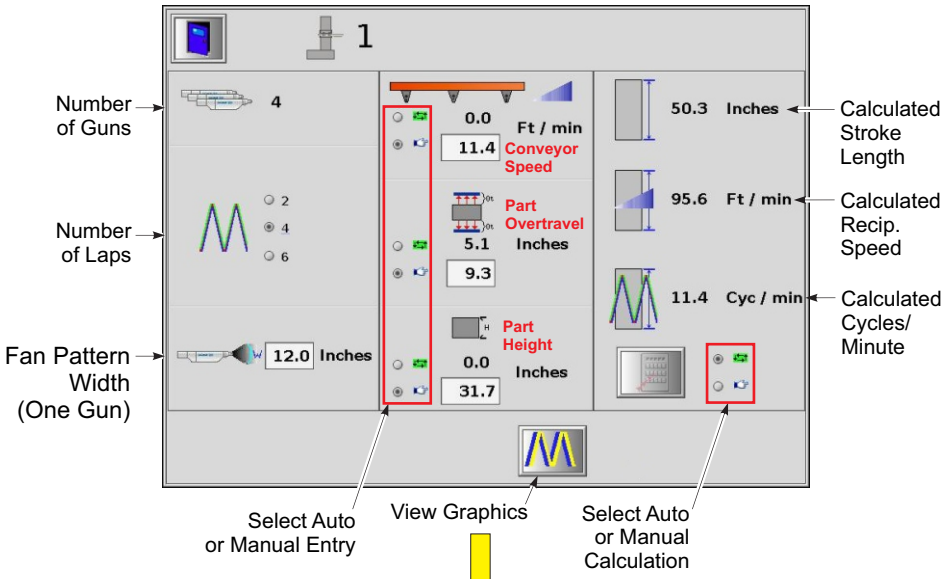
Lap Calculator

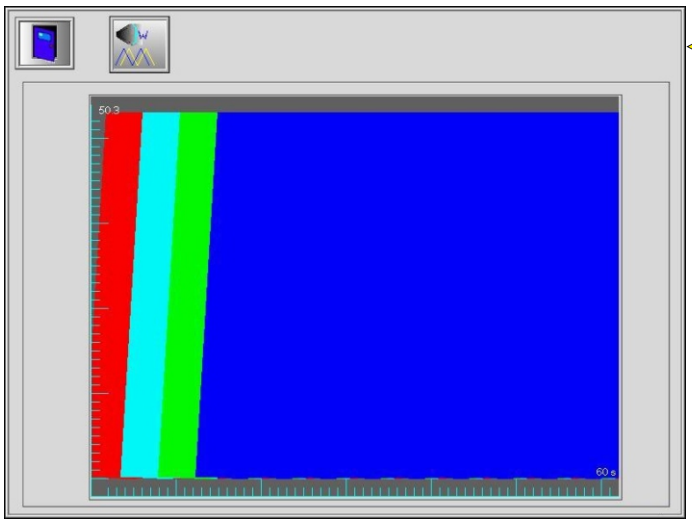
Use the Lap Calculator to experiment with and view the results of your reciprocator settings. The settings made on this screen are for reference only, they are not carried over to the configuration, preset, or control screens.

NOTE: If you choose to use Auto Entries for Conveyor Speed, Part Overtravel, and Part Height, the values shown are derived from the conveyor encoder reading, the current parts moving through the system, and the current reciprocator settings.

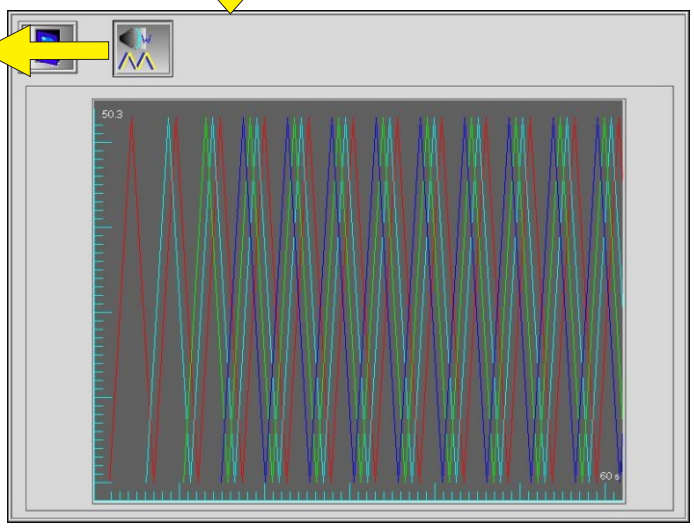
Number of Laps: How many times the effective fan width passes over a certain point. Typically, the more times the better the powder coverage will be.
2 = standard quality
4 = medium quality
6 = fine quality

NOTE: At any given conveyor speed, the greater the number of laps, the faster the reciprocator speed required. Make sure that the reciprocator is not going so fast that the fan pattern collapses. If the fan pattern collapses or the maximum reciprocator speed is exceeded then select a lower number of laps.





Lap Pattern with Fan Width



Lap Pattern

Using the Gun Control Screen

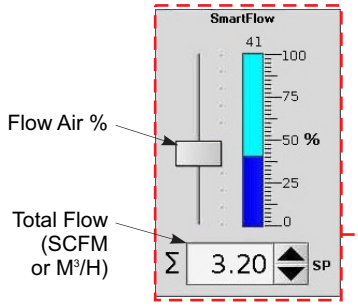
Touch a Gun Button to open the Gun Control screen for a gun.

Use this screen to set up and adjust spray presets, set the gun's trigger mode, and monitor the gun status.

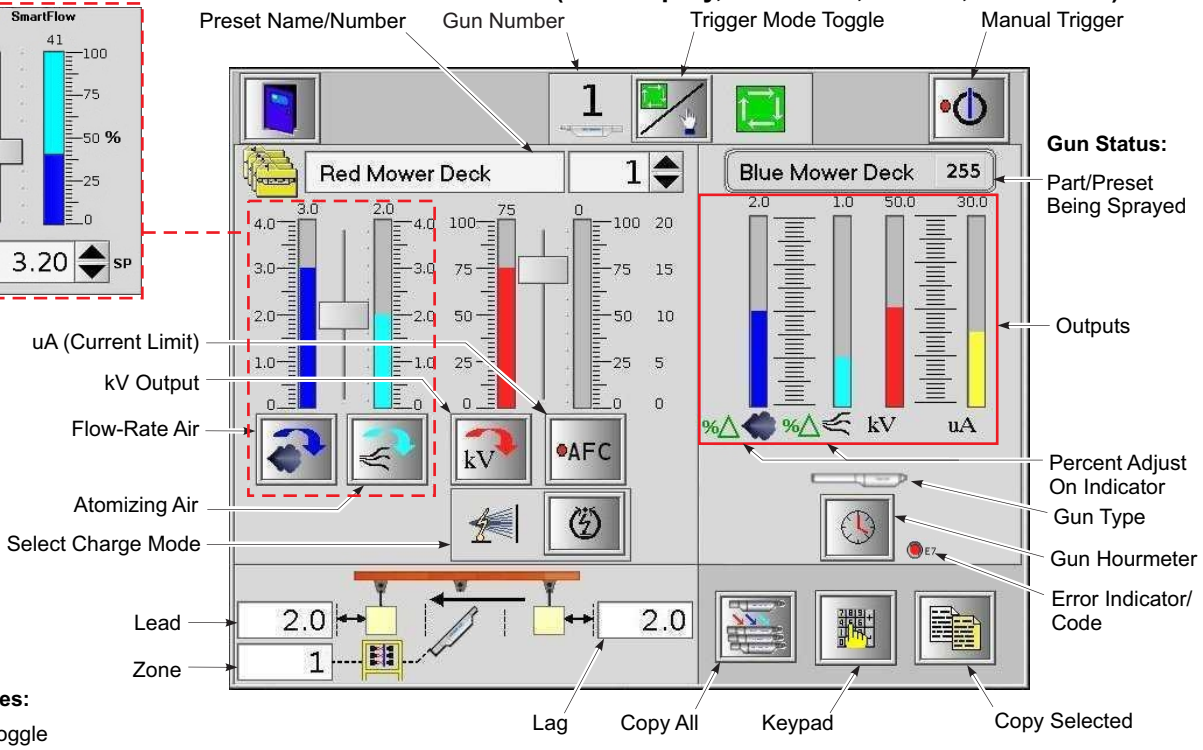
Note: You can use this screen to adjust preset settings while the guns are spraying.

Smart Flow Mode is configured when the guns are configured. This mode can be used with Versa-Spray, Sure Coat, and Encore spray guns supplied with powder by venturi-type pumps. Total Flow controls powder velocity, Flow Air % controls powder flow. Set Total Flow first, then Flow Air %.

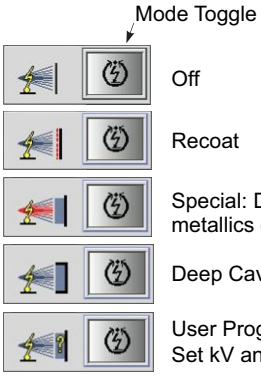
Smart Flow Mode



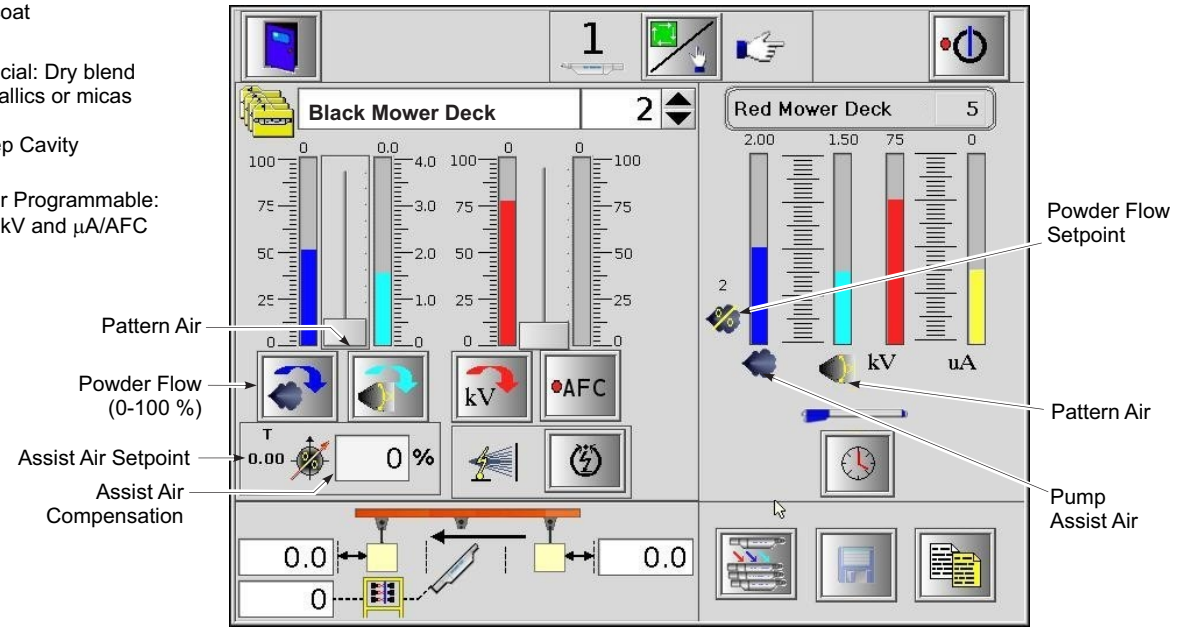
Standard Guns Screen (Versa-Spray, Sure Coat, Encore, Tribomatic)



Select Charge® Modes:



Prodigy/Encore HD Guns Screen (differences from standard gun screen)



Using the Preset Table Screen

Use this screen for quick preset setup in offline mode.

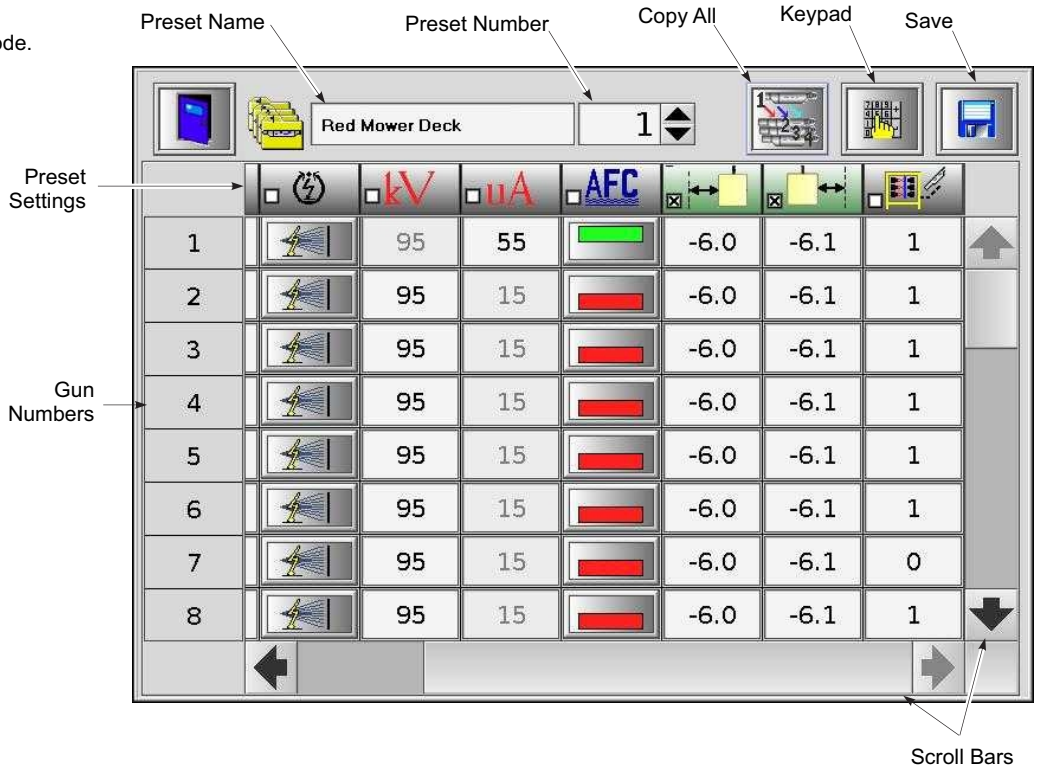
Touch a **Data Field**, then use the Keypad or rotary dial to edit a setting.

Touch the **Select Charge** fields to toggle through the Select Charge modes.

Touch the **AFC** fields to toggle AFC on/off.

Use the **Scroll Bars** to display more settings and guns.

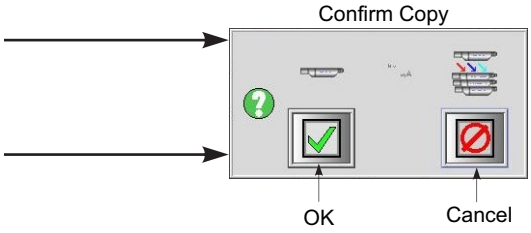
The **Copy All** function copies the selected settings for the current preset for Gun 1 to the same preset for the rest of the guns. Selected settings are those with an X in the column label box (Lead and Lag in this example).



Copy All

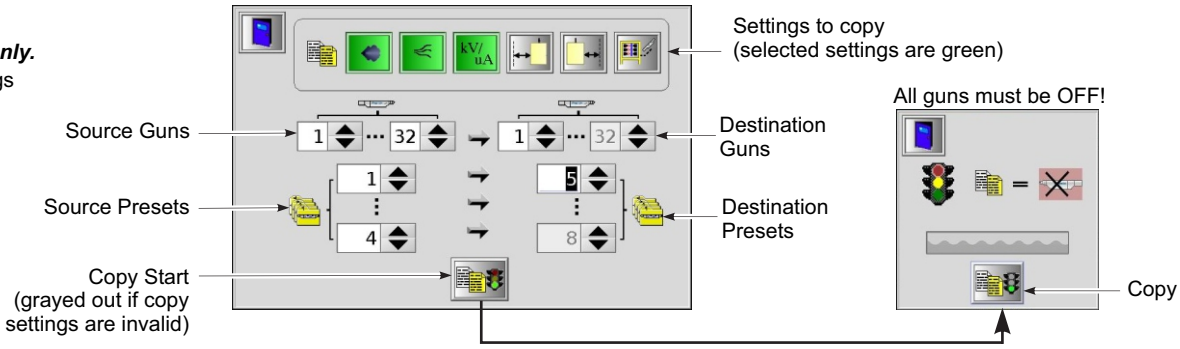
GunControl Screen: Copies air flow and electrostatic settings from current preset number to same preset number for all guns.

Preset Table Screen: Copies selected preset settings from current Gun 1 preset to same preset for all guns.



Copy Selected

Gun Control screen only.
Copies selected settings for a gun and range of presets (source) to a range of guns and presets (destination).



Setting and Adjusting In/Out Positioner Presets

Use this screen to make part-specific preset settings for in/out positioners. Preset settings can be overriden by the minimum configuration settings.

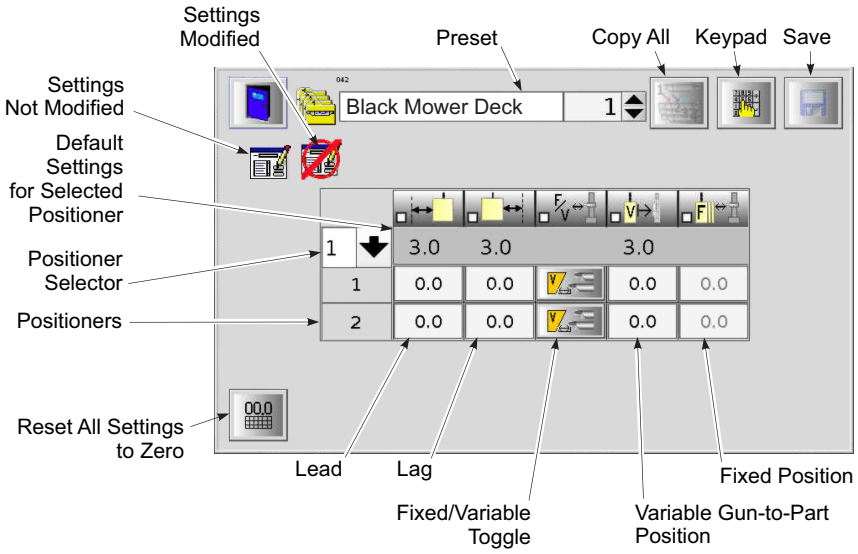
NOTE: The default settings made during positioner configuration will be used if no preset settings are made.

Lead + : Move **Before** leading edge
Lead – : Move **After** leading edge
Lag + : Move **After** trailing edge
Lag – : Move **Before** trailing edge

Variable gun-to-part positioning: Positioner follows part contours.

Fixed position: Fixed positioner position. Positioner moves to fixed position and remains there until a new part with different settings arrives.

Copy All: Copies selected preset settings for Positioner 1 to all other positioners.



Setting and Adjusting Reciprocator Presets

Use this screen to make part-specific preset settings for reciprocators. Scroll the screen to view all preset settings.

NOTE: The default settings made during reciprocator configuration will be used if no preset settings are made. The motion mode made during configuration determines the settings, fixed or variable, that can be made.

Preset Settings:


Fixed-Up-Off


Fixed-Down-On


Fixed-Down-Off


Fixed-Up-On

Distance from Edge of Part ±


Fixed-Top-Turn


Fixed-Bottom-Turn

Distance from Top Limit Switch


Fixed/Variable-Speed


Variable-Top-Turn


Variable-Bottom-Turn

Distance from Edge of Part ±


Percent Adjust-Up-On


Percent Adjust-Down-Off


Percent Adjust-Down-On


Percent Adjust-Up-Off

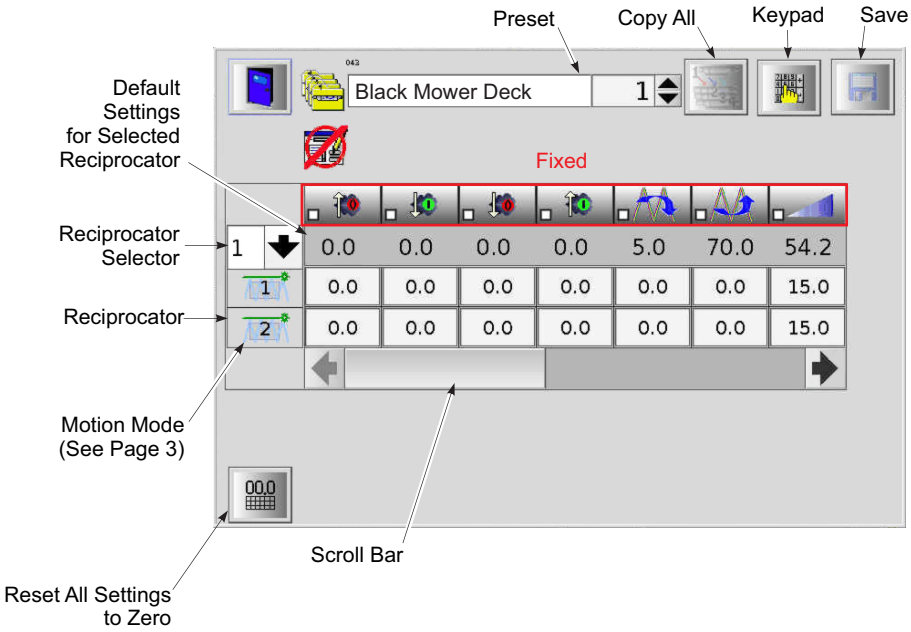
Distance from Edge of Part ±


Percent Adjust-Flow-Rate or Powder Flow


Percent Adjust-Atomizing or Pattern Air

± Preset Spray Setting


Percent Adjust-Enable



Scroll to View:

Variable

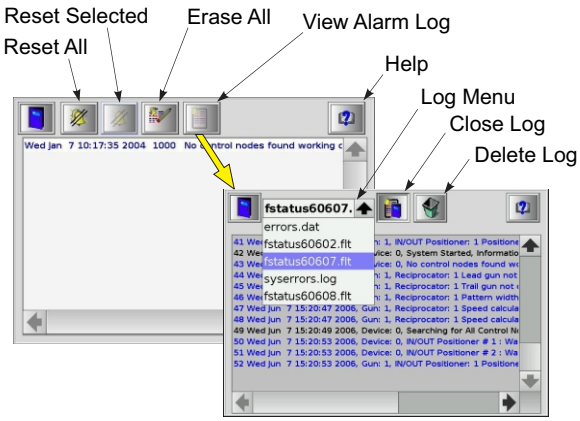
Percent Adjust Settings

NOTE: Percent Adjust settings are additive variables. For example, if Global Percent Adjust = 5 and Reciprocator Percent Adjust = 5, then total percent adjust = 10.

Alarms

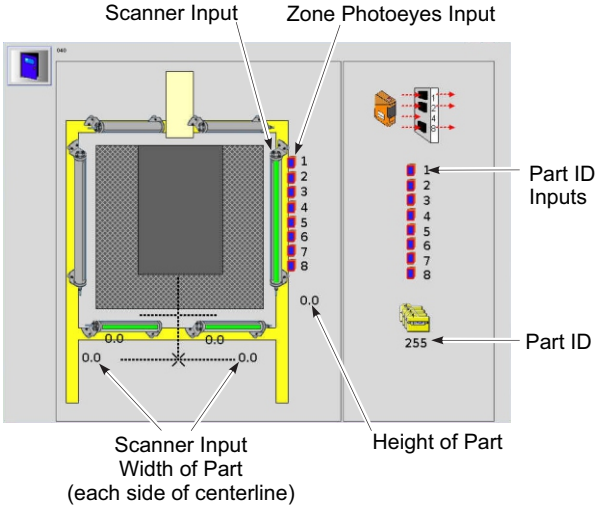
The **Alarm Button** flashes yellow when a malfunction occurs. The alarm screen displays all active alarms and system messages.

The **Alarm Log** lists all alarms, resets, and status messages for the current day.
Gun Buttons flash yellow if a gun malfunctions.
Open the Gun Control screen to view the error codes.



Input Status

Use this screen to monitor inputs from the photoeyes, scanners, or customer systems for part ID, zones, and positioners and reciprocators.



Individual Gun Status

Gun Button icons indicate the trigger mode.
Gun Buttons turn green when the gun is triggered.


Off


Manual Mode


Auto Mode


Offline: Cable disconnected or guns offline (fan stopped) when iControl software started.

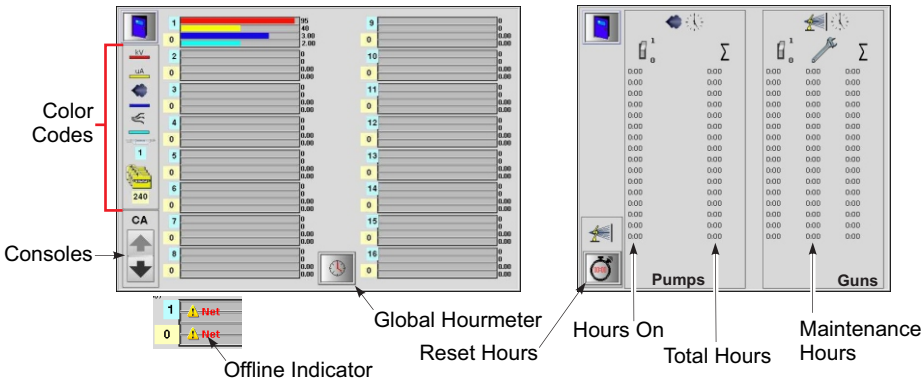

Offline: Gun controller, iFlow module, or pump controller not communicating with iControl system.

Refer to Setting and Adjusting Presets: Use the Gun Control Screen for individual gun status displays and indicators.

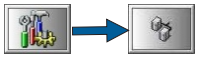
Global Gun Status

Use this screen to view the status of up to 16 guns at a time.
Gun number, preset number, and gun output are color-coded.
Use the up/down arrow buttons to view additional guns.
Touch the Hourmeter button to open the Global Hourmeter screen.

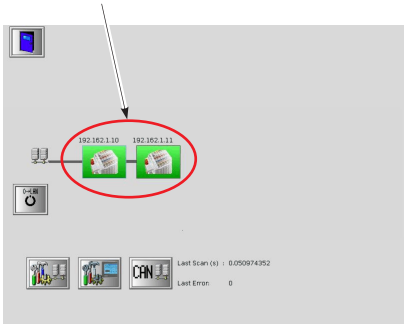
NOTE: Prodigy/Encore HD systems include Maintenance Hours for HDLV pumps.



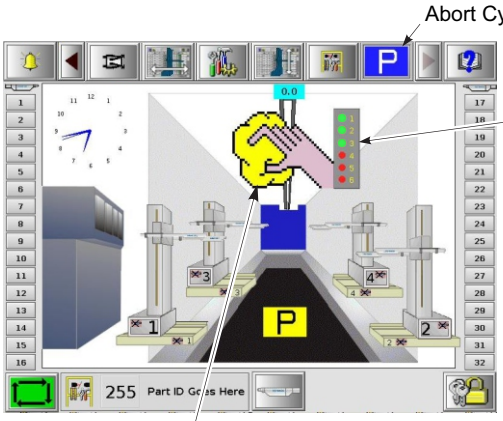
Network Status



Node Icons Green = Network OK
Node Icons Red = Error – Touch icon to view error codes.



Color Change Operations



P/N 1024758-05
Issued 9/19