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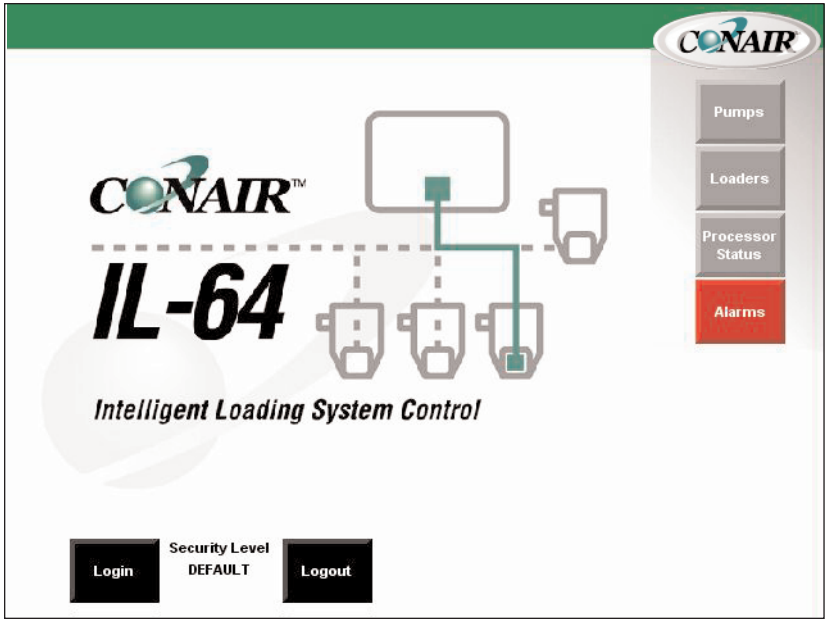
USER GUIDE
UGC030/0206

IL-64

ControlLogix, PanelView Plus



Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:

Manual Number: UGC030/0206

Serial Number(s):

Software Version Number(s):

Model Number(s):

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SECTION

1

Introduction

Purpose of the User Guide

This User Guide describes the installation and operation of the IL-64 control.

Before installing this product, please take a few moments to read the User Guide and review the diagrams and safety information in the instruction packet. You also should review manuals covering associated equipment in your system. This review won't take long, and it could save you valuable installation and operating time later.

How the Guide is Organized

Symbols have been used to help organize the User Guide and call your attention to important information regarding safe installation and operation.

⚠ Symbols within triangles warn of conditions that could be hazardous to users or could damage equipment. Read and take precautions before proceeding.

1 Numbers indicate tasks or steps to be performed by the user.

◆ A diamond indicates the equipment's response to an action performed by the user.

❒ An open box marks items in a checklist.

● A circle marks items in a list.

Indicates a tip. A tip is used to provide you with a suggestion that will help you with the maintenance and operation of this equipment.

Indicates a note. A note is used to provide additional information about the steps you are following throughout this manual.

Your Responsibility as a User

You must be familiar with all safety procedures concerning installation, operation and maintenance of this equipment. Responsible safety procedures include:

- Thorough review of this User Guide, paying particular attention to hazard warnings, appendices and related diagrams.
- Thorough review of the equipment itself, with careful attention to voltage sources, intended use and warning labels.
- Thorough review of instruction manuals for associated equipment.
- Step-by-step adherence to instructions outlined in this User Guide.

ATTENTION:
Read this so no one gets hurt

We design equipment with the user's safety in mind. You can avoid the potential hazards identified on this machine by following the procedures outlined below and elsewhere in the User Guide.

⚠ WARNING: Improper installation, operation or servicing may result in equipment damage or personal injury.

This equipment should be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation and potential hazards of this type of machine.

All wiring, disconnects and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the the machine serial tag and data plate.

⚠ WARNING: Voltage hazard

This equipment is powered by single-phase alternating current, as specified on the machine serial tag and data plate.

A properly sized conductive ground wire from the incoming power supply must be connected to the chassis ground terminal inside the electrical enclosure. Improper grounding can result in severe personal injury and erratic machine operation.

Always disconnect and lock out the incoming main power source before opening the electrical enclosure or performing non-standard operating procedures, such as routine maintenance. Only qualified personnel should perform troubleshooting procedures that require access to the electrical enclosure while power is on.

SECTION
2

Description

What is the IL-64?

The Intelligent Loading 64 System (IL-64) is a central loading control with I/O configurations for 32 or 64 loaders, 10 pumps, plus 2 back up pumps. The system architecture uses an Allen-Bradley CompactLogix PLC for control. An Allen-Bradley Rockwell PanelView Plus 700 provides an intuitive, easy-to-read and easy-to-use graphical touch screen interface with on-board help and diagnostic screens. The inputs and outputs are all 24VDC.

Typical Applications

Conveying applications up to 32 or 64 loaders located in a single control enclosure.

Load-pump assignments are completely flexible. Individual vacuum receivers can be assigned to any one of the 10 loading systems.

The basic receiver operations include: multi source to multi destination, pocket/purge valves, and audio alarm.

The fully featured receiver operation include: reverse regrind logic, ratio, positive discharge, volume fill, and ratio/purge operation.

Specifications

MODEL	IL-64
Performance characteristics	
Maximum number of vacuum receivers	32 or 64*
Maximum number of vacuum pumps	10 (plus 2 back-up pumps)
Maximum number of source valves	32 or 64*
Controller	Allen Bradley CompactLogix PLC
Operator interface	Allen Bradley/Rockwell PanelView Plus 700
Screen size diagonal inches {mm}	6.5 {165}
Output voltage to receivers/valves	24 VDC
Input voltage to receivers	24 VDC
Output voltage to pumps	24 VDC
Dimensions inches {mm}	
A - Height	36 {915}
B - Width	30 {762}
C - Depth	13 {330}
Weight lb {kg}	
Installed	139 {63}
Shipping	240 {109}
Voltage Total amps	
120V/1 phase/60Hz	15

SPECIFICATION NOTES:

* Maximum number of vacuum receivers and source valves depends on the configuration of the IL-64 selected.

Specifications can change without notice. Check with a Conair representative for the most current information.

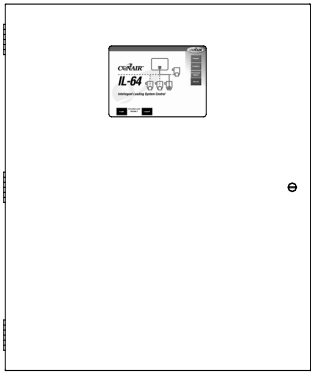
SECTION
3

Installation

Unpacking the Boxes

The IL-64 loading control comes in one or more boxes, depending on the options ordered. The box includes:

- ❒ Base unit with touch screen interface panel



Control Unit with Touch Screen Interface Panel

1 **Carefully remove the IL-64 components** from their shipping containers, and set upright.

2 **Remove all packing material, protective paper,** tape and plastic.

3 **Carefully inspect all components to make sure no damage occurred during** shipping. Notify the shipper immediately if damage is found.

4 **Take a moment to record serial numbers, the software version number and** electrical power specifications in the blanks provided on the back of the the User Guide's title page. The information will be helpful if you ever need service or parts.

5 **You are now ready to begin installation.** Follow the preparation steps on the next page, paying particular attention to all wiring consideration and recommendations.

Preparing for Installation

You should plan the location of the IL-64 base unit to ensure easy access and minimal wiring.

1 Select a mounting location for the base unit.

The base unit interface can be mounted on a wall or other stable vertical surface. Select a location that:

- ❒ **Is central to loaders that the IL-64 will control.** Keep the IL-64 unit as close as possible to the loading stations to minimize the amount of wire needed to connect the vacuum receivers to the control.
- ❒ **Provides adequate clearance for safe operation and** maintenance**.** The base unit should be mounted at a height that allows the operator to easily see and use the touch screen. Maintain at least 3 feet (1 m) clearance in front of the base unit for safe access to the Input/Output enclosure.
- ❒ **Provides a clean, dry, vibration-free environment.** Exposure to wide temperature variations, high ambient temperature, power line fluctuations, caustic fumes or excessive amounts of dust, dirt, vibration, shock and moisture could harm performance and reduce the life of this equipment.
- ❒ **Provides a grounded source of 120 VAC power.** The three-prong power cords supplied with the IL-64 base unit and power supply requires a grounded 120 VAC outlet rated for at least 15 amp service.

2 Plan the power/communication cable routes.

- ❒ **Review all wiring guidelines and diagrams** provided in the manuals and electrical diagrams supplied with the IL-64 system and your conveying equipment before beginning installation. *See Wiring Considerations.*
- ❒ **Keep communication wires away from sources of** static electricity. Static electricity can damage the controls. Communication cables should ***not*** be run near the material lines and hoses, which produce large amounts of static electricity when material is conveyed.
- ❒ **Avoid running communication cables across power** feed lines. If you must run the cable across power feed lines, run the cable at right angles (90°) to the lines.
- ❒ **Do not run power cable together with communication cables** inside cable trays. Communication cables include ethernet and DeviceNet communications.

Installing the IL-64

Installation consists of:

❒ Mounting the base unit.
❒ Wiring Loaders to the control.
❒ Wiring Pumps to the control.
❒ Wiring the purge and pocket valves included in the system.
❒ Connecting the control to a main power source.
❒ Initial setup of the system control.

Wiring Considerations

⚠ **WARNING:** Improper installation may result in equipment damage or personal injury.

- Disconnect and lock out the main power supply to equipment in the conveying system before attempting to wire power and communication cables between the IL-64 control, vacuum receivers, pumps, dust collectors and material valves.
- Install all wiring, disconnects and fuses in accordance with electrical codes in your region. All electrical installations should be done only by qualified electrical technicians.
- Always refer to the wiring diagrams supplied with your control before making electrical connections. The diagrams show the most accurate electrical component information.
- Protect communication cables from sources of static electricity and electrical noise.

❒ Use shielded cable or run wire through a contiguous metal conduit or wireway. Failure to use a metal shield can expose the controls to static electricity, which can damage electronic components.

❒ Do not run communication cables near material lines and hoses, which produce large amounts of static electricity when conveying material.

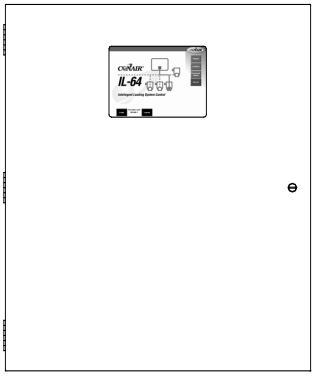
❒ Keep communication cables at least 5 ft. (1.5 m) from electric motors, transformers, rectifiers, arc welders, generators, induction furnaces and sources of microwave radiation.

❒ Avoid running communication cable across power feed lines. If you must run cable across power lines, run the cable at right angles to the line. Keep the cable at least 6 inches (0.15 m) from AC power lines of less than 20 A; 1 foot (0.30 m) from lines of 20A to 100 kVA; and 2 feet (0.60 m) from lines of 100 kVA or more.

- Always maintain a safe ground. Follow the safe grounding procedures in the wiring diagram package. Ground the shielded cable inside the Input/Output enclosure only.
- Do not operate the equipment at power levels other than those specified on the the equipment data plate.

Mounting the Base Unit

The IL-64 base unit should be mounted on a wall, or other secure vertical surface, at a height providing easy access and a clear view of the touch screen panel.



1 **Bolt the base unit and** power supply to the mounting surface. Use the mounting brackets on the base unit enclosures.

2 **Ground the base unit cabinet.** Connect a ground wire to the base unit enclosure. Follow procedures outlined by your regional electrical codes and the wiring diagrams included with this manual.

Wiring Loaders

The loader wires connect to power terminals or terminals on the I/O slots inside the control enclosure. The number of loaders and options in the conveying system will determine the number of connections that are required. Refer to electrical prints provided with the IL-64 for all electrical connections to the loader control. All loader inputs and outputs are 24VDC.

WARNING: All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the the machine serial tag and data plate.

Wiring Pumps

The pump wires connect to power terminals or terminals on the I/O slots inside the control enclosure. The number of pumps in the conveying system will determine the number of connections that are required. Refer to the electrical prints included with the IL-64 for all connections. All pump inputs and outputs are 24VDC.

Wiring Pocket Conveying Valves (optional)

The IL-64 can operate pocket conveying valves, which are used in central drying and distribution systems. The pocket valve allows multiple loaders to draw dry material as needed from a single drying hopper.

NOTE: Purge valves and pocket conveying valves connect to the same outputs on the IL-64 control. Therefore, pocket conveying valves cannot be used with loaders that are connected to purge valves.

Connecting to Main Power

The IL-64 base unit is equipped with a three-prong plugs and power cords.

1 **Plug the power cords into grounded 120 VAC** outlets rated for at least 15 Amp service.

2 **Make sure the base unit is grounded.**

WARNING: Electrical shock hazard
Failure to provide proper grounding can cause control malfunctions and could result in personal injury from electrical shock.
The control must be connected to a grounded power source. A properly sized conductive ground wire must be connected to the chassis ground terminal inside the base unit enclosure.

WARNING: All wiring,disconnects,and fuses should be installed byqualified electrical technicians in accordance with electrical codes inyour region.Always maintain a safe ground.Do not operate the equipment at power levels other than what is specified on the the machineserial tag and data plate.

Starting Up the IL-64

1 **Once the system is completely assembled** check that all connections are terminated correctly.

2 **Provide power to the IL-64.**

3 **Wait for the control to initialize.** Do not touch the touch screen panel until the control has completed the boot-up and initialization process. This will take up to 30 seconds.

NOTE: If you touch the touch screen panel before the initialization process is complete you will get a "Stuck Error." You will need to cycle the power and complete the boot-up process.

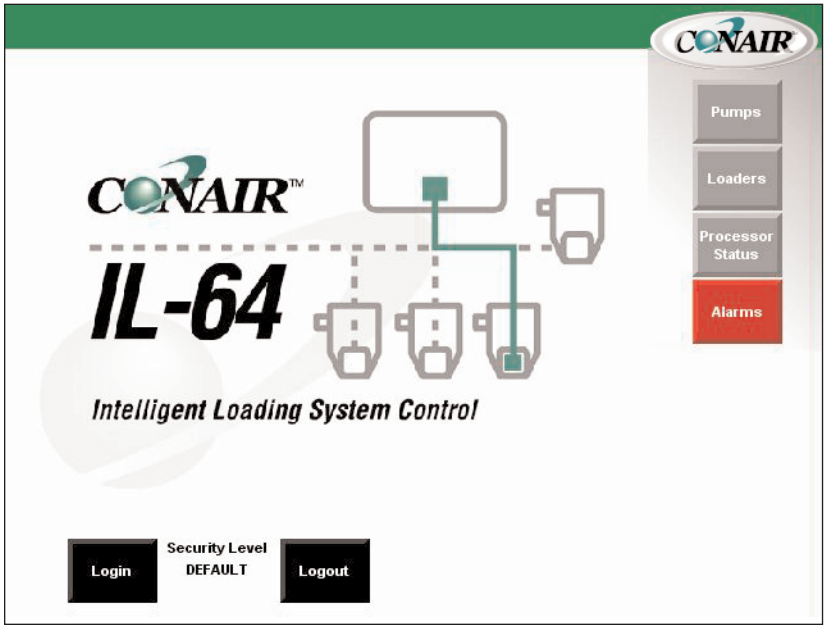
WARNING: All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the the machine serial tag and data plate.

SECTION

4

Operation

Upon power-up, the PLC and operator interface turn on and the main screen is displayed initially. At this point, the security level is "Default"



Setting or Changing the Security Level

There are four (4) levels of Security: The security levels are Default (DEFAULT), Operator (OPER), Supervisor (SUPER), and Service (SERVICE). The chart below shows the level of password required to complete common tasks.

Task — Password level required

	DEFAULT	OPER	SUPER	SERVICE
Enable/Disable Loader	YES	YES	YES	YES
Enable/Disable Pump	YES	YES	YES	YES
View Porcessor Status	YES	YES	YES	YES
Change all times, Load time, dump times etc	NO	YES	YES	YES
Change Source for pocket and Purge	NO	YES	YES	YES
Assign Backup Pump	NO	YES	YES	YES
Clear Alarm History	NO	NO	YES	YES
Shutdown HMI	NO	NO	YES	YES
Reset Pump Cycles	NO	NO	YES	YES
Turn on Options	NO	NO	YES	YES
Add Devices	NO	NO	YES	YES
Backup/Restore	NO	NO	YES	YES
Disable All Loaders / Pumps from Maint Screen	NO	NO	YES	YES
View IO Status	NO	NO	YES	YES
Clear Database	NO	NO	NO	YES

Passwords

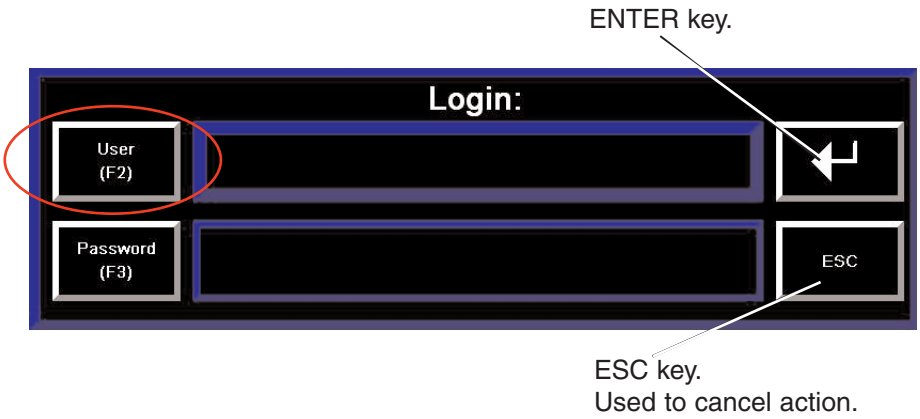
Security	Password
DEFAULT	none
OPER	oper
SUPER	super

The inactivity time out for each security level is 5 minutes. For example, if logged in as any user above "Default" and no activity from the HMI has been performed within 5 minutes, then the security level is set back to "Default".

Setting or Changing the Security Level (continued)

1 To login, press the "Login" button on the main screen.

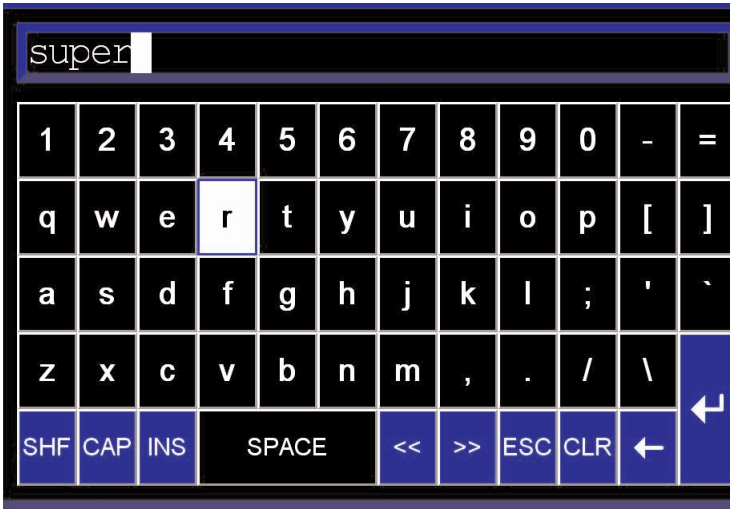
2 A login screen will appear.



Setting or Changing the Security Level (continued)

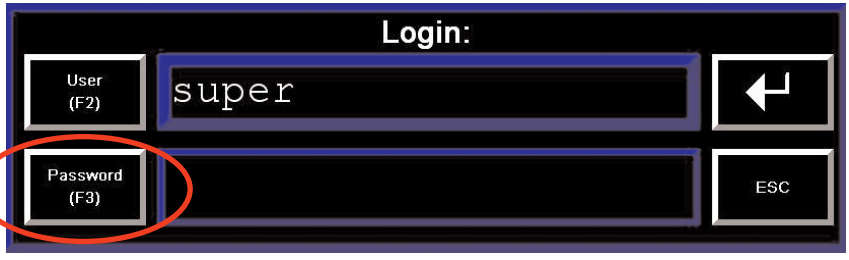
3 Press the User button. 

Once the keypad appears, enter the user-name.



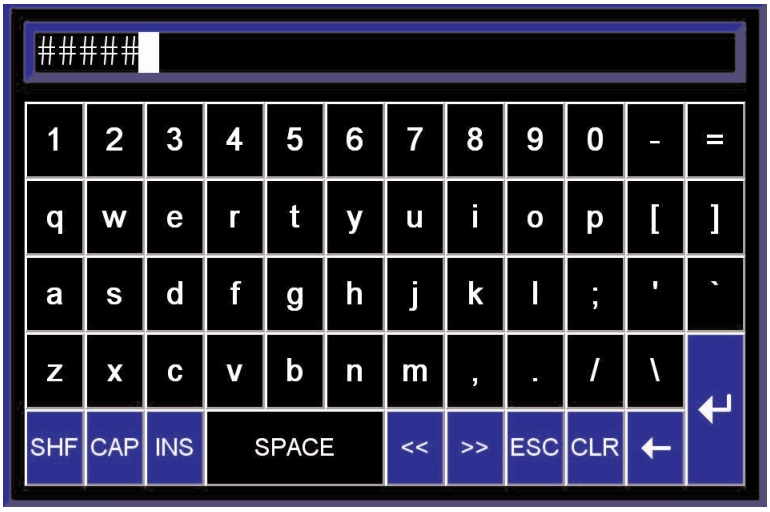
4 Once complete press the Enter key. 

5 From the Login screen, press the Password button. 



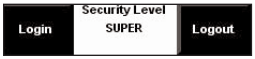
Setting or Changing the Security Level (continued)

6 **Once the keypad appears, enter the password. Once complete, press the Enter key.**



7 **From the Login screen, press the Enter key to accept the username and password.**

8 **Once complete the Security level located on the main screen, will display the level of security accessed.**



System Navigation

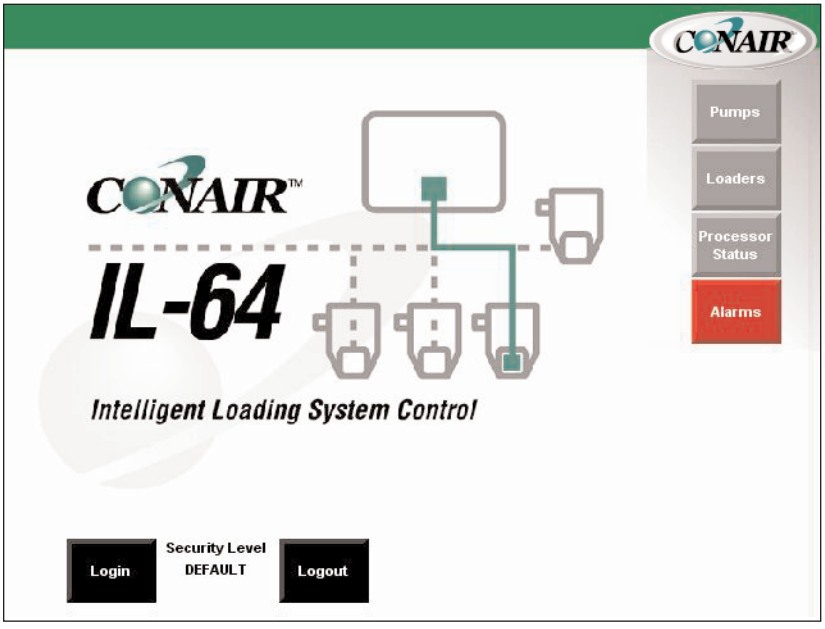
The system supports up to 10 pumps, each of which can service up to 32 or 64 loaders (based on I/O configuration). However, the pump screen will only display 28 loaders. The IL-64 provides two ways to navigate through the system. Both ways are accessible from the main screen.

Pump Navigation

Pump navigation provides the following:

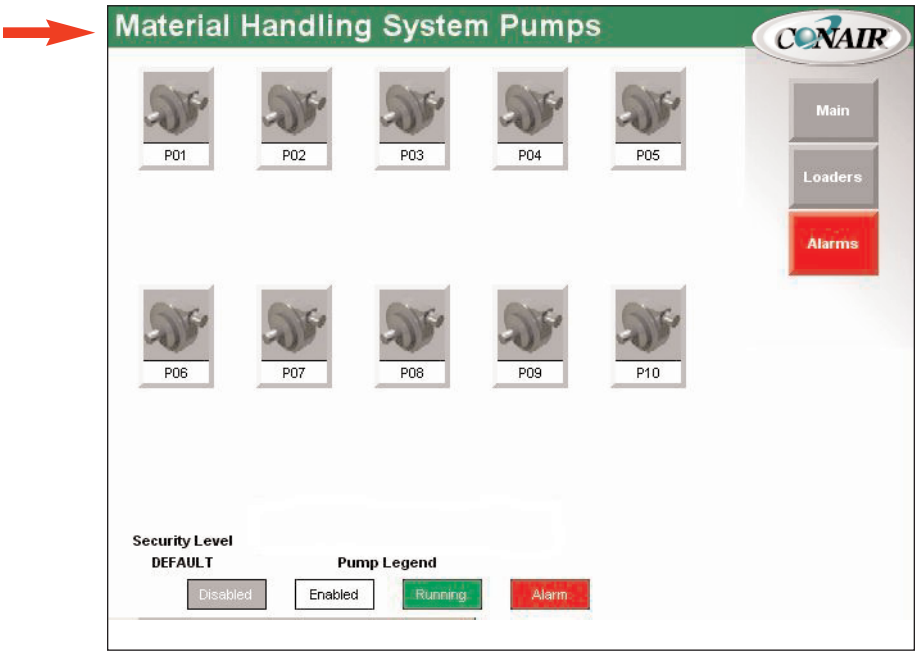
- View the status of all pumps.
- View the status of an individual pump.
- Configuration of an individual pump.
- View the status of all the loaders attached to an individual pump.
- View the status and configuration on a single loader on an individual pump

1 From the main screen, press the Pumps button. 



System Navigation (continued)

2 **The Material Handling System Pumps screen will open.**



System Navigation (continued)

Overview of screen:

On this screen, all the pumps will be shown. Each pump icon displays the pump number and the status of the pump. The pump status can be determined by the color of the pump icon's background, which can be deciphered from the legend at the bottom of the screen.

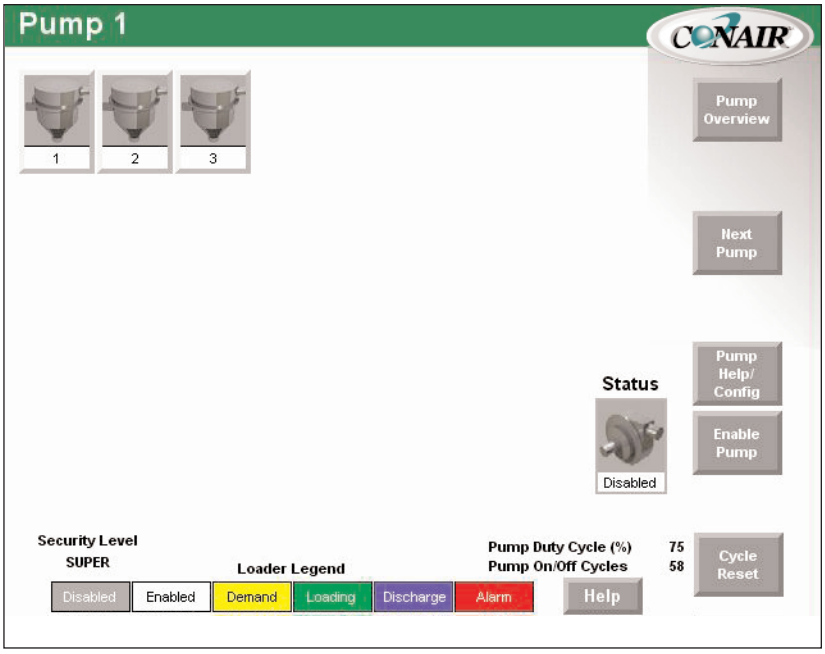
Pump Icon Background Color	Status	Description
Gray	Disabled	The pump is disabled. No vacuum will be provided to any of the attached receivers.
White	Enabled	The pump is ready to provide vacuum to any of the attached receivers when there is a demand.
Green	Running	The pump is providing vacuum to one of the attached receivers. Material is being conveyed.
Red	Alarm	The pump is in a fault condition. The pump will not provide vacuum to any of the attached receivers until the fault is cleared.

Buttons:

- Each pump icon is a button. When pressed it will open the pump screen for the selected pump.
- Main button - When pressed the Material Handling System Pumps screen will close and the Main screen will open.
- Loaders button - This button provides a means to open the window(s) consisting of loaders 1-32 and 33-64. (See *Loaders Navigation* for more details.)
- Alarms button - This button will open the Alarms windows. (See *Alarms Screen Summary* for more details.)

System Navigation (continued)

3 Press the desired pump icon to open the pump detail screen. The pump screen will open.



Overview of screen:

On this screen, all loaders including their number and status being serviced by the pump are shown. The loader status can be determined by the color of the loader icon's background, which can be deciphered from the legend at the bottom of the screen.

Pump Icon Background Color	Status	Description
Gray	Disabled	The loader is disabled and will not be serviced by the pump.
White	Enabled	The loader is ready but not running because there is no demand for material.
Yellow	Demand	The loader is calling for material, but the pump is servicing another loader at this time so it waits for the next cycle.
Green	Running	The pump is servicing this loader. Material is being conveyed to the loader.
Red	Alarm	The loader is in a fault condition. See Loader Alarms for more details.

System Navigation (continued)

Buttons:

- Each loader icon is a button. When pressed it will open the loader screen for the selected loader.
- Pump Overview - Returns to the Material Handling System Pumps screen.
- Next Pump / Previous Pump - Opens the next or previous pump details window. If Pump 1 is being displayed, pressing Next Pump would open Pump 2's detail. Once on Pump 2, pressing Previous Pump would open Pump 1's detail screen.
- Pump Help/Config button - Opens the pumps configuration window. See Pump Configuration for more details. (Super login required)
- Enable Pump button - Used to enable and disable the pump.
- Cycle Reset button - Reset pumps Duty cycle and **On/OFF** cycles. This information is for diagnostic purposes. (Super login required)
- Alarms button - This button will open the Alarms windows. (See *Alarms Screen Summary* for more details)

The PLC calculates each pump's duty cycle and number of on/off cycles.

Pump Duty Cycle (%)	**75**
Pump On/Off Cycles	**58**

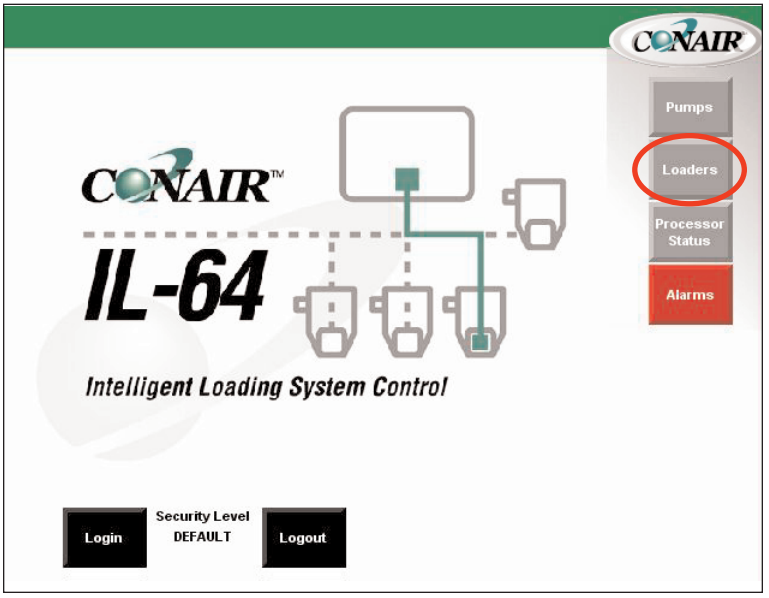
Pump Duty Cycle is the percentage of Pump Enabled time the pump is running.
Pump On/Off Cycle is the number of times the pump turns on.

Loader Navigation

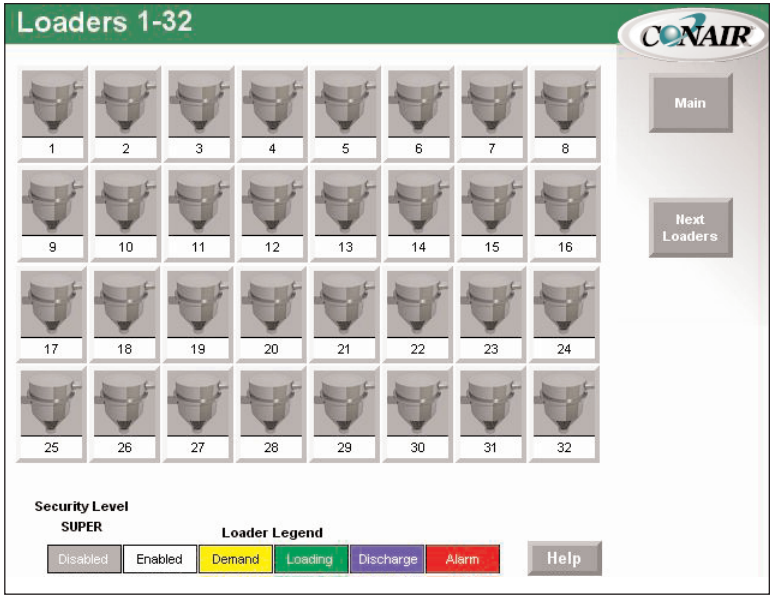
Loader navigation provides the following:
- View the status of all loaders.
- View the status of an individual loader.
- Configuration of an individual loader.

System Navigation (continued)

1 From the main screen, press the Loaders button. 



2 The Loaders 1-32 screen will open.



System Navigation (continued)

Overview of screen:
On this screen, loaders 1-32 including their number and status are displayed. The loader status can be determined by the color of the loader icon's background, which can be deciphered from the legend at the bottom of the screen.

Pump Icon Background Color	Status	Description
Gray	Disabled	The loader is disabled and will not be serviced by the pump.
White	Enabled	The loader is ready but not running because there is no demand for material.
Yellow	Demand	The loader is calling for material, but the pump is servicing another loader at this time so it waits for the next cycle.
Green	Running	The pump is servicing this loader. Material is being conveyed to the loader.
Red	Alarm	The loader is in a fault condition. See Loader Alarms for more details.

Buttons:

- Each loader icon is a button. When pressed it will open the loader screen for the selected loader.
- Next Loaders / Previous Loaders - Only visible when I/O configuration is based on 64 loaders. Opens the next or previous 32 loaders window. If loaders 1-32 are being displayed, pressing Next Loaders would open Loaders 33-64 window. Once on Loaders 33-64, pressing Prev Loaders would open Loaders 1-32 Loaders screen.

Alarm Screen

The screen provides means to view active, acknowledge, and past alarm (not active). If an alarm becomes active the alarm screen will automatically open display the active alarm. Besides automatically opening, there are alternate ways to view the alarm screen. They are as follows:

From the main screen, press Alarms button. 

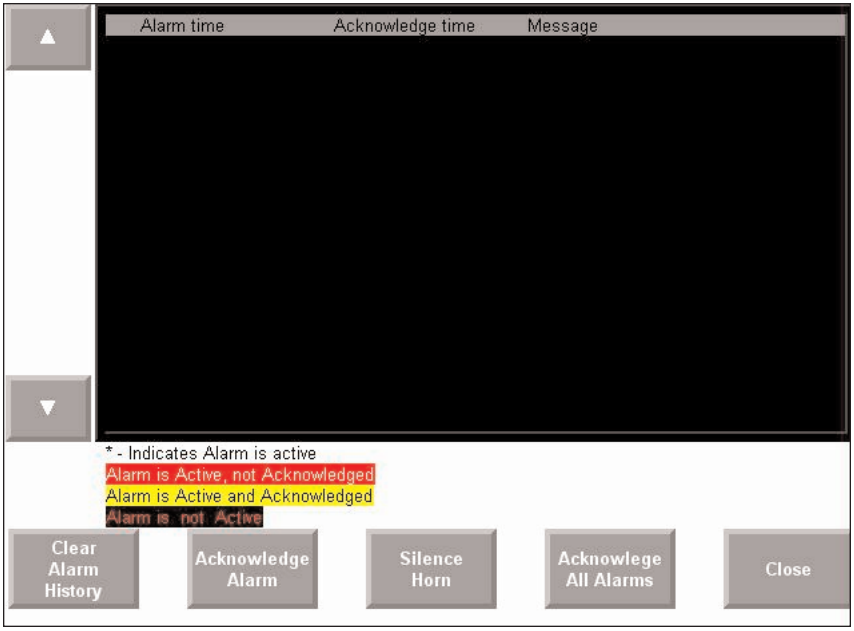
From the Pump Legend, press the Alarm box.

From the Loader Legend, press the Alarm box

Alarm Screen (continued)

The following buttons are available:

- Acknowledge - acknowledges the highlighted alarm.
- Acknowledge all - acknowledges all alarms.
- Silence - silence the alarm buzzer.
- Clear alarm history - clears all alarms from the screen (Super Login Required).
- Close - closes the alarm window.



Pump Configuration

Each of the 10 pumps is configured individually. "Super" login is required to configure and test pump. The following configuration and features are available:

- Enable/Disable pump
- Cycle Reset
- Test pump
- Assign pump to back up.

1 From the Main screen, login in as Super.

2 Once logged in, press the Pumps button on the main screen. 

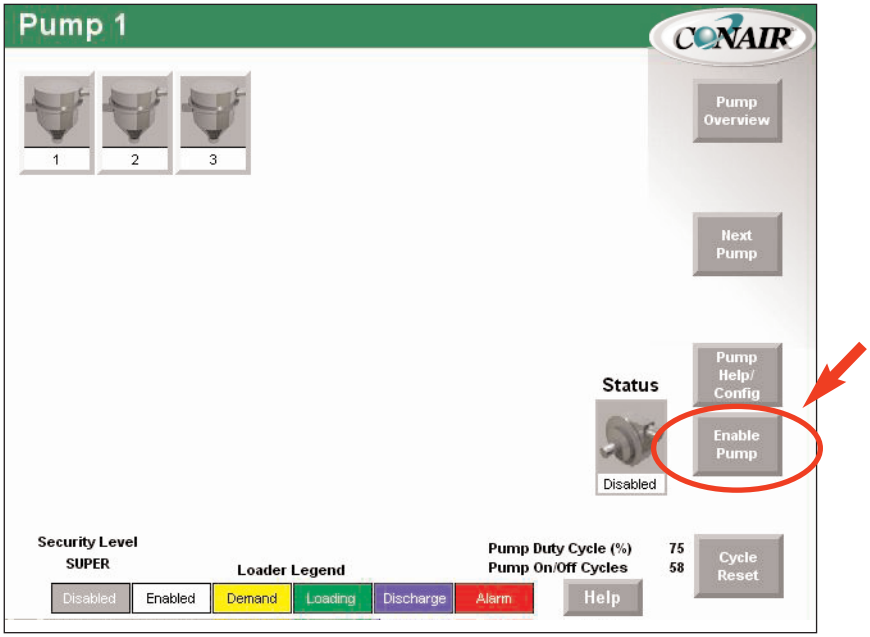
3 From the Material Handling System Overview screen press the pump icon of the pump number to be configured.

4 The pump detail screen will open.

Enable/Disable Pump

1 To Enable the pump press the Enable Pump button. 

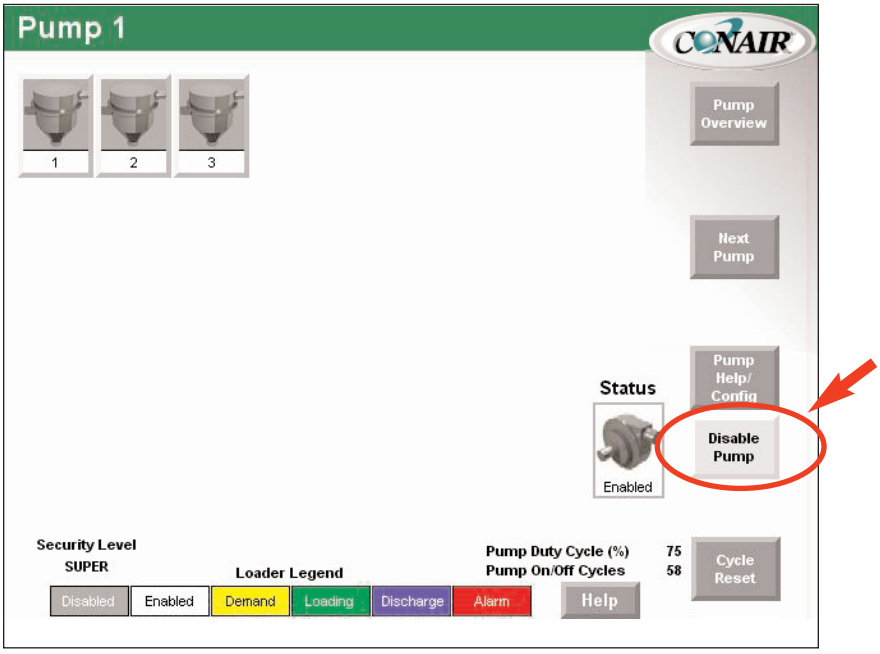
Once enabled the pumps will begin to service the active attached loaders.



Pump Configuration (continued)

2 **To Disable the pump press the Disable Pump button.** 

Once disabled the pumps will not service the attached loaders. If the pump is currently running, the pump will become disabled after it completes the cycle of the loader currently being serviced**.**



Cycle Reset

The Cycle Reset button resets the both Duty cycle and On/Off Cycles.

1 **To reset press the Cycle Reset button.** 

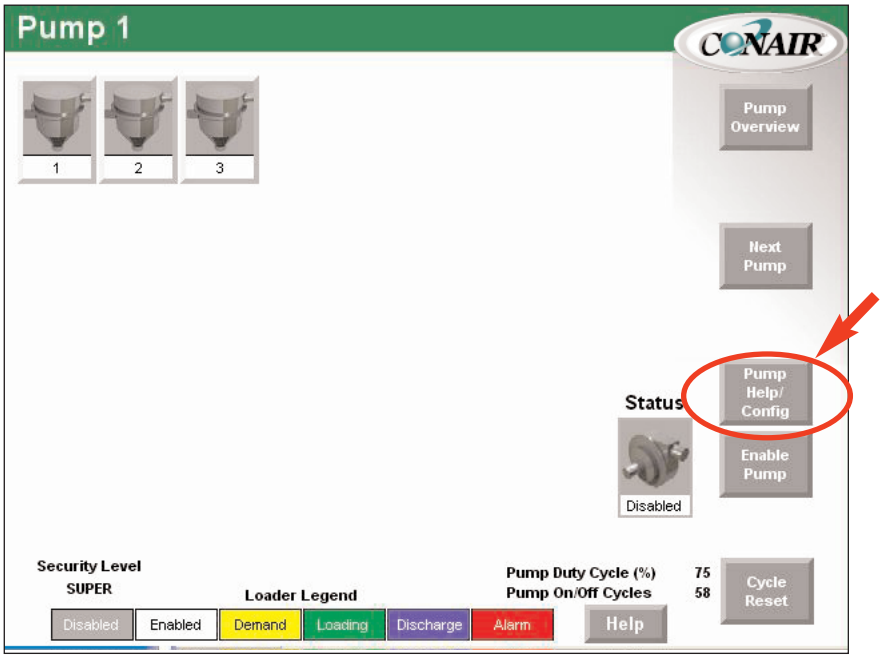
Pump Configuration (continued)

Test Pump

The Test pump feature allows the output to the pump starter to be energized.

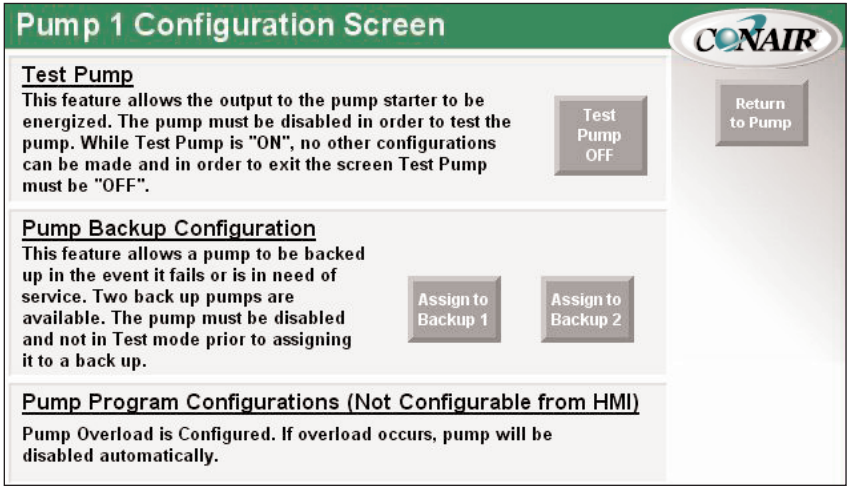
1 **Prior to testing pump, disable the pump.**

2 **From the pump screen, press the Pump Help /Config button.** 



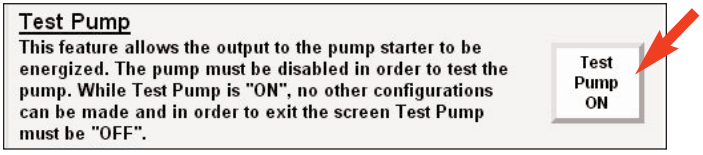
Pump Configuration (continued)

3 The Pump Configuration Screen will open.



4. From the Pump Configuration screen, press the Test Pump button.
The button will toggle from OFF to ON.

⚠ **CAUTION:** Pump will be under high vaccum when tested. This pump test should be ferformed by qualified technical personnel. Pump damage could occur if the pump is deactivated.



5 While to Test Pump is ON, no other configurations are permitted. To exit the screen the test pump must be turned OFF. (Note after 3 minutes the Test Pump will automatically be turned off.)

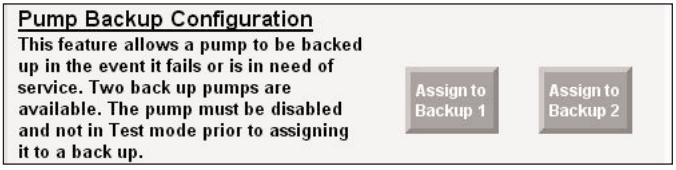
6 Turn off Test Pump by pressing the Test Pump again.

Pump Configuration (continued)

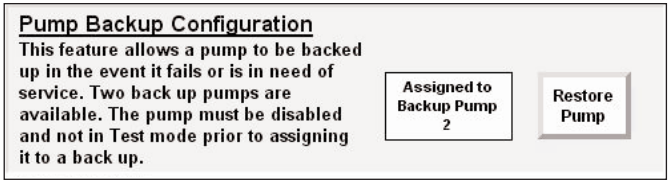
Assign Backup Pump

This feature allows a pump to be backed up in the event it fails or is in the need of service. Two back up pumps are available.

1. **Prior to Backing up a pump, disable the pump**.
2. **From the pump screen, press the "Pump Help /Config" button.**
3. **From the Pump Configuration screen press the back up pump to use.**



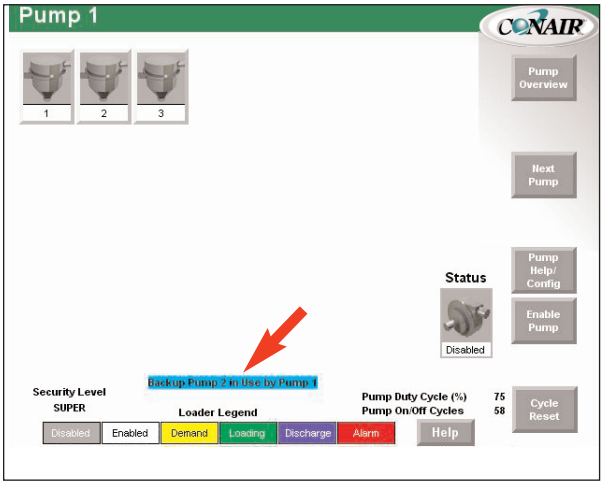
4. In this example, the pump was assigned to backup Pump 2.

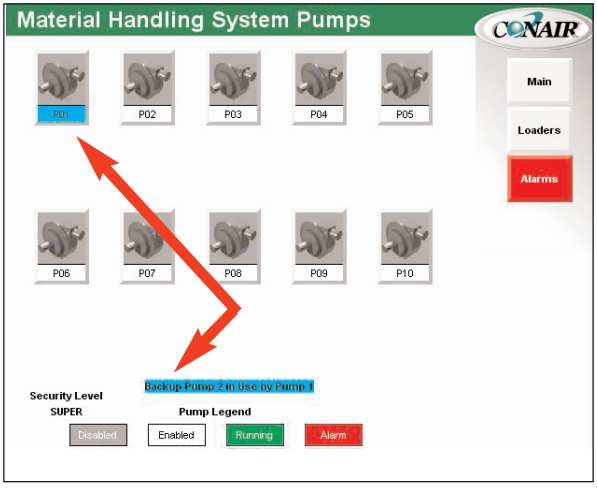


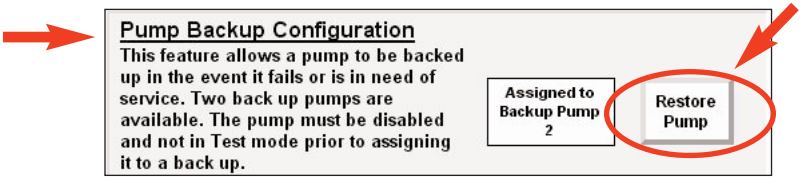
Pump Configuration (continued)

After assigning a pump to a back up pump, the pump back up would be called out on the Pump screen of the pump being backed up and on the Material Handling System Pumps.

5 To restore the pump, the pump must be disabled. From the Pump back up configuration screen press restore pump button. Restore Pump







Loader Configuration

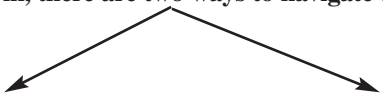
Each of the loaders are configured individually. "Super" login is required to configure loader. The following configuration and features are available:

- Enable Disable Loader
- Assign to Pump
- Purge / Pocket Valves
- Ratio
- Fill Alarm
- Regrind

Access Loader Configuration

1 **From the Main screen, login in as Super.**

2 **Once logged in, there are two ways to navigate to the loader.**



Pump Navigation
(Pump-Loader relationship Known)

3 From the main screen, press the Pumps button.

4 From the Material Handling System Pumps screen press the desired pump.

5 From the Pump screen press the desired loader.

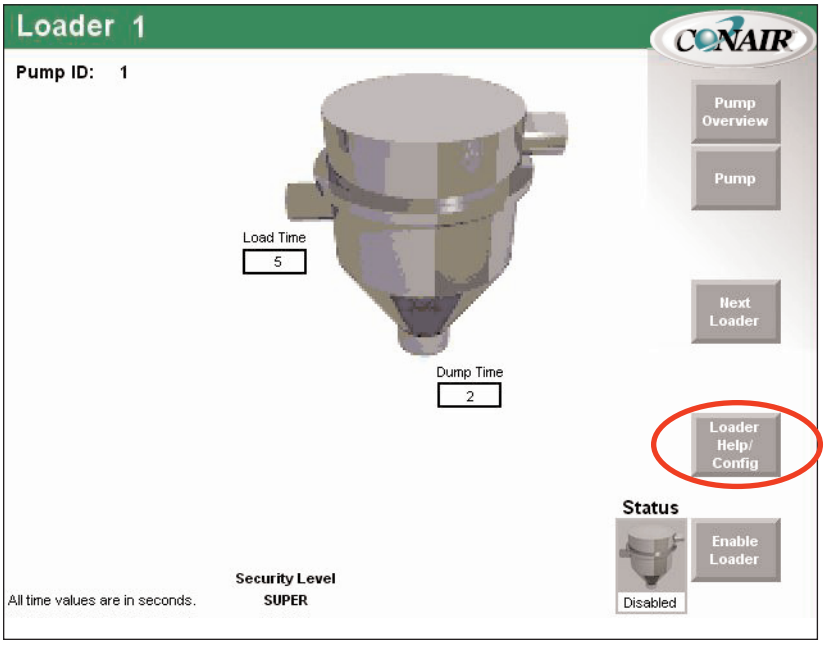
Loader Navigation

3 From the main screen, press the Loaders button.

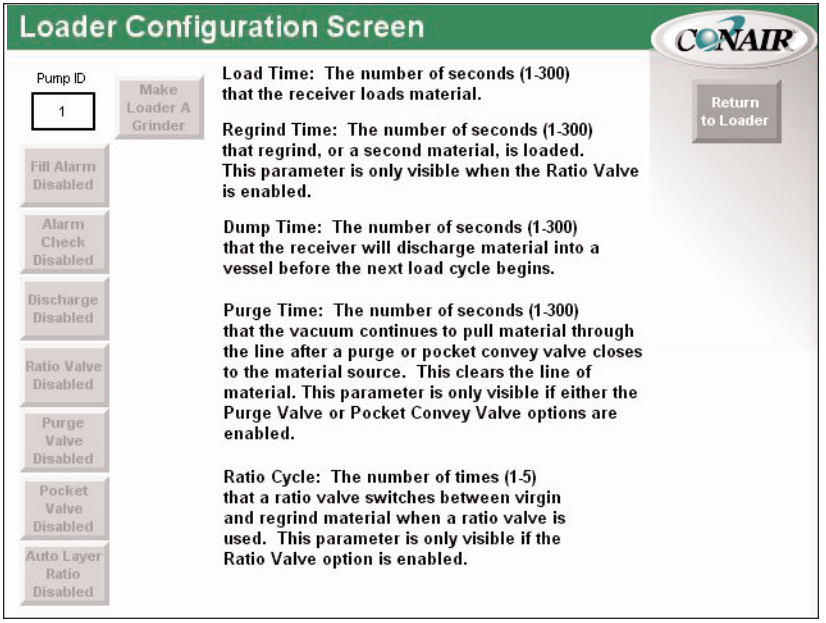
4 From the Loaders screen, press the desired loader.

Loader Configuration (continued)

Once on the Loader, press the Loader/Help Config button. 



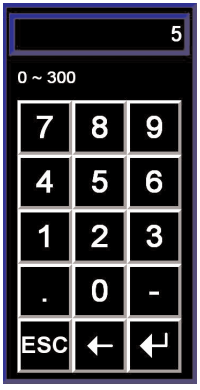
The Loader/Help Config screen will open.



Loader Configuration (continued)

Overview of Configurations:

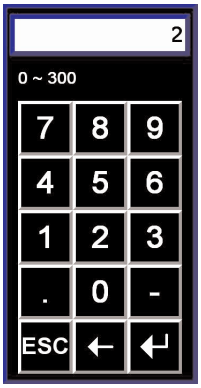
- Pump ID - The pump the loader is attached to.
- Fill Alarm - Activates a fill alarm if the loader does not fill before the load time is reached. This option requires an optional fill sensor in the receiver. (Passive Alarm, pump will continue to service loader.)
- Alarm Check - Activates a material alarm if the receiver or hopper is not filled by the loader within the number of tries set by the user. This function requires a demand sensor in the vessel. When enabled, the alarm check is made visible.
- Discharge - Enables the discharge output during the discharge cycle.
- Ratio Valve - Allows control of more than one material into one vacuum receiver. This function requires an option ratio valve at the material inlet to of the receiver. When enabled, the loader icon changes to show the ratio valve.
- Purge Valve - Purges material from the conveying line at the end of the loading cycle. This function requires the installation of a valve at the base of the drying hopper or other vessel.
- Pocket Convey valve - Releases material from the source into the conveying line. This function requires the installation of a valve at the base of the drying hopper or other vessel.
- Auto Layer Ratio - Automatically layers virgin and regrind material based on the number of ratio cycles
- Make Loader a grinder - Assign device as a grinder. This function requires the grinder to be assigned to a source valve.

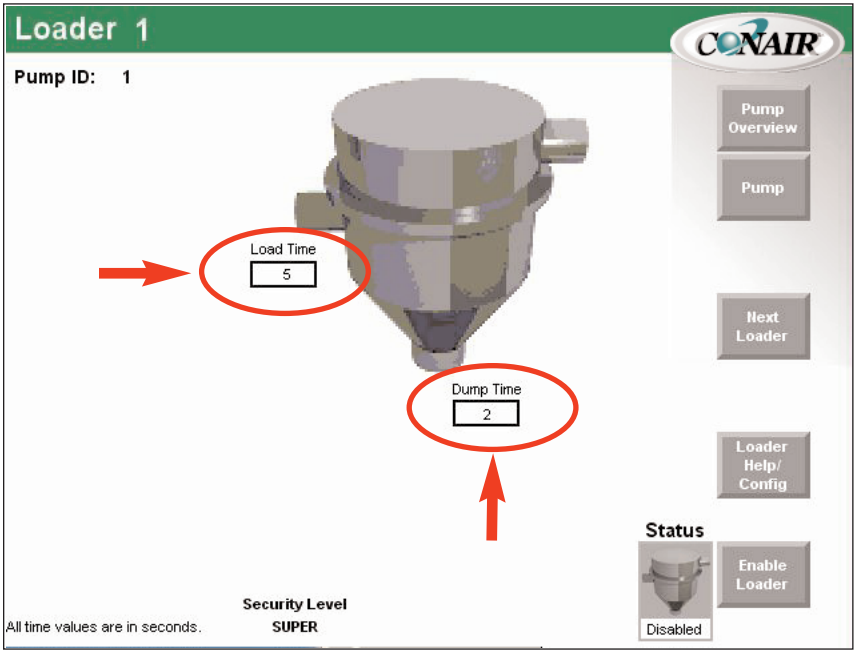


Basic Loader - Load Time / Dump Time
Load Time - The number of seconds (1-300) the receiver loads material. (When pushed, the keypad is used to enter time.)

Loader Configuration (continued)

Dump Time - The number of seconds (1-300) that the receiver will discharge material into a vessel before the next load cycle begins. (When pushed, the keypad is used to enter time.)

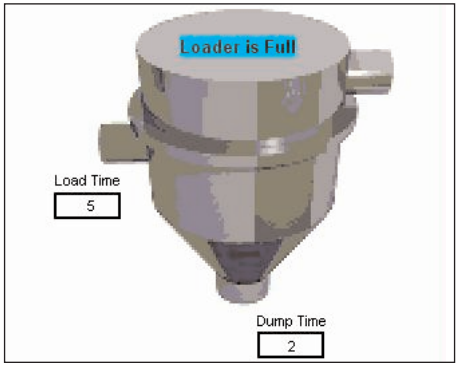




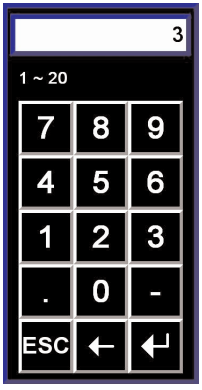
Loader Configuration (continued)

Fill Alarm:

If the Fill sensor is installed, a message will be displayed on the loader when "Loader is Full".

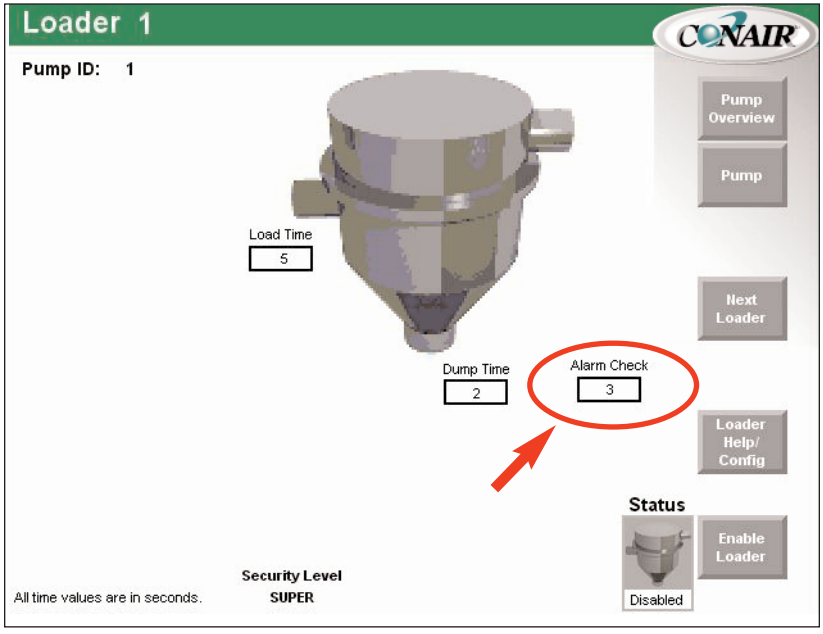


NOTE: If "Loader is Full" and the loader has demand, then check both the fill sensor and demand sensor. One of the sensors are not working properly.



Alarm Check

The number of times (1-20) that the system will try to load a receiver before an alarm is sounded when the demand has not been satisfied. (When pushed, the key-pad is used to enter the number of times the system will try to load a receiver before an alarm is sounded.)

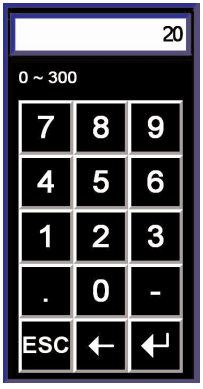


Loader Configuration (continued)

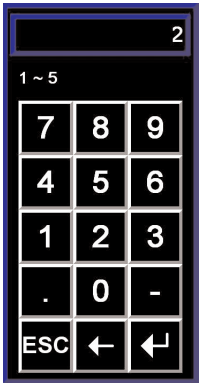
Regrind

When enabled, the regrind and ratio cycles will need to be set up.

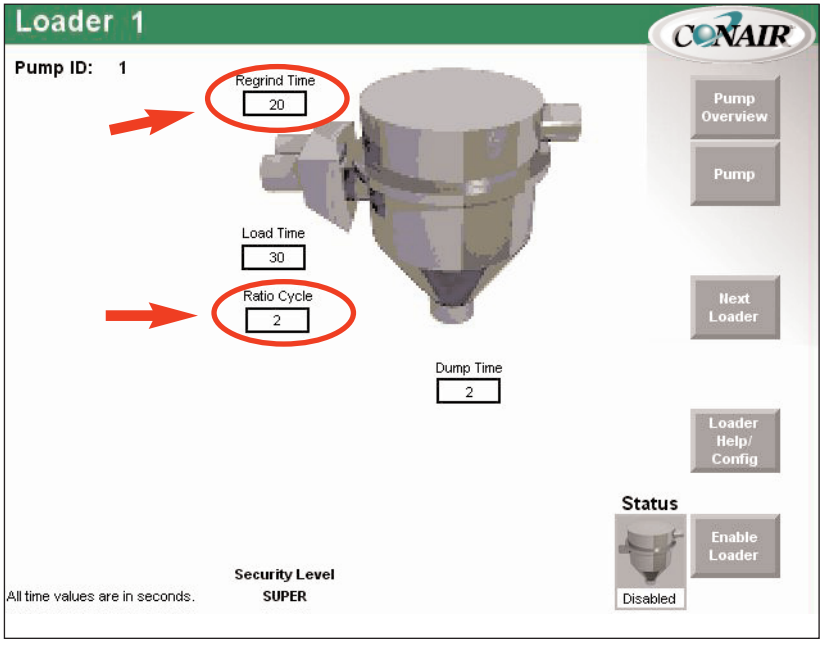
NOTE: Auto ratio can be enabled to automatically calculate ratio cycles.



Regrind time - The number of seconds (1-300) that regrind, or a second material, should be loaded with a virgin material when a ratio valve is used. (When pushed, the keypad is used to enter time.)

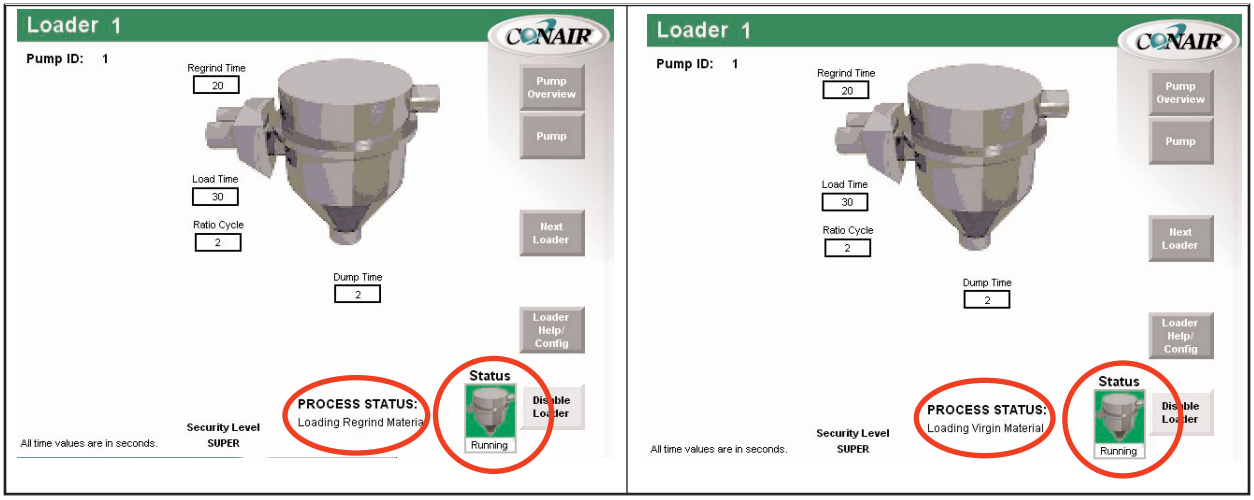


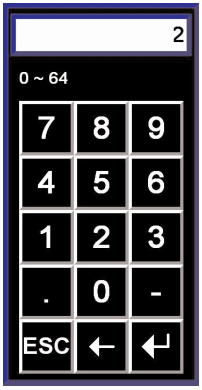
Ratio Cycles - The number of times (1-5) that a ratio valve switches between virgin and regrind material when a ratio valve is used. (When pushed, the keypad is used to enter number of times that a ratio valve switches between virgin and regrind material.)



Loader Configuration (continued)

The process status will be displayed when running:



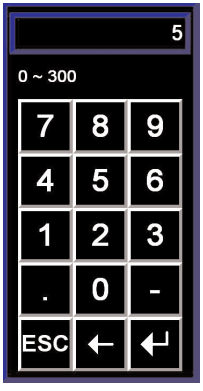


Purge Valve

When enabled, the Source Number will need to be entered.

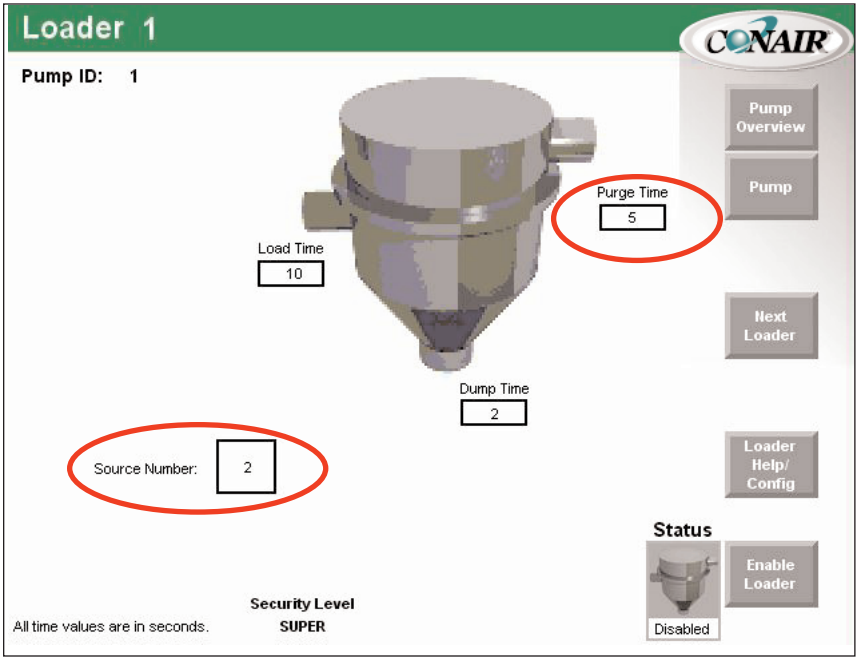
Source Number - The location (1-64) within the source network that identifies the material source. (When pushed, the keypad is used to enter number.)

Purge Time - The number of seconds (1-300) that the vacuum continues to pull material through the line after a purge valve closes to the material source. This clears the line of material. (When pushed, the keypad is used to enter time.)

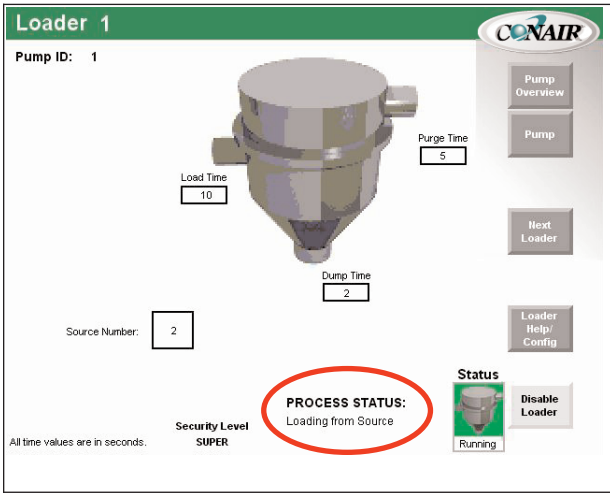


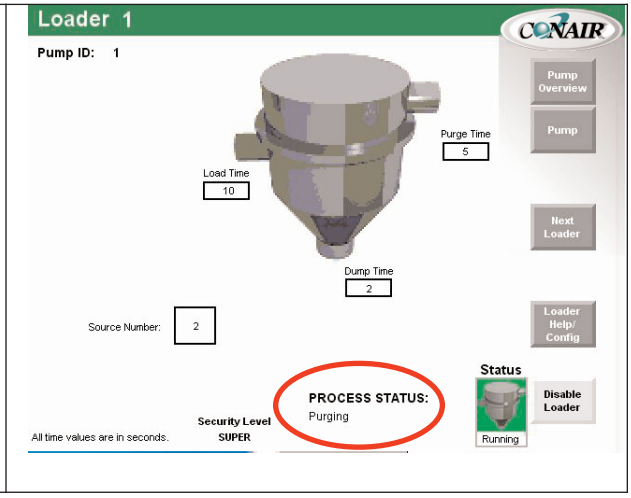
NOTE: Purge Valve is Open for Material and Closed for Purge.

Loader Configuration (continued)



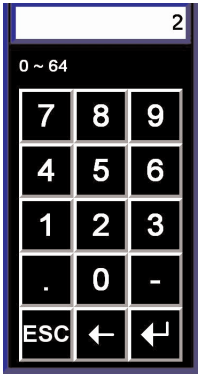
The process status will be displayed when running:





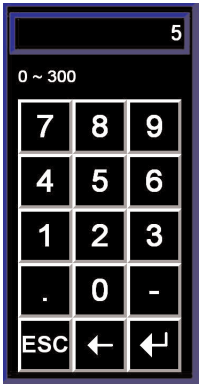
Loader Configuration (continued)

Pocket Valve
When enabled, the Source Number will need to be entered.

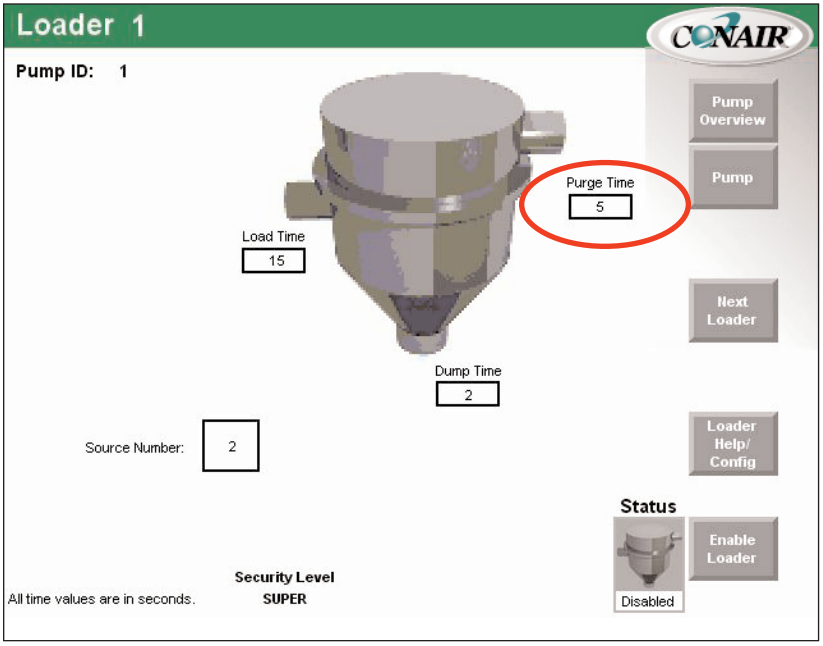


Source Number - The location (1-64) within the source network that identifies the material source. (When pushed, the keypad is used to enter number.)

Purge Time - The number of seconds (1-300) that the vacuum continues to pull material through the line after a pocket valve closes to the material source. This clears the line of material. (When pushed, the keypad is used to enter time

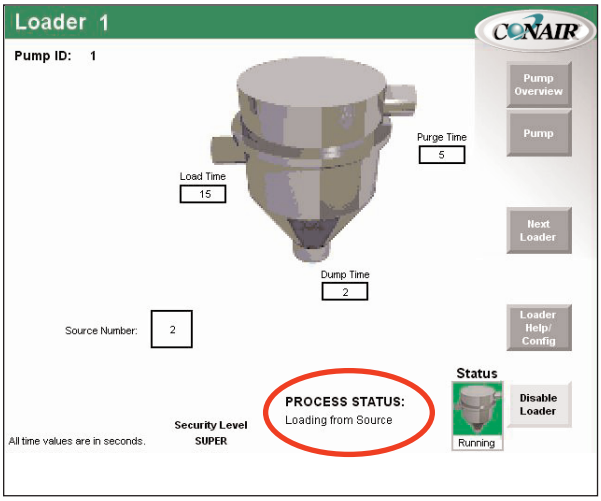


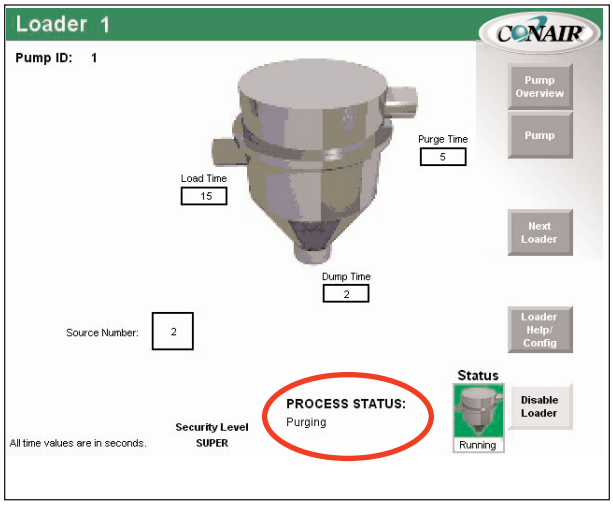
NOTE: Pocket Valve is Closed for material and Open for Purge.



Loader Configuration (continued)

The process status will be displayed when running:

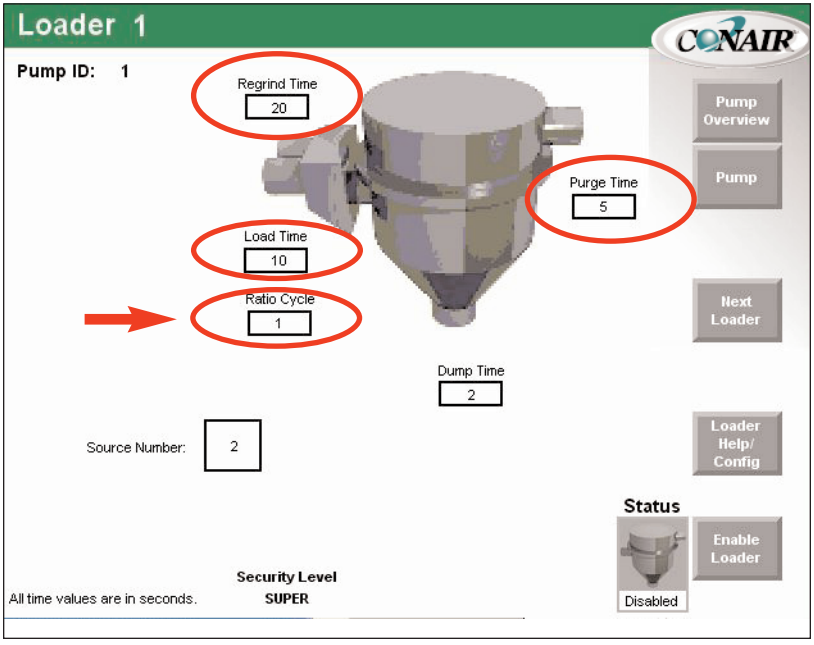




Ratio and Purge Operation

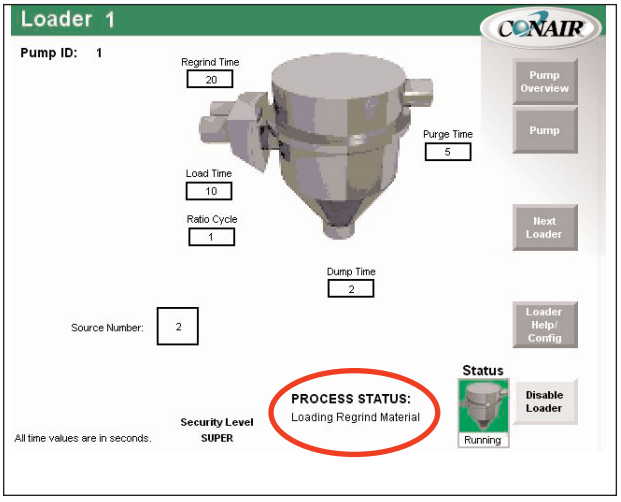
When Ratio and purge are both enabled, regrind loads first, then virgin material with purge. Only one ratio cycle is available with purge.

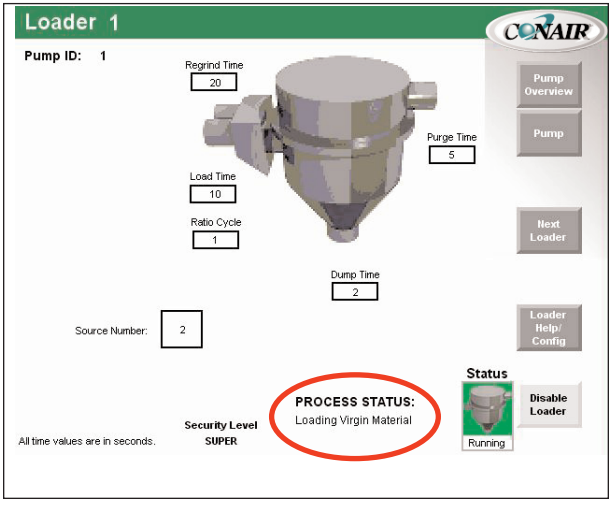
NOTE: The total time a loader is under vacuum is: Regrind Time + Load Time + Purge Time = Total Time

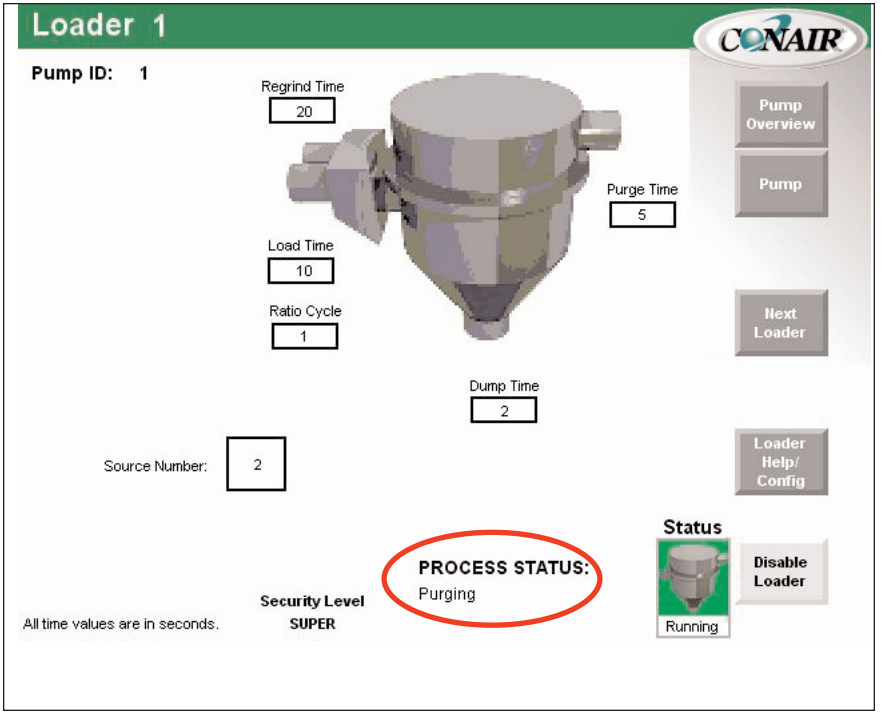


Loader Configuration (continued)

The process status will be displayed when running:

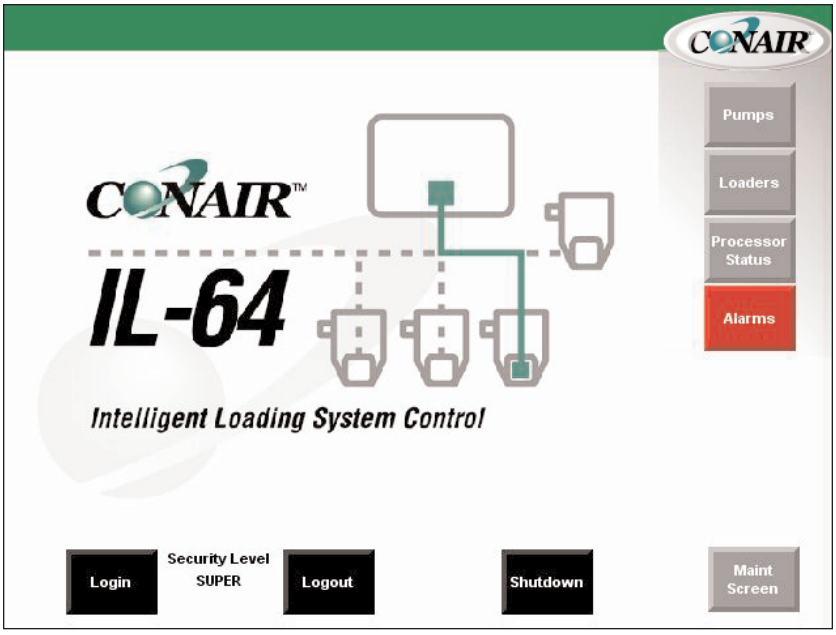




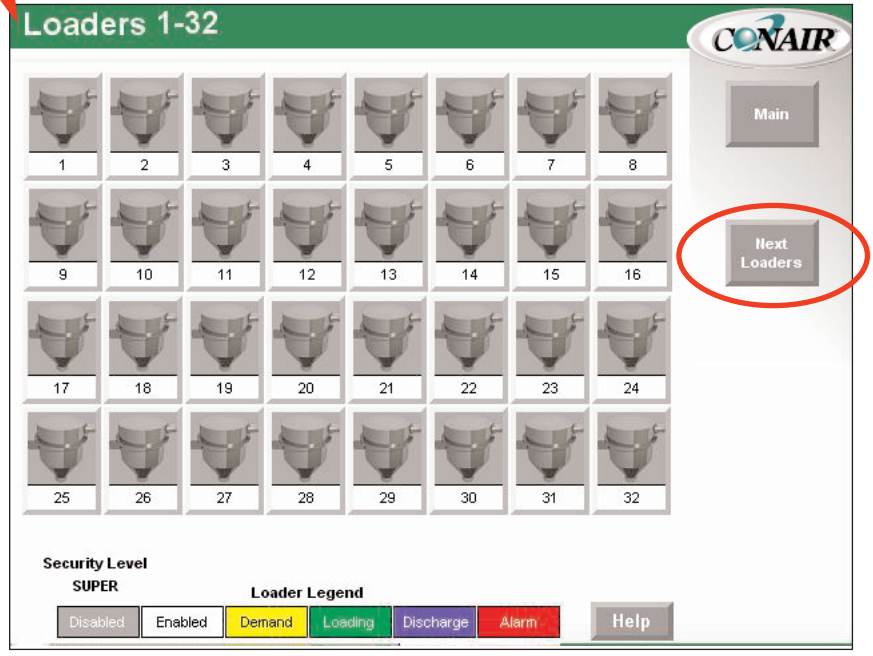


Add a Loader

1 **From the Main screen, login in as Super.**
2 **Press the Loaders button.**

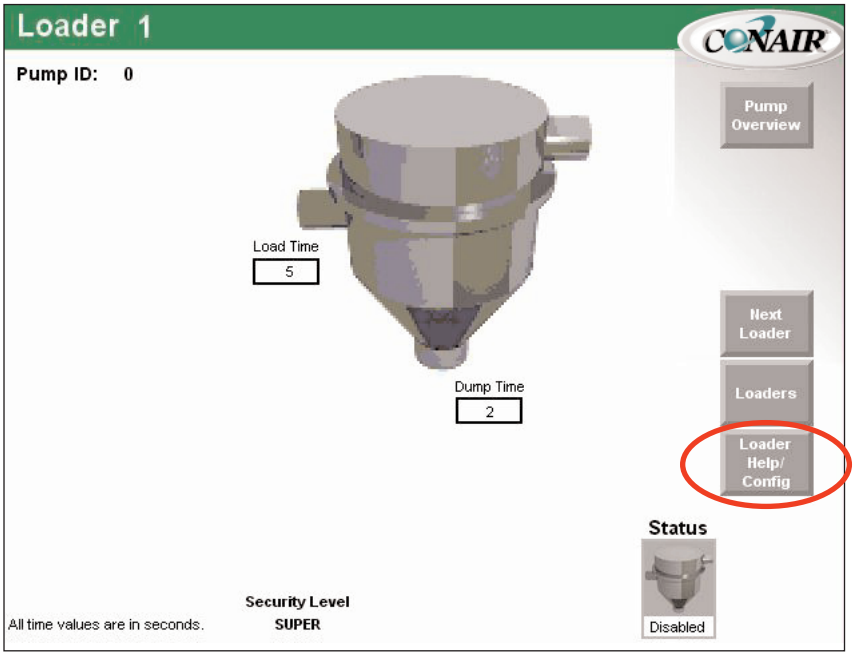


3 **From the Loaders 1-32 screen select the desired loader.** If loader desired is 33-64 then press the Next loader button.

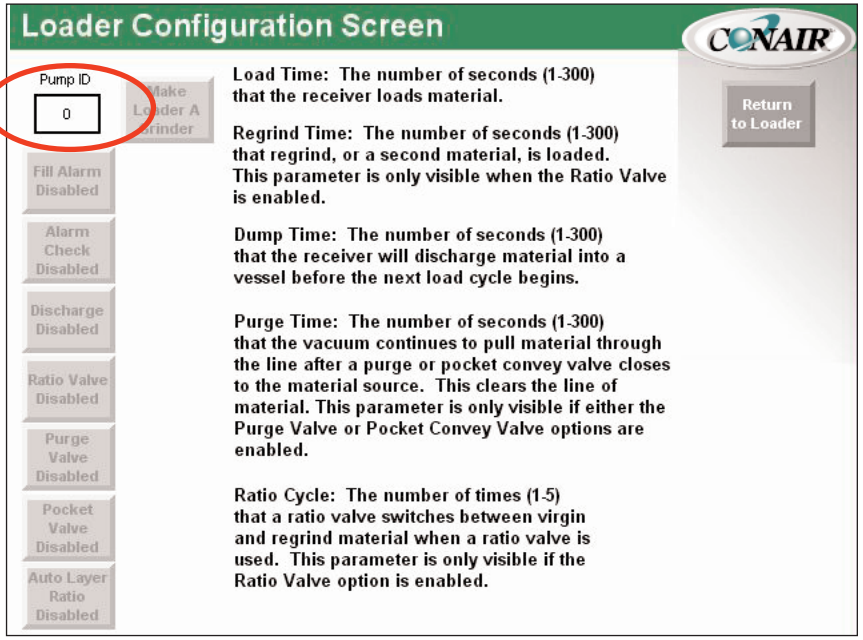


Add a Loader (continued)

4 From the loader screen, press the Loader/Help Config button.

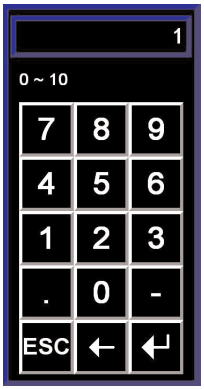


5 From the Loader/Help Config screen, press the Pump ID.

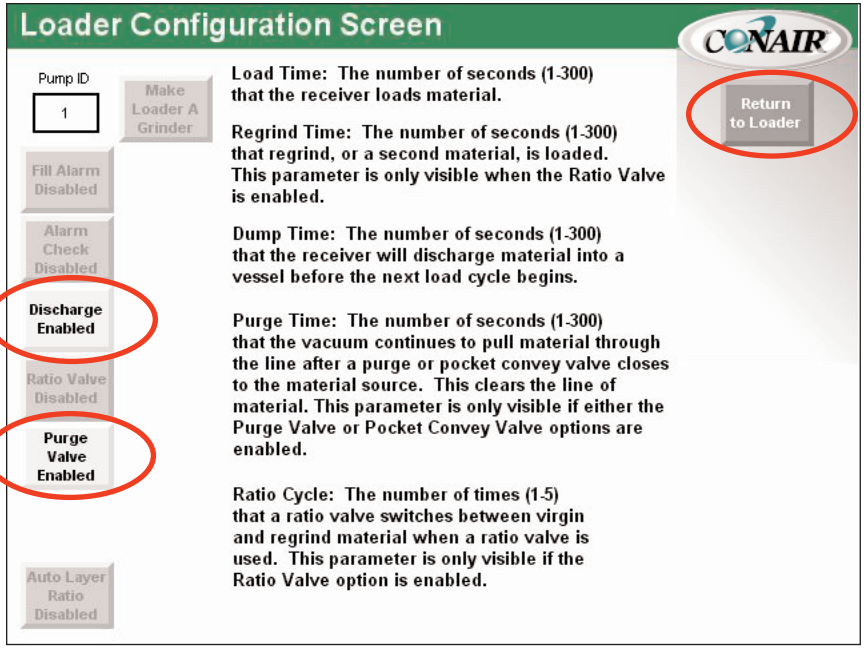


Add a Loader (continued)

6 **A keypad will pop up.** At this time enter the pump number.



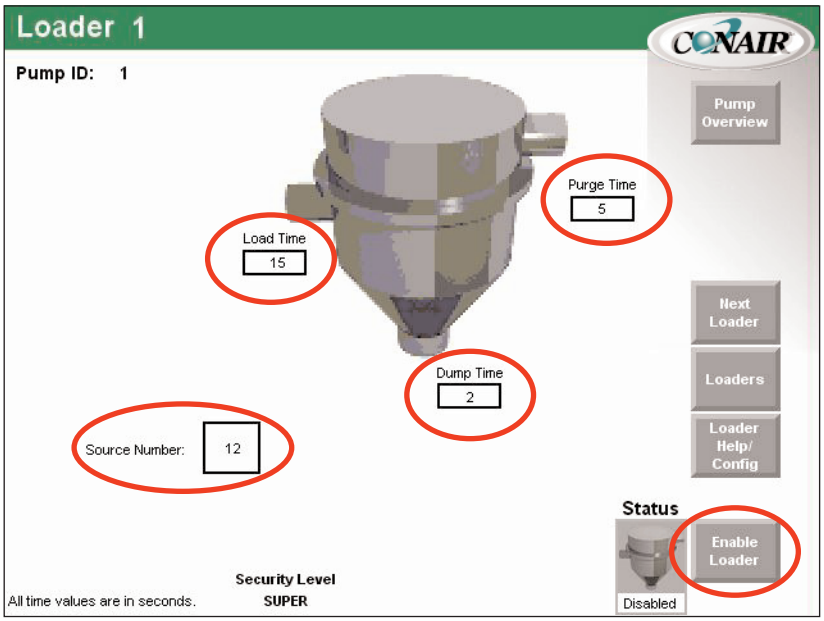
7 **Enable the desired configurations for the loader.** (In this example Discharge and Purge were enabled)



8 **Press the Return to loader button.** 

Add a Loader (continued)

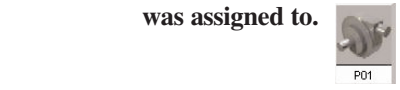
9 From the loader screen enter the desired times, and/or source number.

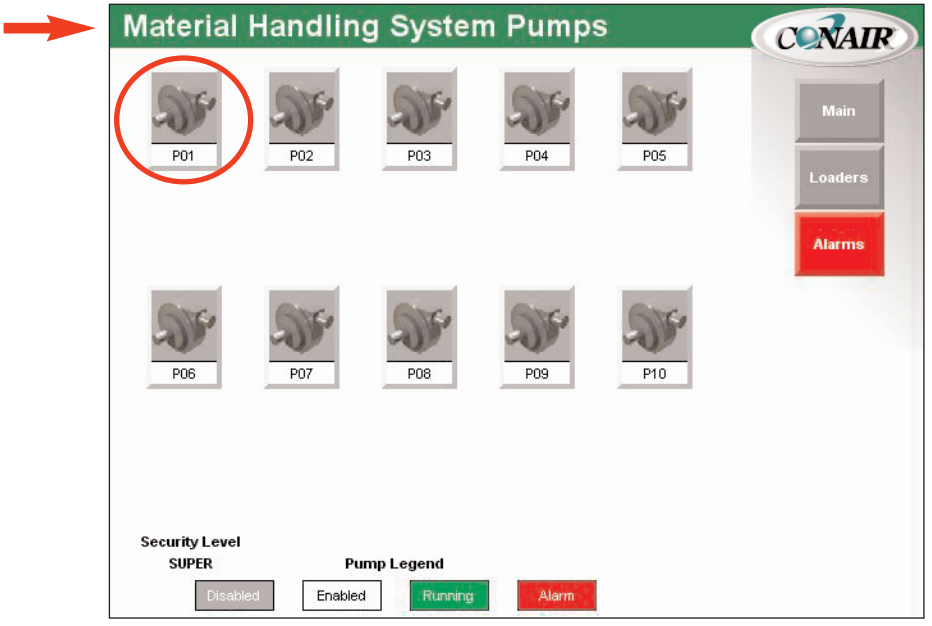


10 Press the Enable Button to enable the loader.

11 Press the Pump Overview button.

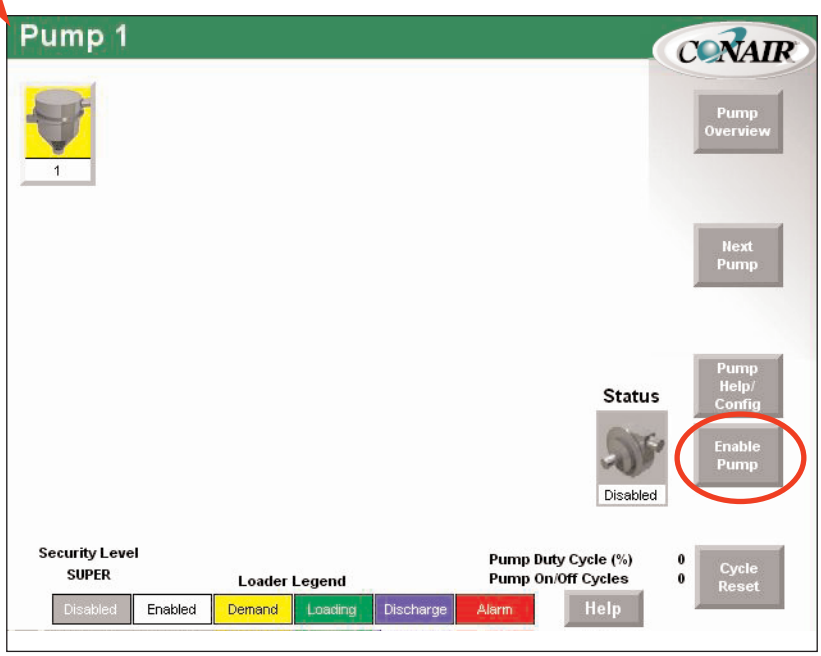
12 From the Material Handling System Pumps, select the pump the loader was assigned to.





Add a Loader (continued)

13 The Pump screen will open and the loader just attached to it will be shown.



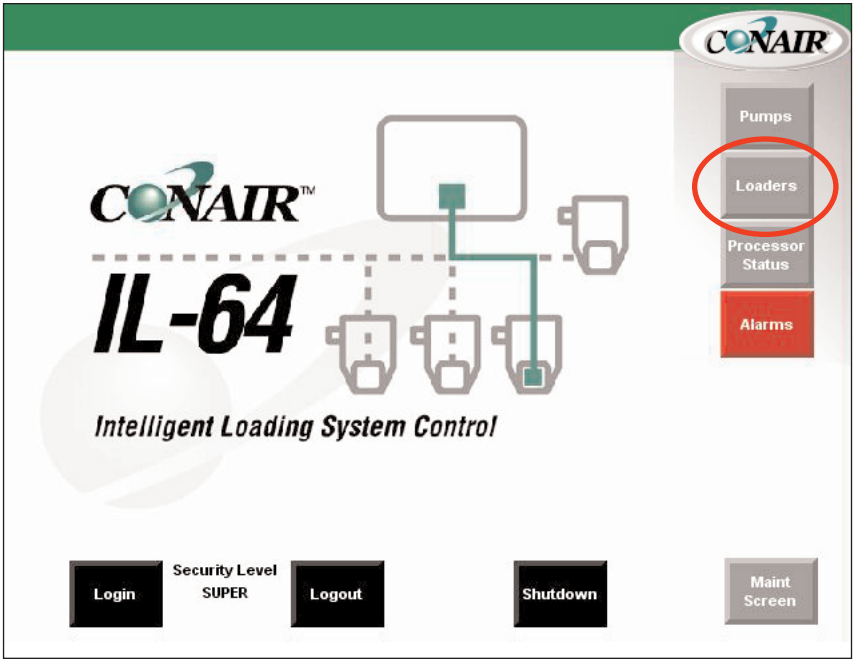
14 Enable the pump to begin vacuum.

Add a Granulator

First you will need to add a Source (Step 1 through 7)

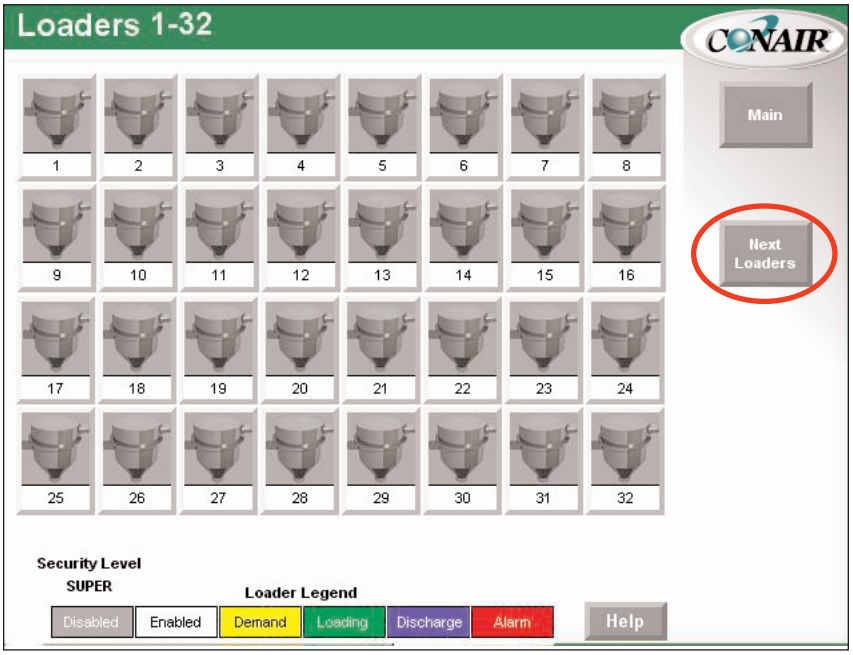
1 From the Main screen, login in as Super.

2. Press the Loaders button. 

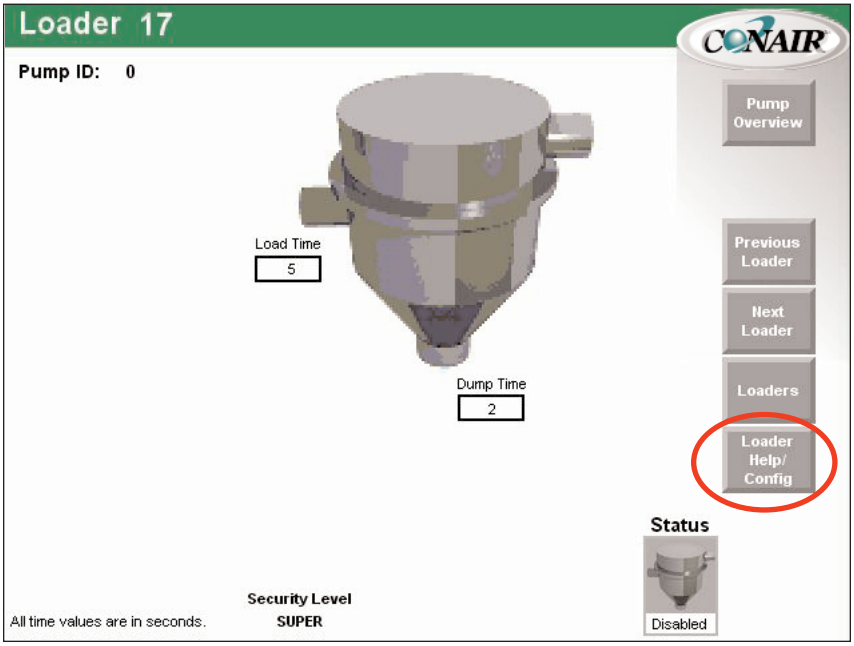


Add a Granulator (continued)

3 From the Loaders 1-32 screen select the desired loader. If loader desired is 33-64 then press the Next loaders button. 

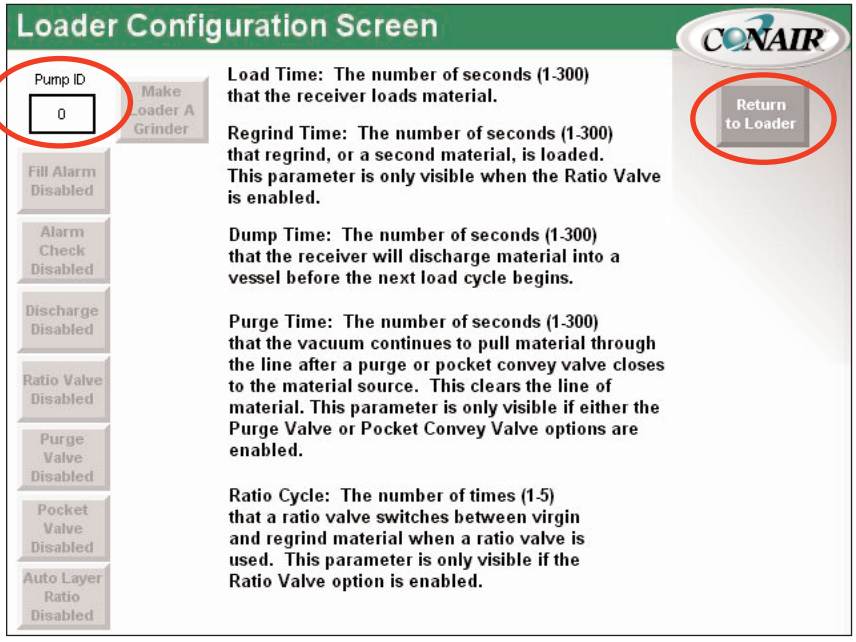


4 From the loader screen, press the Loader/Help Config button. 



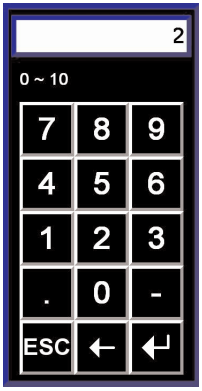
Add a Granulator

5 From the Loader/Help Config screen, press the Pump ID.



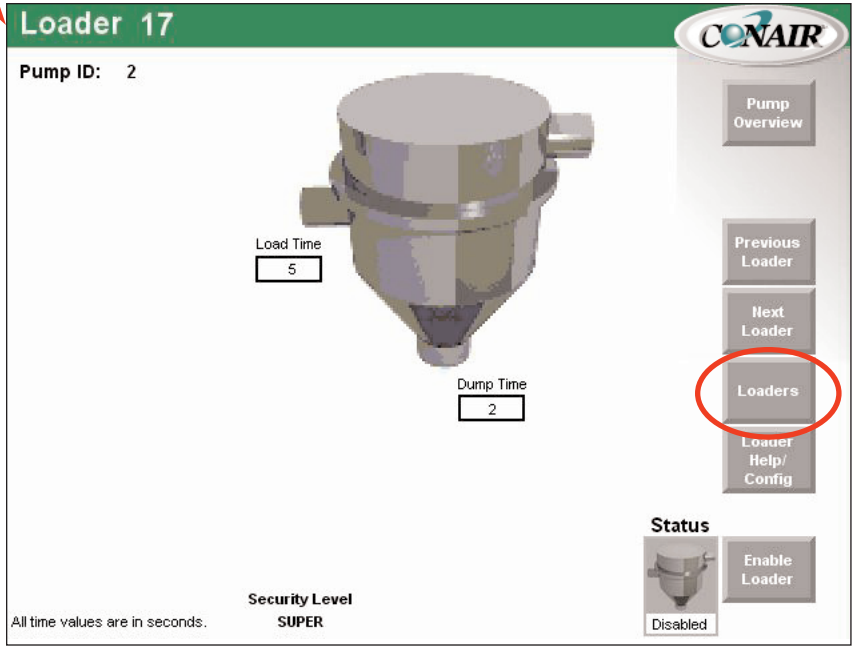
6 A keypad will pop up.
At this time enter the pump

7 Press the Return to loader button.
Add the Granulator by following steps (8-20).

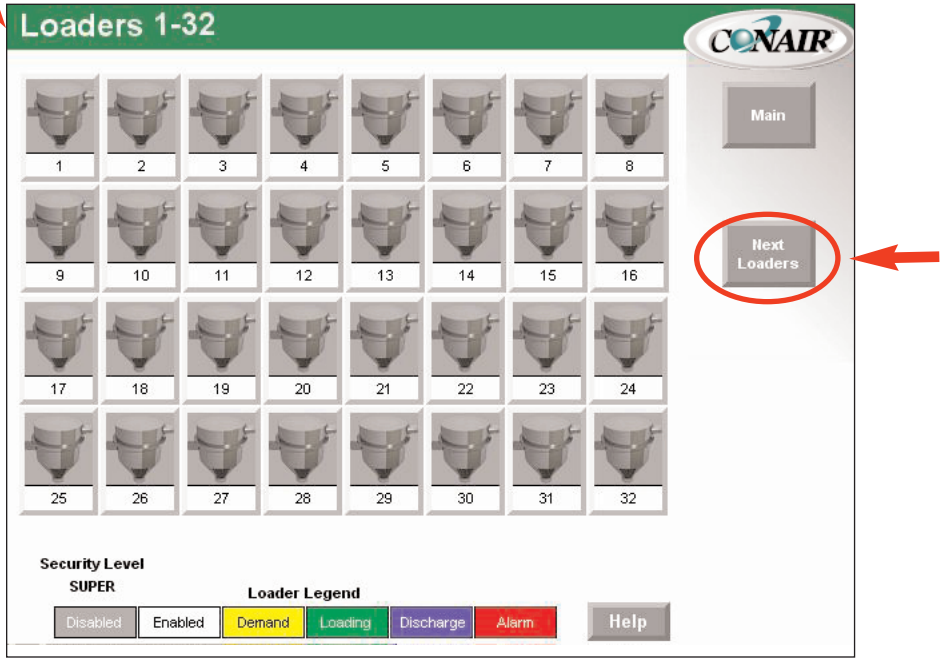


Add a Granulator (continued)

8 From the Loaders screen press the Loaders button. 

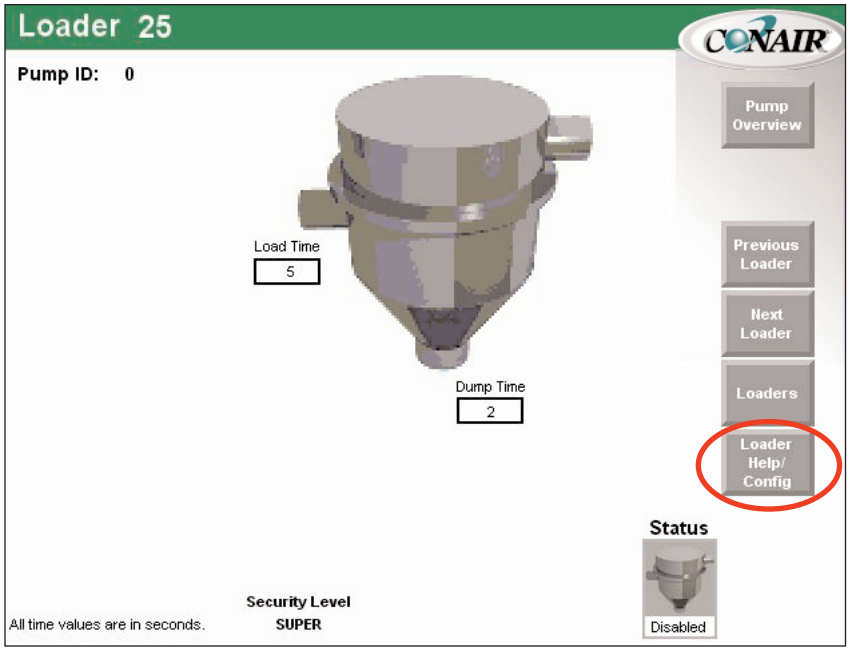


9 From the Loaders 1-32 screen select the desire loader. If loader desired is 33-64 then press the Next loader button. 

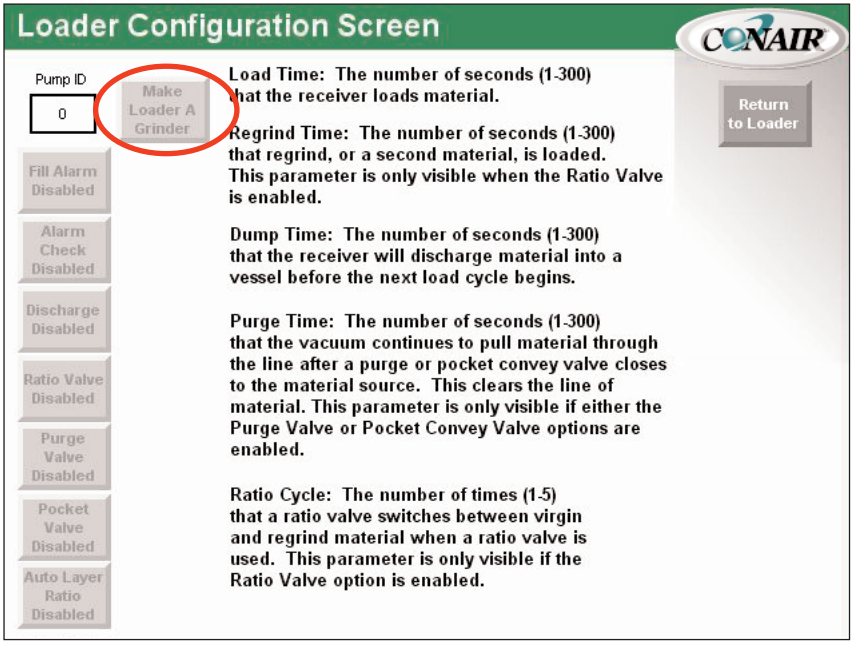


Add a Granulator (continued)

10 From the Loader screen press the Loader/Help Config button. 

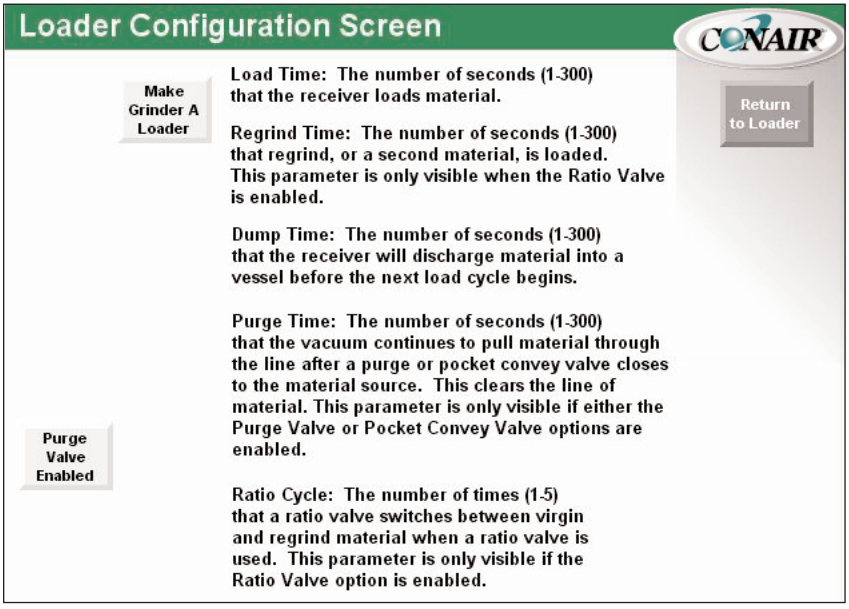


11 From the Loader/Help Config screen, press the Make Loader a Grinder button.



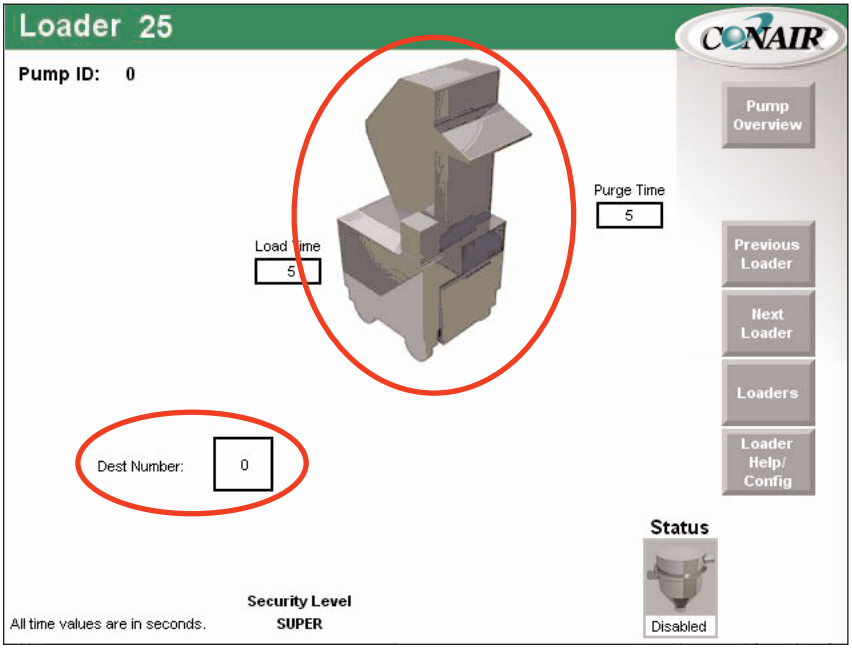
Add a Granulator (continued)

12 **Once a granulator, purge option is available. Enable the Purge option if it is in the system.**



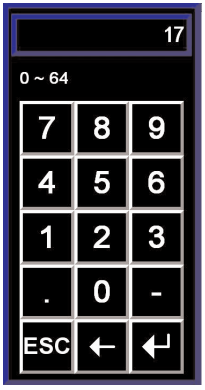
13 **Press the Return to Loader button.**

14 **Note the loader icon is now a granulator. Press the Dest Number to assign the granulator to a Destination.**



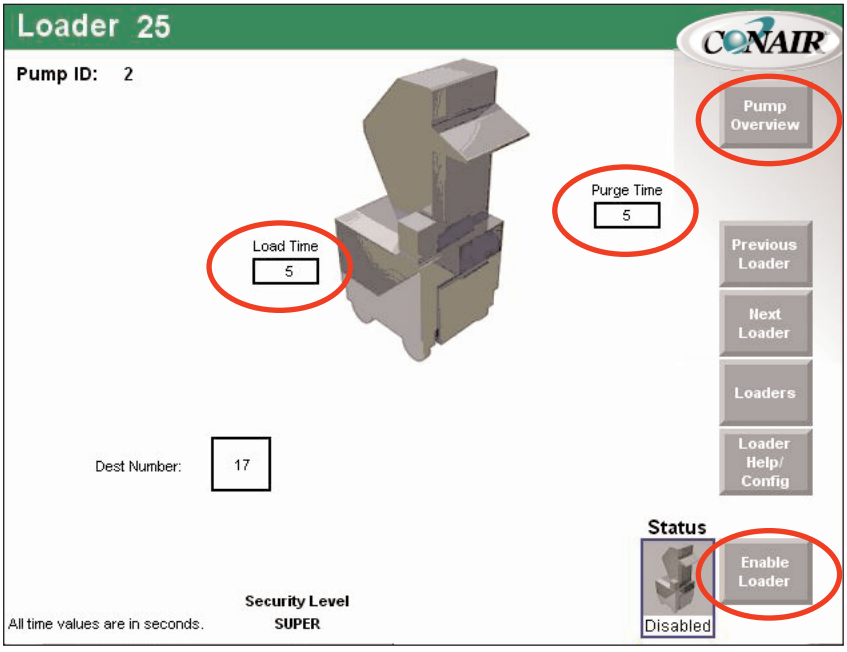
NOTE: The enabled button for the granulator will not be visible until a Destination Number has been entered.

Add a Granulator (continued)



15 From the keypad enter the Destination number. (In this example it is 17.)

16 Enter the Load time and purge time (if configured with purge valve).

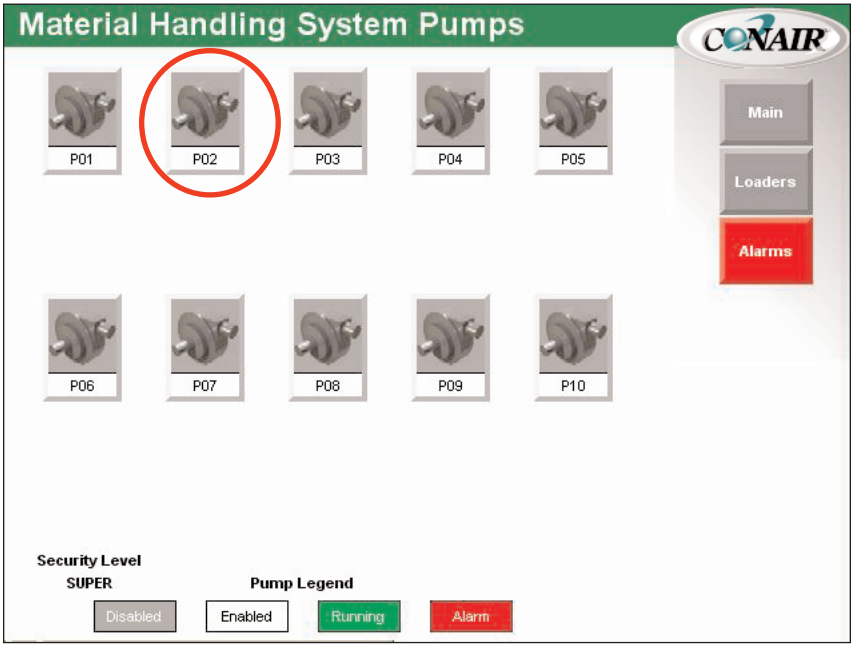


17 Press the Enable Loader button.

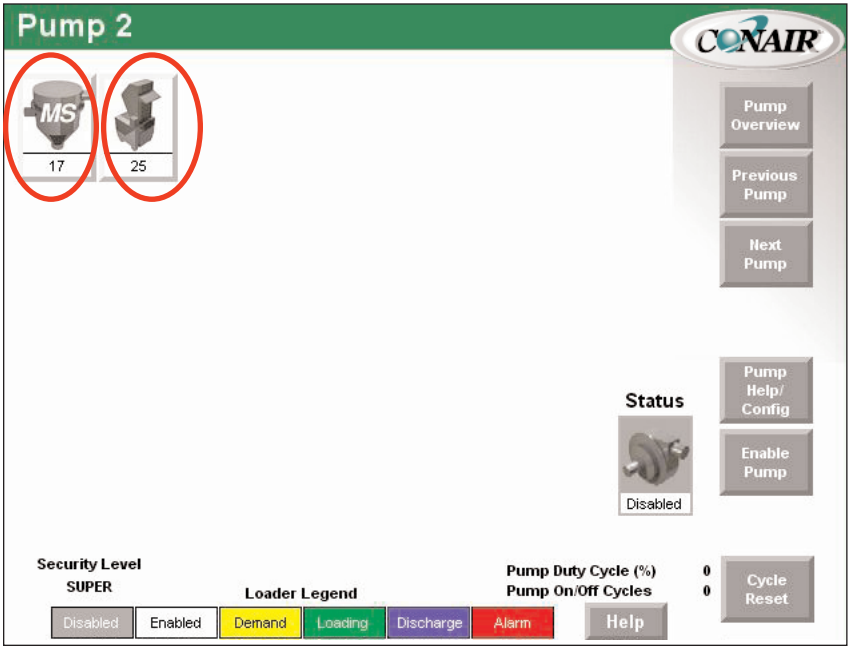
18 Press the Pump Overview button.

Add a Granulator (continued)

19 Select the pump assigned to the source valve in step 6.



20 From the Pump screen the Source, which is shown as the MS (Multi Source) Loader and the granulator will be shown.



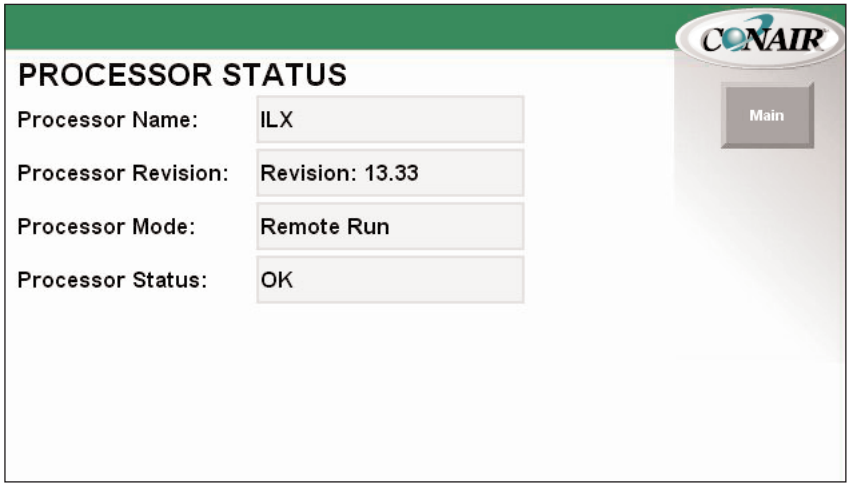
21 Enable the pump to begin vacuum.

Processor Status Screen

The processor status screen provides the following information:

- **Processor Name**
- **Processor Revision**
- **Processor Mode**
- **Processor Status**

From the main screen press processor status



This information is useful for troubleshooting and when contacting Conair service.

Backup / Restore Feature

With the Super login the Back up Restore Feature is available.

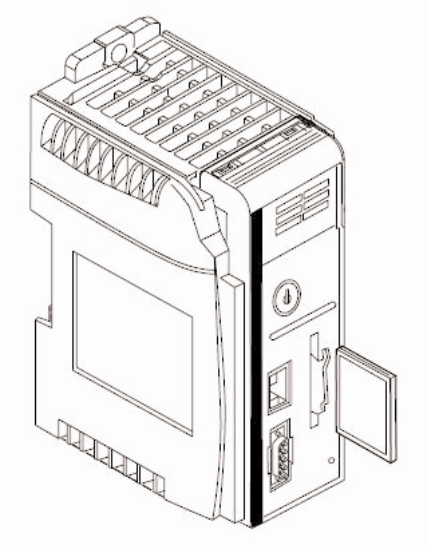
The configuration of the pumps, loaders, and grinders can be backed up to a compact flash card. The configuration includes pump/loader assignments, device parameters, and set points. Once backed up, the configuration can be restored from the Compact Flash card at a later time.

Data Back-up (option)

Procedure To Back up data

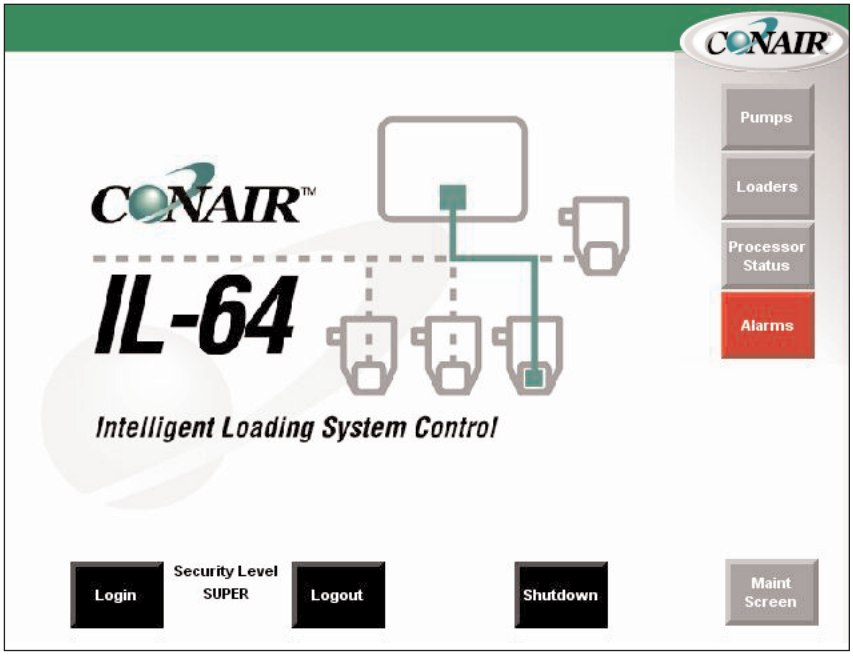
IMPORTANT: Prior to backing up data all pumps must be disabled.

1 Insert or verify the Flash card labeled "Parameter Backup" is inserted in the Compact Flash slot located on the front of the CompactLogix L31 CPU (Processor).



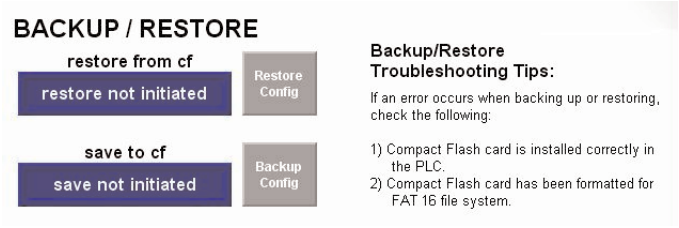
NOTE: The Conair card has been formatted for the FAT 16 file system.

2 From the main screen login as Super.



Data Back-up (option) (continued)

3 From the Processor status screen, locate the Backup /Restore section on the screen.



4 Press the Backup Config button. Do NOT cycle power or remove the CompactFlash card while the data is being backed up.

NOTE: If you cycle the power or remove the CompactFlash card while the data is being backed up you could corrupt the data or ruin the CompactFlash card.

5 As the data is being saved the status will read "Saving". Once complete the status will read, "Save Complete".

6 Back up is complete. Press Main to Exit.

Errors during Backup

If an error is received during backup, check the following:

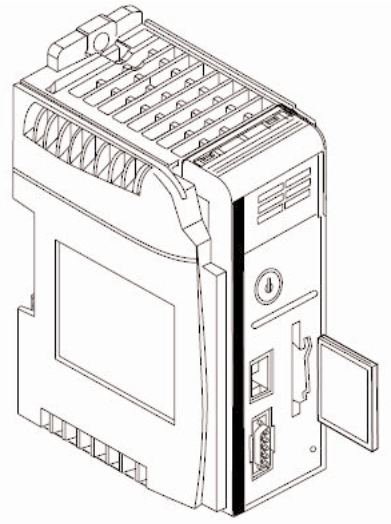
- The card is installed correctly in the PLC.
- The CF light located on the PLC is off. If it is blinking Red, the card is not formatted to the FAT 16 file system.

Restore data

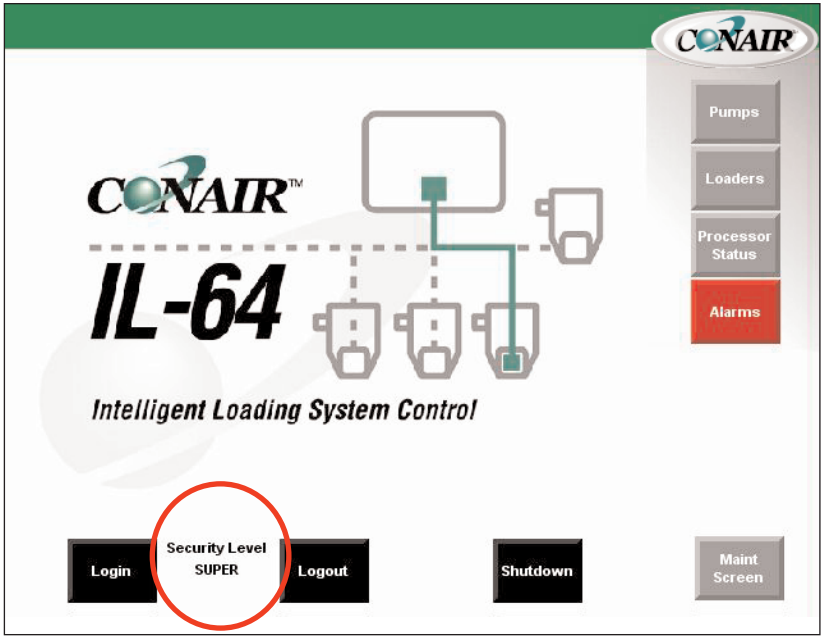
IMPORTANT: Prior to restoring data all pumps must be disabled.

1 Insert or verify the Flash card labeled "Parameter Backup" is inserted in the Compact Flash slot located on the front of the CompactLogix L31 CPU (Processor).

NOTE: The Conair card has been formatted for the FAT 16 file system.

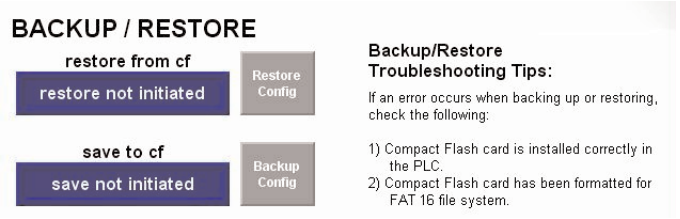


2 From the main screen login as Super.



Restore Data (continued)

3 From the Processor status screen, locate the Backup /Restore section on the screen.



4 Press the Restore Config button. Do NOT cycle power or remove the CompactFlash card while the data is being restored.

5 As the data is being restored the status will read "Restoring". Once complete the status will read, "Restore Complete".

6 Restore is complete. Press Main to Exit.

Errors during Restore

If an error is received during the restore, check the following:

- The card is installed correctly in the PLC.
- The CF light located on the PLC is off. If it is blinking Red, the card is not formatted to the FAT 16 file system.

SECTION

5

Maintenance

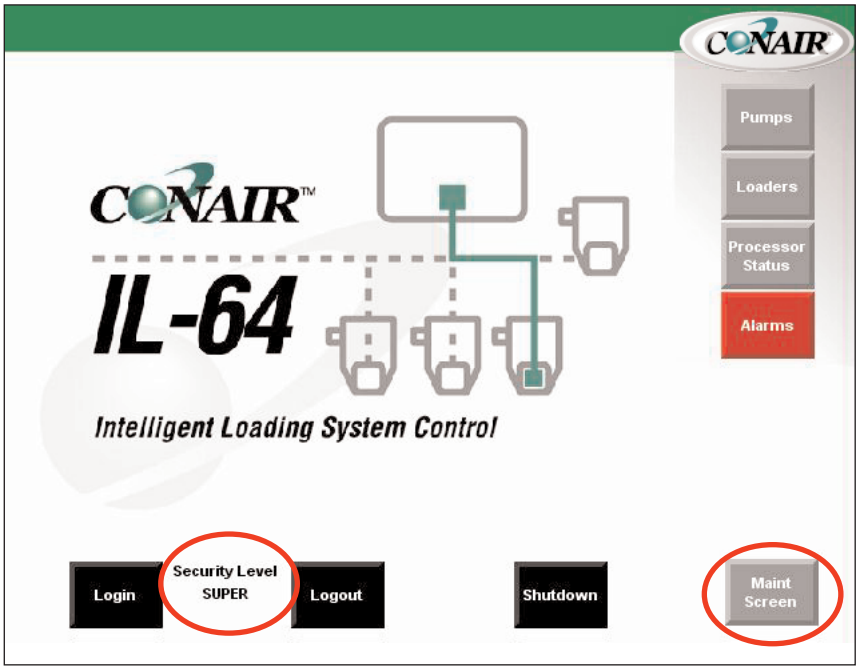
Maintenance Screen

The Maintenance options are used for diagnostic and troubleshooting. Super login is required to access these functions. The following are available from the **"Maint"** Options:

- **PLC and Operator Interface Clock**
- **View PLC Inputs and Outputs**
- **Disable Devices and Pumps**
- **Clear Database (Conair Service Only)**

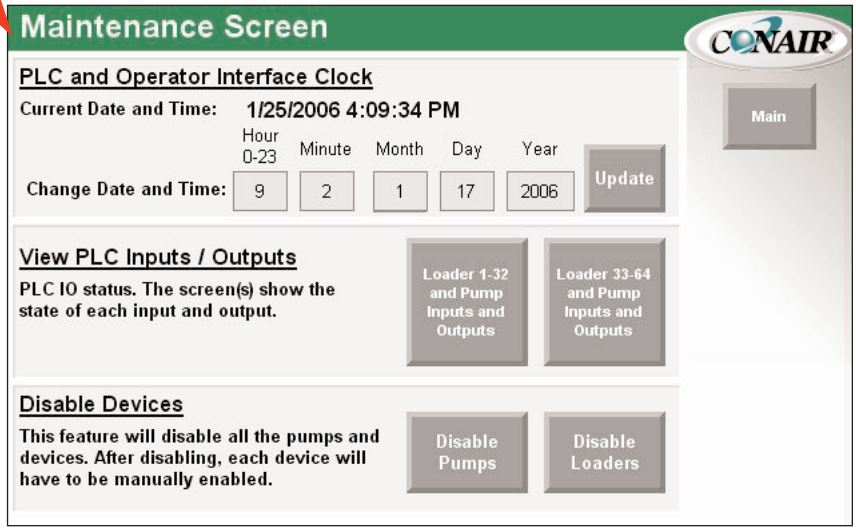
Accessing "Maint" Screen

1. **From the Main screen login as Super.**
2. **Press the "Maint Screen" button.**



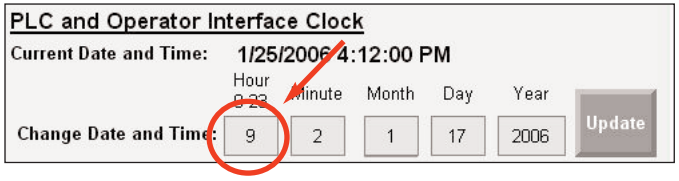
Maintenance Screen (continued)

3 The "Maint screen"will open.

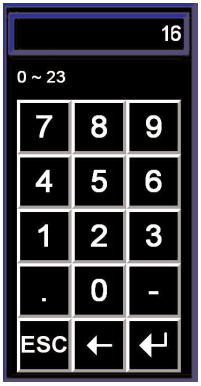


Setting the PLC and Operator Interface Clock

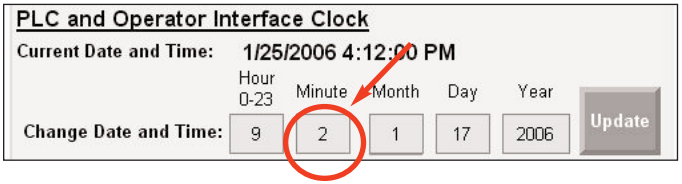
1 From the Maintenance screen press the Hour.



2 Using the keypad enter the hour (0-23). (Hour is based on 24 hour clock).

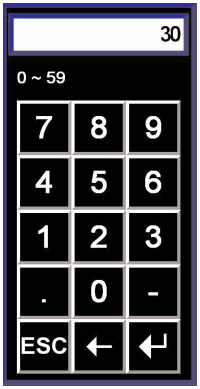


3 From the Maintenance screen press the Minute.

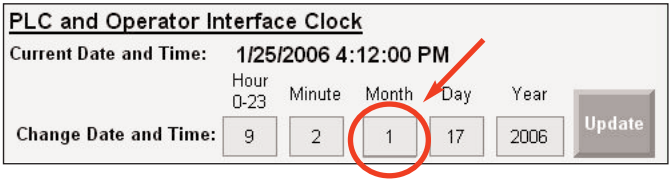


Setting the PLC and Operator Interface Clock (continued

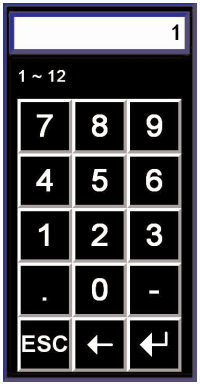
4 Using the keypad enter the minute (0-59).



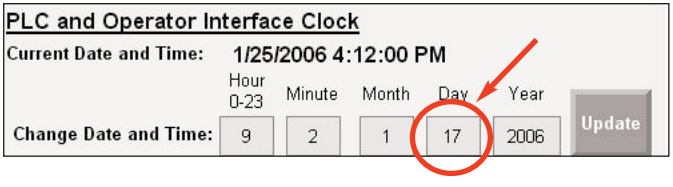
5 From the Maintenance screen press the Month.



6 Using the keypad enter the month (1-12).

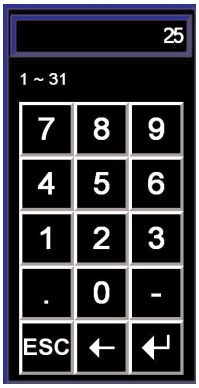


7 From the Maintenance screen press the Day.



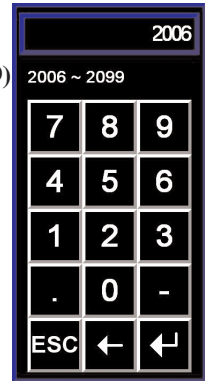
Setting the PLC and Operator Interface Clock (continued

8 **Using the keypad enter the day (1-31).**

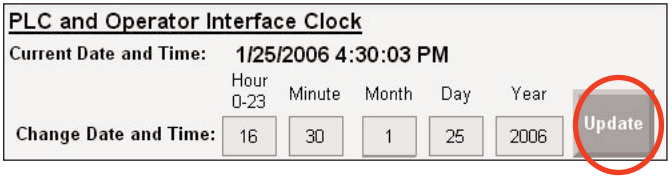


9 **From the Maintenance screen press the Year.**

10 **Using the keypad enter the year (2006-2099)**



11 **Press the Update button. Once the button has been pressed update the time and date will be changed in the HMI and PLC.**

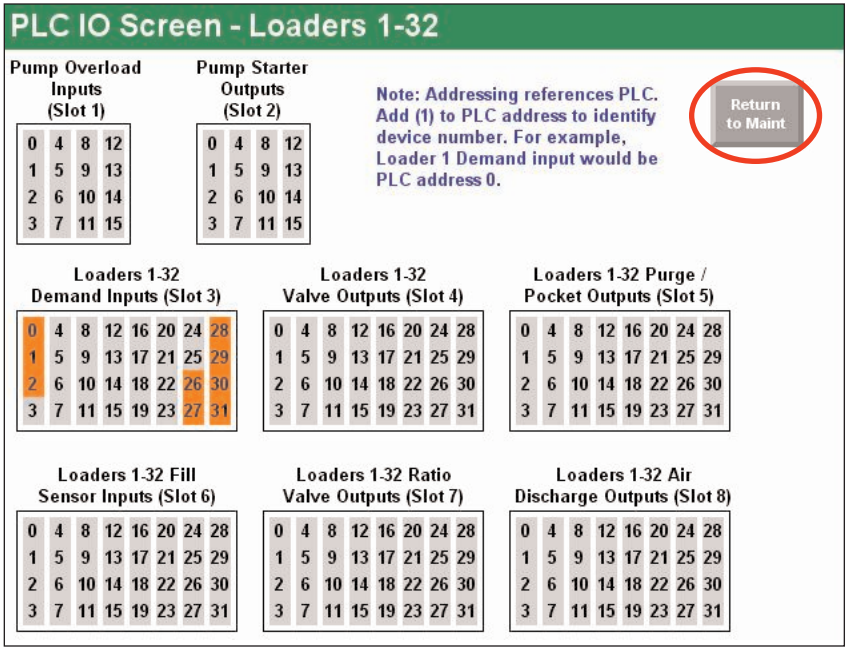


View PLC Inputs and Outputs

The Inputs and Outputs screens provide an additional method of troubleshooting. The points on the screen are the same as the status indicator on the actual cards. The benefit of showing the status on the HMI is verification that the input or output is being registered in the PLC.

NOTE: Depending on number of IO screens will vary. For example, 32 basic will not show any of the options or loaders 33-64. The view below is for a fully featured IL-64 with 64 loaders

1 To access the Inputs/Outputs from the Maintenance screen, press the loader and pump Inputs and Outputs button.



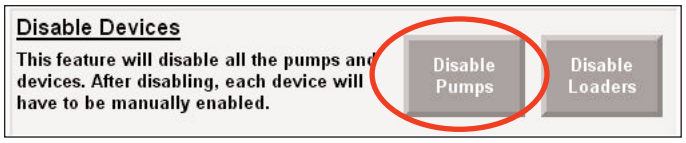
2 Press the Return to Maint button to exit the screen.

Disable Devices

The disable devices function provides a means to disable all the pumps and/or all the loaders. It is useful when shutting down the system for maintenance or when backing up the system using the backup restore feature.

To Disable all Pumps

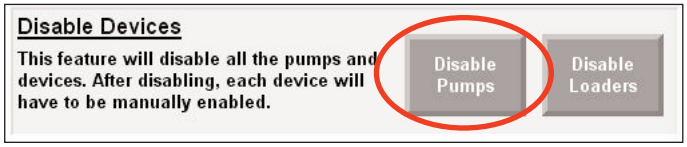
1 From the Maintenance screen, press the Disable Pumps button.



NOTE: The pumps will continue to service the active loader and then disable.

To Disable all Loaders

1 From the Maintenance screen, press the Disable Pumps button.



NOTE: The loader will continue to run until the cycle is complete and then disable.

Clear Database

The clear Database feature returns all data to its default values. This feature is only to be used by Conair service. If pressed all the loader configurations would have to be entered and the system would have to be set up as if it was an initial install. Instructions are provided at the service level.

CAUTION: Clearing the database will return the control to its default values. All configuration information would be lost and the system would have to be set up as an initial install.

Maintenance Checklist

You should develop a preventive maintenance schedule for all components in the conveying system to ensure optimum operation and performance.

The IL-64 requires the following maintenance checks:

- **Whenever you change materials**

❒ **Verify the loader settings for pump systems** or loaders effected by the material change. Pay particular attention to load times, dump times, and material source identification if you have pocket conveying valves and material line proofing. *See "Changing Loader Settings"* in the Operation section.

- **Quarterly**

❒ **Check power and cable connections and wires.** Over time, the power and cable connections between the IL-64 and conveying system components may become loose or wires may become worn. Tighten any loose connections and replace any wire or cable that has become worn or damaged.

- **After loading new software, or as needed**

❒ **Recalibrate the operator interface.** If the operator panel becomes unresponsive to a touch on the screen, you may need to recalibrate the touch screen. This could happen after reloading or updating the IL-64 software. *See "Operator Interface Calibration."*

Operator Interface Calibration

If the operator interface becomes unresponsive to a touch on the screen, you may need to recalibrate the touch screen. In order to calibrate the Operator Interface touch screen, the security level must be "Super".

1. From the Main screen, press the Shutdown button. The system takes several seconds to respond, so there is no need to keep tapping the shutdown button. The RSViewME Station screen appears.

2. From the RSViewME Station screen, press the Terminal Settings button.

3. From the Terminal Settings screen, select Input Devices and press Enter.

4. From the Input Devices screen, select Touch screen and press Enter.

5. From the Touch screen screen, select Calibration and press Enter.

6. Follow the on screen instructions. Touch the four corners when prompted. Once complete, touch the screen within 30 seconds. The screen is now calibrated.

7. Press the Close button on the next three screens until the RSViewME Station screen appears. Press Run.

NOTICE: Changes to other settings in the PanelView Plus may result in improper operation.

SECTION
6

Troubleshooting

Before Beginning

Before you begin troubleshooting:

❑ Find the manuals and wiring diagrams that were shipped with your equipment. These materials contain details you will need to diagnose and repair problems in specific components, including custom wiring, features or I/O options not covered in this User Guide.

A Few Words of Caution

⚠ **WARNING: Improper installation, operation or servicing may result in equipment damage or personal injury.**

The IL-64 should be installed, adjusted, and serviced only by qualified technical personnel who are trained in the operation and troubleshooting of this type of equipment.

 **DANGER: Electrical shock hazard**

Diagnosing the cause of electrical system and CPU problems in this equipment may require the use of precision electronic measuring equipment, as well as access to the electrical enclosure while power is on. Only qualified electrical technicians, trained in the use of the equipment and in avoiding exposure to voltage hazards, should perform procedures that require access to the enclosure while power is on.

⚠ **WARNING: Develop and follow procedures for safe operation and maintenance of the system.**

The IL-64 allows operators and maintenance personnel to disable and enable conveying system components. Unexpected energization of these components could result in equipment damage or injury.

Safe maintenance procedures should include:

❒ Disconnect any loader, pump or material valve from main power and/or compressed air sources before servicing. Ensure that all energy sources for the device are locked out and tagged.

❒ Before removing lockout devices and enabling system components, verify that all personnel are clear of the machine, tools have been removed, and any safety guards have been reinstalled.

Operator Interface Alarms

The following is a description of the alarms that can be displayed on the Operator Interface screen.

Alarm	Description
Overload on pump	Indicates a pump overload.
Material Alarm	The number of load cycles exceeds the alarm check value with out satisfying the demand.
Fill	The material fails to reach the fill sensor within the cycle time.
Configuration Fault	Indicates that a loader has been enabled without being assigned to a valid pump.

When an alarm is triggered, the alarm buzzer is energized and the alarm screen pops up and displays the alarm time, the time the alarm is acknowledged and the alarm message described above. Available buttons include the following:

- Acknowledge - acknowledges the highlighted alarm
- Acknowledge all - acknowledges all alarms
- Silence - silence the alarm buzzer
- Clear alarm history - clears all alarms from the screen
- Close - closes the alarm window

Indicator	Color	Description
RUN	off	The controller is in Program or Test mode.
	solid green	The controller is in Run mode.
FORCE	off	No tags contain I/O force values. I/O forces are inactive (disabled).
	solid amber	I/O forces are active (enabled). I/O forces values may or may not exist.
BAT	off	The battery supports the memory.
	solid red	Either the battery is not installed or it is 95% discharged and should be replaced.
I/O	off	Either there are no devices in the I/O configuration of the controller. or the controller does not contain a project (controller memory is empty).
	solid green	The controller is communicating with all the devices in its I/O configuration.
	flashing green	One or more devices in the I/O configuration of the controller are not responding.

IO Status Indicator

This bi-color (Green/Red) LED indicates the status of the communication link.

IO Status Indicator

Indicator	Color	Description
I/O continued	flashing red	The controller is not communicating to any devices. The controller is faulted.
OK	Off	No power is applied
	flashing red	If the controller is: a new controller the controller requires a firmware update. If the controller is not new a major fault occurred. To clear the fault, either: - Turn the keyswitch from PROG to RUN to PROG - Go online with RSLogix 5000 software.
	solid red	The controller detected a non-recoverable fault. To recover: 1. Cycle power to the chassis. 2. Change to Run mode. If OK LED remains solid red, contact your Rockwell Automation representative or local distributor.
	solid green	Controller is OK.
	flashing green	The controller is storing or loading a project to or from nonvolatile memory.

NOTE: (1) The flash rate of the LED is approximately 1 flash per second. The LED should be on for approximately 0.5 seconds and off for approximately 0.5 seconds.

RS-232 serial port LEDs (channel 0)

Indicator	Color	Description
DCH0	off	Channel 0 is configured differently than the default serial configuration.
	solid green	Channel 0 has the default serial configuration.
CH0	off	No-RS-232 activity.
	flashing green	RS-232 activity.

RS-232 serial port LEDs (channel 0)

Indicator	Color	Description
CF	off	No activity
	flashing green	The controller is reading from or writing to the CompactFlash card.
	flashing red	CompactFlash card does not have a valid file system.

OK Status Indicator

The OK Status LED provides the following module information.

State	Status	Description
Off	No power	Module does not have 24 V DC power. Verify there is chassis power and the module is completely inserted into the chassis and backplate.
Flashing Green	Standby	Module is not configured.
Green	Operational	Module is operating correctly.
Flashing Red	Minor fault	A recoverable fault has been detected. This could be caused by an error in the configuration.
Red	Major fault	An unrecoverable fault has been detected. Recycle power to the module. If this does not clear the fault, replace the module.
Flashing Red and Green	Self test	The module is performing a power-up self-test.

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Department for a nominal fee, or visit the product section of the Conair website www.conairnet.com.

How to Contact Customer Service

To contact Customer Service personnel, call:

NOTE: Normal operating hours are 8:00 AM - 5:00 PM. After hours emergency service is available at the same phone number

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.